AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG ADMINISTRATION, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2011

TUESDAY, MARCH 2, 2010

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:01 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Herb Kohl (chairman) presiding.

Present: Senators Kohl, Harkin, Brownback, Cochran, Bond, and Collins.

DEPARTMENT OF AGRICULTURE

OFFICE OF THE SECRETARY

STATEMENT OF TOM VILSACK, SECRETARY

ACCOMPANIED BY:

DR. KATHLEEN MERRIGAN, DEPUTY SECRETARY

DR. SCOTT STEELE, BUDGET OFFICER, DEPARTMENT OF AGRICULTURE

OPENING STATEMENT OF SENATOR HERB KOHL

Senator KOHL. Good morning.

Today, we begin our hearings on the fiscal year 2011 budget for the Department of Agriculture.

We'd like to welcome Secretary Vilsack. He's accompanied by Dr. Kathleen Merrigan, Deputy Secretary; and Dr. Scott Steele, the USDA Budget Officer. We thank you all for being here.

Last year this subcommittee worked in a bipartisan manner that produced effective and efficient results. With an adequate budget request and allocation, there was much collaboration across the aisle. We were able to provide USDA with much-needed increases in programs, like food safety, which had long been underfunded. And we were rewarded for our bipartisan cooperation by getting our bill out nearly on time, which, as everyone knows, was a welcome change.

This year, the numbers are a little different, but I'm hopeful the process will be much the same. The President's budget proposes $21.5 billion for discretionary programs at USDA for fiscal year 2011. This is actually a decrease from last year, and I am pleased that USDA is showing fiscal restraint.

It is incumbent upon this subcommittee to review all these proposals with three priorities in mind. First, we need to produce a bill that protects important gains made last year. Second, we need to ensure that programs vital to people's health, safety, and livelihoods are adequately funded. And third, we need to do so in a way that shows fiscal restraint and responsible austerity.

Briefly, here are a few of the major increases in the budget, as I see them: The WIC program, which we consider essential, receives funding necessary to provide assistance to roughly 10 million low-income women, infants, and children. The Food Safety and Inspection Service budget receives an increase smaller than those of the past several years, but nevertheless an increase in order to maintain the safety of our food supply. The Farm Service Agency receives a large increase in order to pay for much-needed information technology upgrades which allow farmers to continue receiving assistance. There is a small increase in agricultural research funding. The Foreign Agricultural Service receives a significant increase for export trade activities. Finally, we have additional welcome emphasis on healthy local food production.

All of these increases, however, are more than offset by decreases in other programs, like conservation, research, rural development, and others. Further, the budget proposes to reduce multiple farm bill programs that this subcommittee has worked to protect, and which will certainly raise opposition. None of these options are off the table, and everyone needs to be aware of that.

Clearly, we all have to tighten our belts. We'll certainly work to ensure that the Department has all of the funding necessary to serve the American people. While we have been able to provide some necessary increases over the past several years, we will be taking a long hard look at the budget, the proposed increases and new initiatives, as well as the proposed decreases.

We all look forward to working, again, with Senator Brownback in a close bipartisan manner. We need to produce a bill that is a reflection of the importance of the USDA, but also a reflection of the need to slow spending growth.

So, Secretary Vilsack, we welcome you, again, for being here and look forward to your statement.

Before that, we'd like to ask Senator Brownback for his statement.

Senator Brownback.

STATEMENT OF SENATOR SAM BROWNBACK

Senator BROWNBACK. Thank you very much, Senator Kohl. Appreciate the hearing.

Welcome, Secretary Vilsack, good to have you here. We had a good process last year that worked successfully and quickly, and—kind of the way the place is supposed to, which was pretty amazing in and of itself, and I give that applause to the chairman. I look forward to working with you on this year's budget. I noted, in a cursory review of it, you've worked to reform your budget, cutting some places, putting higher priority on others, which is the way I think we ought to look at things. If you've got a high priority, put the money there, but don't just ask for more money; get it from somewhere else in the budget. We may have some questions with

you about where you got it, and have some suggestions as to other places that you may get it from, but I applaud that route of going.

I've got two suggestions to you that we're going to be working on. One is on the agriculture development budget. And here, this is one that's going on in another committee, but I really think you've—you're the one that's got the expertise on it. You're seeing a lot of agriculture development work starting in other sectors of the budget, particularly AID, and I think you're the one with the primary expertise—or you and the land grant university system. I would really—and we're going to be pushing this in other sectors, as to ways that we can see that budget fit better together.

Gates Foundation and others are really stepping up in this field. They stepped up in the health field on developing countries, and together we've had a huge drop in AIDS deaths overseas. Malaria is getting more under control, not completely by any means. And this is the best foreign policy tool we've got, when you save somebody's life. The next step in that is agriculture development, and to see it to development. And this is a historic role that places like Iowa State, K State, Missouri, Wisconsin, others have played for many years. But, you've got, I think, the best connection to them, and I'd really like to see us—what we can do on that.

And the final one that I think is key—and you've—got it in my opening statement here—is the next generation on biofuels. There's just no question that this is a big deal for us in farm country. I was at an ethanol plant the other day that's feeding wet distiller's grain. They can sell at 30 cents cheaper than if you have to dry it. They're taking the CO_2 straight to an oil field for recharge purposes. I was at NREL in Golden, Colorado, where they're working on the cellulosic ethanol. They believe they can make it as price effective with grain ethanol by 2012. And I think that's going to really help us in agriculture, having a grain stream and a cellulosic stream probably under the same plant. And I can't think of a bigger thing for us to work on for market development and share than this next generation on biofuels, bio-based products.

I had a group the other day—a PCA—hand me a some ChapStick that was made out of soy oil. I had a guy a few years ago hand me a blue rock, a skeet, that was made out of cornstarch. You know, just little widgets, little tiny market segments, but all of them add up, all of them add to renewable uses, and they're good products.

And I just—I really think that's one that, if we're going to serve the farmers in rural areas of this country, I'd—there is not a better place for us to invest time and effort and focus and research dollars. And you've got the lion's share of that, even though other areas are working on it. And I really hope we can working with you on those.

Chairman, I look forward to the comments and the questions.

Senator KOHL. Thank you, Senator Brownback.

And now we turn to you, Mr. Secretary, for your statement.

SUMMARY STATEMENT OF SECRETARY THOMAS VILSACK

Secretary VILSACK. Mr. Chairman, thank you very much. And, to the members of the subcommittee, thank you for the opportunity to appear today.

As the chair indicated, I'm here with Deputy Secretary Merrigan and Mr. Steele in an effort to educate the subcommittee on our priorities.

Let me say that we started this budget process with four frames in mind. The first frame is a recognition of the economic difficulties the country currently faces, which is reflected in our continuation of support programs like SNAP and WIC, our food assistance programs, which make up 70 percent of our budget. We will continue to provide the nutritional assistance necessary to take care of America's families.

As was mentioned by both the chair and Senator Brownback, we also recognize the fiscal challenge that this country faces, and that the Senate and House face in putting a budget together, which is why we made an effort to try to propose a budget with reductions in discretionary spending recognizing full well that there are difficult and tough choices that have to be made by this subcommittee, by this Congress. We laid out what we believed would be the appropriate choices, but are certainly open to working with this subcommittee and the House committee on thoughts and ideas that you all have.

I will tell you that we were also struck by the state of the rural economy. While the country has faced a recession for the last 2 years, I think I can make the case that rural America has faced a recession for a number of decades. If you take a look at the statistics, what you'll see is, in rural America, there is a higher poverty rate; a higher unemployment rate; a loss of population, with over 50 percent of rural counties having lost population in the last decade. The facts are fairly clear that they are less educated, in terms of college educated and high school educated individuals, living in rural America. And there is a graying of rural America, an aging of rural America. All of which is reflected also in statistics relative to farms, where we saw a 30 percent increase in the number of farmers over the age 75, and a 20 percent decrease in the number of farmers under the age of 25.

For that reason, we are proposing and suggesting a slightly different direction as it relates to rural development. We believe that we need to focus less on individual community and project-by-project efforts, and focus more on recognizing that smaller communities are part of a regional economy, and looking for ways in which we can bolster the regional economy in order to create greater activity. Now, we think that this is a strategy that—a number of communities have banded together in other parts of the country and are seeing positive results.

We think this rural strategy and this regional strategy should be focused on five basic pillars. First of all, a continuation of the efforts that this Congress appropriated, in terms of expansion of broadband to all parts of America, both rural and remote areas, and the opportunities that presents.

Second, as Senator Brownback indicated, a real focus on biofuels and bio-based products and the energy potential that can be created in our farm fields, recognizing that this needs to be not just focused in one part or one region of the country, but, as our Biofuels Task Force report indicates, an opportunity for us to have regional economic opportunity in all parts of the country by using

a variety of feedstocks to create biofuels and bio-based products. This can happen in all parts of the country, and it actually can create greater energy security for this country, promote national security, and also significantly help the rural economy.

We think there is also a need for us to continue an effort to link local production and local consumption of farm products, creating opportunities for schools, hospitals, prisons, and the like, to be able to purchase locally produced food in order to keep the wealth in the region and in the community. The establishment of the ecosystem markets under the 2008 farm bill creates an extraordinary opportunity for us to focus on water, carbon, and habitat protection as another alternative income source for farm families across the country. And finally, an aggressive effort in forest restoration and private land conservation. We see this budget, in terms of conservation, as actually historic, in the sense that we will propose extending conservation programs to over 305 million acres, an increase of about 10 percent, also focusing those acres in programs that really matter, in terms of creating more habitat, which, in turn, will create more hunting and fishing opportunities, which is often an overlooked economic opportunity in rural America.

These five pillars, we believe, can create higher incomes, better-paying jobs, and attract young people to stay and to come to rural communities. We'd like the opportunity to prove that case to you with the proposal that we have set forth in our budget.

This process will be aided by our focus on research and development. Recognizing the need for competitive grants, we have maintained the formula funding for our research efforts, but have suggested that there needs to be a real competition for other research dollars. And so, we have proposed a record amount of competitive grants, focused in four or five major areas: the energy area, as was mentioned; the need for us to continue to look for ways in which we can increase productivity and protection of crops and animals from disease and pests and invasive species; a focus on food safety; a focus on obesity and nutrition; and finally, a focus on the capacity of agriculture to adapt and mitigate to changing climates.

Given the First Lady's Let's Move Initiative, we believe the last frame reflected in our budget stems from the centerpiece of her Let's Move effort—the legislative centerpiece—which is the reauthorization of child nutrition proposals. An opportunity to substantially expand efforts in the school lunch and school breakfast programs gives us an opportunity to add more fruits and vegetables in the diets of our young people, responding to the very serious obesity epidemic we now face, as well as a strategy for dealing with the fact that we still, yet today, in this rich and powerful country, have hungry children.

We also recognize the responsibility that we have at USDA to provide the safest and most abundant and most affordable food supply. And so, there is continued emphasis on food safety, with a focus on increased prevention; better surveillance and risk assessment; and more rapid response, recall, and recovery. While there is a small budget increase in food safety, there has been a tremendous amount of effort and focus on the regulatory side of food safety, in an effort to better utilize the resources that Congress has provided.

We believe this is a good budget, a strong budget, a budget that has elements of reform and responds to the challenges that we face in rural America. And we look forward to the opportunity to answer your questions.

[The statements follow:]

PREPARED STATEMENT OF THOMAS VILSACK

Mr. Chairman and distinguished members of this subcommittee, I appreciate the opportunity to appear before you as Secretary of Agriculture to discuss the administration's priorities for the Department of Agriculture (USDA) and provide you an overview of the President's 2011 budget. I am joined today by Deputy Secretary Kathleen Merrigan and Scott Steele, USDA's Budget Officer.

I don't need to tell you that the American people have been struggling through the most serious economic recession since the Great Depression. Families have been forced to make difficult decisions in the face of unprecedented job losses. The immediate effects of being unemployed are felt deeply by the unemployed and their families. We have seen more and more Americans relying on USDA to help put food on the table.

The challenges facing rural communities for decades have grown more acute, which is why the Obama administration is committed to new approaches to strengthen rural America. Rural Americans earn less than their urban counterparts, and are more likely to live in poverty. More rural Americans are over the age of 65, they have completed fewer years of school, and more than half of America's rural counties are losing population.

This year, President Obama took steps to bring us back from the brink of a depression and grow the economy again. But with the unsustainable fiscal policies over the past decade, it's time to get our fiscal house in order.

The President has announced the 3-year, non-security discretionary spending freeze for the remainder of his term. This is a freeze on the bottom line rather than an across-the-board freeze on all line items in the budget, which provides the flexibility to achieve high priority goals by reducing funding for lower priority, duplicative, or non-performing programs. USDA's proposed fiscal year 2011 budget is a reflection of that policy, essentially freezing funding for on-going discretionary programs at the fiscal year 2010 level. When limits placed on select programs and efforts to eliminate earmarks and one-time funding are taken into account, USDA's total discretionary budget authority is reduced by over $1 billion. The decrease is primarily due to reductions in one-time funding such as earmarks, supplementals, rescissions, and targeted program reductions. However, USDA's total budget authority request pending before this subcommittee proposes a total of $129.6 billion in 2011, up from $119.3 billion in 2010, primarily due to an anticipated increase in nutrition assistance program participation and mandatory expenditures for crop insurance. The discretionary appropriation request for this subcommittee is $21.5 billion, which is comparable to the $21.7 billion enacted for 2010.

The 2011 budget request supports the administration's vision for a strong rural America through the achievement of four strategic goals. Achievement of these goals will ensure that all of America's children have access to safe, nutritious, and balanced meals; create new economic opportunities for increasing prosperity; strengthen agricultural production and profitability through the promotion of exports with a specific emphasis on biotechnology while responding to the challenge of global food security; and ensure the Nation's national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources.

With the help of this subcommittee and the funding provided by the Recovery Act, USDA has been able to achieve significant accomplishments over the past year. Some of these accomplishments include:

—SNAP has improved the diets of more than 38 million low-income people now served by the program;

—The financial distress of over 2,600 producers in 47 States has been relieved through direct farm operating loans. Nearly 20 percent of beginning farmers and socially disadvantaged producers obtain at least part of their credit needs from USDA;

—Critical rural infrastructure improvements have been made that will provide nearly 1 million Americans with improved access to safe drinking water, improve facilities for 655 communities, including many that provide healthcare

service and educational opportunities, and create 84,000 housing opportunities for families. USDA has made investments to improve watershed and flood control on 37,000 acres in 36 States. These actions have created thousands of jobs, while investing in projects that will provide benefits for years; and,

—USDA has made available $2.5 billion to expand and enhance the Nation's access to broadband services. USDA has taken a particular interest in addressing the needs of unserved and underserved rural areas. Broadband projects will support anchor institutions—such as libraries, public buildings and community centers—that are necessary for the viability of rural communities. USDA announced initial awards of $54 million in December 2009. A second USDA announcement of $310 million was made on January 25, 2010. A third USDA announcement of $277 million was recently made on February 17, 2010. The second solicitation of applications was published in the Federal Register on January 22, 2010; applications are being accepted through March 15, 2010. This funding will open the door to new businesses that serve global as well as local customers as well as improve the educational and medical opportunities for rural residents.

ENSURING THAT ALL OF AMERICA'S CHILDREN HAVE ACCESS TO SAFE, NUTRITIOUS, AND BALANCED MEALS

A major priority for the Department is ensuring a plentiful supply of safe and nutritious food, which is essential to the well-being of every family and the healthy development of every child in America. A recent report by the Department showed that in over 500,000 families with children in 2008, one or more children simply do not get enough to eat. There is a growing body of evidence demonstrating that children who eat poorly or who engage in too little physical activity do not perform as well as they could academically, and that improvements in nutrition and physical activity can result in improvements in academic performance. Too many children also have poor diets and gain excessive weight. Recent data shows that the prevalence of obesity has increased over 10 percent, to a level of 17 percent for children between 6 and 19 years of age. There is also a paradox that hungry children are disproportionately prone to obesity. Having poor access to healthy food contributes significantly to both of these problems.

Nutrition Assistance

The budget fully funds the expected requirements for the Department's three major nutrition assistance programs—the National School Lunch Program, WIC, and SNAP—and proposes $10 billion over 10 years to strengthen the Child Nutrition and WIC programs through reauthorization.

School lunch participation is estimated to reach a record-level again in 2011, 32.6 million children each day, up from about 32.1 million a day in 2010. This is consistent with the increase in the school age population.

The reauthorization of the Child Nutrition Programs presents us with an important opportunity to combat child hunger and improve the health and nutrition of children across the Nation. The 2011 budget proposes a historic investment of $10 billion in additional funding over 10 years to improve our Child Nutrition Programs and WIC. It is designed to significantly reduce the barriers that keep children from participating in school nutrition programs, improve the quality of school meals and the health of the school environment, and enhance program performance. Funding will be used to improve the quality of the National School Lunch and Breakfast Programs, increase the number of kids participating, and ensure schools have the resources they need to make program changes. With this investment, additional fruits, vegetables, whole grains, and low-fat dairy products will be served in all school cafeterias and an additional one million students will be served through school lunch programs in the next 5 years. Improving these programs directly supports the First Lady's "Let's Move" campaign aimed at achieving the ambitious national goal of solving the challenge of childhood obesity within a generation so that children born today will reach adulthood at a healthy weight.

To ensure USDA makes progress to decrease the prevalence of obesity among children and adolescents, and to improve the quality of diets, the budget includes an increase of $9 million. The increase will allow USDA to strengthen systematic review of basic, applied, and consumer research that provides the information necessary to answer questions about diet, health, education, and nutrition-related behaviors. This will ensure that that USDA and other Federal agencies can describe the best nutritional behaviors and develop the best ways of communicating this information to help Americans improve their diets. The increased funding will also be used to create more effective nutrition education interventions for schools and communities, and broaden and maintain tools and systems that Americans can use to

adopt more healthful eating and active lifestyles, in particular reducing overweight and obesity. The 2011 budget includes an increase of $50 million for research through AFRI that will focus on identifying behavioral factors that influence obesity and conducting nutrition research that leads to the development of effective programs to prevent obesity. AFRI funding will also focus research on addressing the micronutrient content of new food crops and improving the nutritional value of staple crops, fruits and vegetables through plant breeding leading to greater access to healthy foods.

The budget includes $7.6 billion for WIC, which will support the estimated average monthly participation of 10.1 million in 2011, an increase from an estimated 9.5 million participants in 2010. The request is $351 million above the 2010 appropriation and supports a robust contingency fund. Highlights include expanding the breastfeeding peer counseling program, doubling the size of the breastfeeding recognition program, supporting Management Information Service improvements and program research and evaluation, and providing a $2 increase in the value of the fruit and vegetable voucher for children. WIC administrative activities are also funded, which will facilitate continued implementation of the revised WIC food packages, required to be implemented at the beginning of fiscal year 2010. The changes in the food packages bring recipient diets into better conformance with the Dietary Guidelines for Americans and feeding recommendations for small children. Fruits, vegetables and whole grains were added to the WIC packages, mostly for the first time. Fruit and vegetable consumption is expected to increase significantly via the new cash value vouchers recipients will receive, improving nutritional intake, improving long-term eating habits, and improving the economics for our fruit and vegetable producers. Recipients will use their new vouchers to purchase fresh, frozen or canned fruits and vegetables year round.

Participation in SNAP is estimated to be about 40.5 million participants per month in 2010, and is projected to increase to 43.3 million in 2011. The budget estimates a total of $80.2 billion is needed in 2011 to fund all expected costs and includes a $5 billion contingency fund recognizing the uncertainty USDA faces in estimating actual participation. The Recovery Act increased SNAP benefits $80 a month for a family of four and will continue until the statutory cost of living adjustments (COLA) eclipse the Recovery Act benefit levels.

For 2011, we need to continue to support America's families as they recover from the current economic crisis many of them find themselves in. Fortunately, SNAP is working as it should with participation increasing as the people in need increase. However, changes need to be made to ensure that participants are treated fairly and equitably and that the resources being delivered foster economic mobility. For these reasons, we are proposing to improve the accessibility to SNAP. The main legislative proposal for SNAP would establish a common, national asset allowance for means test of $10,000 for programs government-wide. Programs with asset limits currently treat assets inconsistently and without regard of the need to allow and encourage families to save toward self-sufficiency. SNAP asset limits have been held for decades at $2,000 for most households and $3,000 for households with elderly. In addition, a second proposal would exclude lump sum tax credits to prevent disruption in eligibility and benefits in the wake of new and refundable tax credits, and the administrative churning this creates. A third proposal would extend the Recovery Act provision that waives time limits for Able-Bodied Adults Without Dependents (ABAWDs) for an additional fiscal year. In total, these changes to SNAP would add $462 million to recipient benefits and SNAP program costs in 2011 with a 5-year total of $4.5 billion.

The budget also includes increased funding for staffing needed to strengthen USDA's ability to simplify and improve the nutrition assistance programs, enhance capacity to improve nutritional outcomes, and encourage healthy and nutritious diets and expand an obesity prevention campaign through efforts supported by the Food and Nutrition Service.

Food Safety

Protecting public health is one of the most important missions of USDA. Foodborne illness is recognized as a significant public health problem in the United States. These illnesses can lead to short and long-term health consequences, and sometimes death. I am firmly committed to taking the steps necessary to reduce the incidence of food-borne illness and protect the American people from preventable illnesses. Over the past year, we have striven to make improvements to reduce the presence of deadly pathogens and we continue to make improvements. At USDA, about 8,500 inspectors work in approximately 6,300 slaughtering and processing establishments, import houses, and other federally regulated facilities to ensure that the Nation's commercial supply of meat, poultry, and egg products is safe, whole-

some, and correctly labeled and packaged. A major focus is implementing the recommendations of the President's Food Safety Working Group (FSWG) in accordance with three core food safety principles:

—Preventing harm to consumers;

—Conducting analyses needed for effective food safety inspections and enforcement; and,

—Identifying and stopping outbreaks of foodborne illness.

The budget includes $1 billion for the Food Safety and Inspection Service to fully fund inspection activities and implement recommendations of the FSWG and other initiatives aimed at improving USDA's public health infrastructure. This includes an increase of $27 million to further implement recommendations of the FSWG and strengthen our public health information infrastructure. Increased funding will be used to enhance FSIS' ability to collect, analyze and present food safety data necessary for improving inspection practices. Additionally, FSIS will hire more epidemiologists to improve investigations of foodborne illness and outbreaks in coordination with State officials to develop "trace back" tools and improve record-keeping. These improvements will decrease the time necessary to identify and respond to foodborne illness outbreaks, which will better protect consumers by improving our capability of identifying and addressing food safety hazards and preventing foodborne illness.

USDA research continually works to meet the evolving threats to the Nation's food supply and focuses on the reduction of the hazards of both introduced and naturally occurring toxins in foods and feed. As part of an integrated food safety research initiative, the budget proposes an increase of $25 million, including $20 million for AFRI and $5 million for the Agricultural Research Service. This initiative will strengthen surveillance and epidemiology programs, develop improved methods for controlling food pathogens in the preharvest stage, develop innovative intervention strategies to eliminate pathogens and contaminants, and improve technologies for ensuring postharvest safety and quality.

Minimizing the Impact of Major Animal and Plant Diseases and Pests

The budget includes $875 million in appropriated funds for the Animal and Plant Health Inspection Service (APHIS) to protect agricultural health by minimizing major diseases and pests. APHIS activities that contribute to this goal include pest and disease exclusion, plant and animal health monitoring, response to outbreaks of foreign plant and animal threats, and management of endemic pests and diseases. Of note, the 2011 budget includes $11 million to continue efforts initiated with emergency funding to address the light brown apple moth (LBAM). This is an increase of $10 million compared to 2010. The LBAM is an invasive pest that attacks a wide variety of plants of agricultural or horticultural significance. APHIS estimates the pest could cause annual production losses up to $1 billion if allowed to spread.

ASSISTING RURAL COMMUNITIES TO CREATE PROSPERITY

The economic downturn has impacted many sectors and areas of the Nation, including rural America. At this time, there remains high poverty in sparsely populated rural areas, which is reflected in higher mortality rates for children, higher unemployment, and declining populations. Since the beginning of the economic slowdown, rural residents have experienced a greater decline in real income compared to other parts of the Nation. Some factors contributing to this include lower rural educational attainment, less competition for workers among rural employers, and fewer highly skilled jobs in the rural occupational mix. It is not surprising that over 51 percent of rural counties lost population and that a majority of farm families rely on a significant amount of off-farm income to meet their needs. However, an energetic and creative citizenry is looking for new ways to spur rural economic activity to create prosperity and strengthen the economic foundations of their communities.

After a year as the United States Secretary of Agriculture, I have reached the conclusion that we must overhaul our approach to economic development in rural America. During the past year, at the instruction of President Obama, I worked on the elements of a new rural economy built on a combination of the successful strategies of today and the compelling opportunities of tomorrow. The framework of the new effort recognizes that the rural economy of tomorrow will be a regional economy. No one community will prosper in isolation. Further, USDA must help create economic opportunities in America's rural communities by expanding broadband access, promoting renewable energy, increasing agricultural exports, taking advantage of ecosystem markets, capitalizing on outdoor recreation, pursuing research and development, and linking local farm production to local consumption. The common goal is to help create thriving rural communities where people want to live and

raise families and where the children have economic opportunities and a bright future.

The 2011 budget will assist rural communities to create prosperity so they are self-sustaining, economically thriving, and growing in population. With the assistance of the committee, we have already taken important steps in this effort. With funding from the Recovery Act, we supported farmers and ranchers and helped rural businesses create jobs. Investments were made in broadband, renewable energy, hospitals, water and waste water systems, and other critical infrastructure that will serve as a lasting foundation to ensure the long-term economic health of families in Rural America.

This budget includes almost $26 billion to build on this progress and focuses on new opportunities presented by producing renewable energy, developing local and regional food systems, capitalizing on environmental markets and making better use of Federal programs through regional planning.

Facilitating the Development of Renewable Energy

On February 4, 2010, the President laid out his strategy to advance the development and commercialization of a biofuels industry to meet or exceed the Nation's biofuels targets. Advancing biomass and biofuel production that holds the potential to create green jobs, which is one of the many ways the Obama administration is working to rebuild and revitalize rural America. In support of this effort, USDA's budget includes funding for a variety of renewable energy programs across the Department. These programs help ensure that farmers and ranchers are able to capitalize on emerging markets for clean renewable fuels and help America achieve energy independence and reduce greenhouse gas emissions.

The 2008 farm bill provided significant mandatory funding to support the commercialization of renewable energy. The 2011 budget builds on this investment by providing an increase of $17 million in budget authority to support $50 million in loan guarantees for the Biorefinery Assistance Program. The budget also maintains the budget authority for the Rural Energy for America Program (REAP) at $39.3 million. The budget allocates most of the funding to grants rather than loans, because grant applicants will be able to more efficiently leverage greater amounts of private sector investment.

The Department will also focus additional research investments on the production of energy crops and the development of renewable energy processing. The 2011 budget includes an increase of $33 million for a comprehensive research program in alternative and renewable energy within the Agriculture and Food Research Initiative (AFRI) competitive grant program. This will advance the development of dedicated, bioenergy feedstocks, and feedstock production. The budget also proposes an increase of $10 million for in-house research for the establishment of regional biofuels centers dedicated to the development of energy feedstocks and bioenergy feedstock production systems for different regions across the Nation.

Developing Local and Regional Food Systems

With the growing interest among consumers in eating healthy foods and knowing where their food comes from, promoting local and regional food systems can offer win-win solutions for all involved.

USDA's "Know Your Farmer, Know Your Food" Initiative will work to reduce the barriers to local and regional food production, such as the lack of local meat processing and packing capacity, and promote opportunities to increase local and regional food production and purchasing, such as supporting school purchases of local and regional foods.

There exists great potential to create new economic opportunities for rural America by strengthening local and regional food systems. Currently, many communities across America have limited access to healthy foods, which can contribute to a poor diet and can lead to higher levels of obesity and other diet-related diseases, such as diabetes and heart disease. Most often, these communities are also economically distressed and less attractive to grocery stores and other retailers of healthy food.

To address this problem, the Departments of Agriculture, Health and Human Services, and Treasury will implement the Healthy Food Financing Initiative to provide incentives for food entrepreneurs to bring grocery stores and other healthy food retailers to underserved communities. Under this initiative, over $400 million will be made available in financial and technical assistance to community development financial institutions, other nonprofits, public agencies, and businesses with sound strategies for addressing the healthy food needs of communities. For USDA, the budget includes about $50 million in budget authority for loans, grants, and technical assistance to support local and regional efforts to increase access to healthy

food, particularly for the development of grocery stores and other healthy food retailers in urban and rural food deserts and other underserved areas.

Capitalizing on Environmental Markets

As America's farms and forests hold a tremendous potential for sequestering carbon, improving water quality, and preserving biodiversity the budget requests the resources necessary to conduct government-wide coordination activities that will serve as the foundation for the establishment of markets for these ecosystem services.

Through the Office of Ecosystem Services and Markets and the Office of the Chief Economist, the Department will establish technical guidelines that outline science-based methods to measure the environmental services benefits from conservation and land management, pursuant to the 2008 farm bill.

USDA conducts research that contributes to the development of climate change mitigation and adaptation tools and technologies, and USDA outreach and extension networks make them available to farmers, ranchers, and land managers. The 2011 budget includes an increase of $50 million within AFRI for global climate change research to develop mitigation capabilities and adaptive capacities for agricultural production. The budget also proposes an additional $5.4 million for ARS to conduct research that will increase the resilience of crops so they can thrive in variable and extreme environments, as well as focus on mitigating the effects of climate change by ensuring the availability of water through improved management.

Regional Innovation Initiative

In addition to these priorities, the 2011 budget maintains support for USDA's key rural development programs, including $12 billion for single family housing loan guarantees and nearly $1 billion in guarantees for business and industry loans. These programs not only provide needed assistance to rural families and the capital needed to create jobs, they also create the foundation needed to improve rural markets and communities which is essential for long-term economic growth.

In order to utilize the Federal Government's assets more effectively, USDA's Rural Innovation Initiative will promote economic opportunity and job creation in rural communities through increased regional planning among Federal, State, local and private entities. By creating a regional focus and increasing collaboration with other Federal agencies, USDA resources will have a larger impact, enabling greater wealth creation, quality of life improvements, and sustainability.

To support this initiative, USDA requests authority to set aside up to 5 percent of the funding within approximately 20 existing programs, approximately $280 million in loans and grants, and allocate these funds competitively among regional pilot projects tailored to local needs and opportunities. This will encourage regional planning and coordination of projects that are of common interest throughout self-defined regions. This approach will also support projects that are more viable over a broader region than scattered projects that serve only a limited area. It will also help build the identity of regions, which could make the region more attractive for new business development, and provide greater incentives for residents to remain within their home area.

Broadband

Although funding for broadband under the Recovery Act will end in 2010, USDA will continue to make broadband loans and grants under the authorities provided by the 2002 farm bill, as amended by the 2008 farm bill. The 2011 budget provides $418 million in loans and grants for this purpose.

PROMOTE AGRICULTURAL PRODUCTION AND BIOTECHNOLOGY EXPORTS AS AMERICA WORKS TO INCREASE FOOD SECURITY

We will also give priority to promoting the production of food, feed, fiber, and fuel, as well as increased exports of food and agricultural products, as we work to strengthen the agricultural economy for farmers and ranchers. America's farmers and ranchers are the most productive and efficient in the world and the U.S. agricultural sector produces $300 billion worth of farm products providing a major foundation for prosperity in rural areas as well as a critical element of the Nation's economy.

The Department provides a strong set of financial safety net programs to ensure the continued economic viability and productivity of production agriculture, including farm income and commodity support programs, crop insurance and disaster assistance, as well as other programs. The farm safety net is critically important and provides the foundation for economic prosperity in rural America. For 2011, USDA

estimates that roughly $17 billion in total direct support will be provided to farm producers and landowners through a variety of programs.

Recognizing the need to reduce the deficit, the budget proposes to better target direct payments to those who need and can benefit from them most as well as cap total payments paid to larger operations. For 2011, legislation will be proposed to build on reforms made by the 2008 farm bill by reducing the cap on direct payments by 25 percent and reducing the Adjusted Gross Income (AGI) payment eligibility limits for farm and non-farm income by $250,000 over 3 years. The savings from these proposals will impact approximately 30,000 program participants, which is about 2 percent of the 1.3 million total program participants, and will over time comprise less than 2 percent of the total direct support the Department expects to provide annually to farm producers and landowners.

The Federal crop insurance program is an important part of the farm safety net. It allows producers to proactively manage their risks associated with losses from weather, pests and diseases, and financial risks associated with price fluctuations. The stability provided by crop insurance has become an important factor used by commercial banks to determine the credit worthiness of their agricultural borrowers.

The budget also reflects savings expected to be achieved through reforms in the Federal crop insurance program the changes we are proposing will help protect farmers from higher costs, rein in costs for taxpayers, improve access to crop insurance and provide greater protection from crop losses. Negotiations are currently underway with the crop insurance industry to restructure the contract that governs their delivery of the crop insurance program. The proposed new Standard Reinsurance Agreement (SRA) includes six primary objectives, which will (1) maintain producer access to critical risk management tools; (2) realign administrative and operating subsidies paid to insurance companies closer to actual delivery costs; (3) provide a reasonable rate of return to the insurance companies; (4) equalize reinsurance performance across States to more effectively reach under-served producers, commodities, and areas; (5) enhance program integrity; and (6) simplify provisions to make the SRA more understandable and transparent.

These objectives align with RMA's primary mission to help producers manage the significant risks associated with agriculture. By achieving these six objectives, the new SRA will ensure financial stability for the program and the producers it serves, while increasing the availability and effectiveness of the program for more producers and making the program more transparent. The new agreement will also provide insurance companies with greater flexibility for their operations and financial incentives to increase service to underserved producers and areas, while ensuring that taxpayers are well-served by the program.

National Export Initiative

Agricultural trade contributes directly to the prosperity of local and regional economies across rural America through higher commodity prices and increased sales. USDA estimates that every $1 billion worth of agricultural exports supports 9,000 jobs and generates an additional $1.4 billion in economic activity. At the same time, however, foreign trade barriers limit exports, thereby reducing farm income and preventing job growth in the agricultural sector.

USDA has an important role in expanding export opportunities for our food and agricultural products. As part of the administration's National Export Initiative, the budget proposes increased discretionary funding of $54 million to enhance USDA's export promotion activities. The initiative includes increases of $34.5 million to supplement funding for the Foreign Market Development Program—commonly known as the Cooperator Program—and $9 million for the Technical Assistance for Specialty Crops Program. This funding will be in addition to that provided to the programs by the Commodity Credit Corporation and will double the level of funding available to the programs in 2011.

Increased funding of $10 million is also requested for the Foreign Agricultural Service, which will be used to expand export assistance activities, in-country promotions, and trade enforcement activities to remove non-tariff trade barriers, such as unwarranted sanitary and phytosanitary standards and technical barriers to trade imposed on U.S. commodities by other countries.

Research To Improve Agricultural Productivity

For 2011, the budget provides almost $800 million for research aimed at improving agricultural productivity and protecting agriculture from pests and disease that limit the productive capacity of agriculture. The proposed research will improve genetic resources and cultivars that will lead to improved germplasm and varieties with higher yields, improved disease and pest resistance, and resilience to weather extremes such as high temperature and drought. The budget also funds several ini-

tiatives to support research on breeding and germplasm improvement in livestock which will enhance food security and lead to the development of preventive measures to combat diseases and thereby increase production. The budget also includes a 56 percent increase for the Sustainable Agriculture Research and Education (SARE) programs aimed at helping farmers and ranchers adopt practices that are profitable and beneficial to communities. As part of this increase, the 2011 budget proposes funding for the Federal-State Matching Grant SARE Program to assist in the establishment and enhancement of State sustainable agriculture research, education and extension programs. The matching requirement will leverage State or private funds and build the capabilities of American agriculture in becoming more productive and sustainable.

As the world population grows and the demand for food with it, we must look to new technologies for increasing production, including biotechnology. Biotechnology can expand the options available to agricultural producers seeking solutions to a variety of challenges, including climate change. However, prudent steps must be taken to ensure that biotech products are safely introduced and controlled in commerce. For 2011, the budget requests $19 million, an increase of 46 percent, to strengthen USDA's science-based regulatory system for ensuring the safe introduction and control of biotechnology products. This includes preventing regulated genetically engineered products from being co-mingled with non-regulated products and to ensure the safe introduction of biotechnology products. USDA will also continue to provide technical input for the development of science-based regulatory policies in developing countries. By promoting consistency between the domestic regulatory system and the import policies of our trading partners, the likelihood of the United States being the supplier of choice improves as markets for these products grow.

Increasing Global Food Security

Recent estimates from the United Nations Food and Agriculture Organization suggest that more than one billion people around the world are chronically hungry, many of them children.

A productive agricultural sector is critical to increasing global food security. USDA plays a major role in helping American farmers and ranchers improve the efficiency of agricultural production, including the safe use of biotechnology and other emergent technologies. New technologies and production practices can enhance food security around the world by increasing the availability of food as well as providing developing nations tools for increasing their self reliance and giving them greater control over their production decisions.

For 2011, the budget includes approximately $2.1 billion in emergency and non-emergency foreign food assistance programs carried out by USDA and USAID, and capacity building programs. Through the McGovern-Dole International Food for Education and Child Nutrition Program, which is administered by the Foreign Agricultural Service, USDA will assist an estimated 5 million women and children in some of the world's poorest countries.

In support of agricultural reconstruction and stabilization activities in Afghanistan, USDA is increasing the number of agricultural experts serving in Afghanistan from 14 to 64 in 2010. The work of these courageous individuals is essential for stabilizing strategic areas of the country, building government capacity, ensuring the successful management of assistance programs, and addressing the issue of food insecurity. It is estimated that as much as 80 percent of the Afghan population relies on agriculture for wages and sustenance. Consistent with these efforts, the Department has established a priority for increasing the number of Afghan provinces in which women and children are food secure from 10 to 14 by the end of 2011, ensuring food security for 41 percent of the country's provinces by the end of 2011.

An important means to assist developing countries to enhance their agricultural capacity is by providing training and collaborated research opportunities in the United States, where participants can improve their knowledge and skills. The 2011 budget provides increased funding for the Cochran and Borlaug Fellowship Programs, which bring foreign agricultural researchers, policy officials, and other specialists to the United States for training in a wide variety of fields. Under our proposals, as many as 600 individuals will be able to participate in these programs and bring this knowledge home with them to benefit their respective countries.

In addition, the Department is working with other Federal partners to reduce global food insecurity and increase agriculture-led economic growth in developing countries. These combined efforts will not only ensure that the world's children have enough to eat, but will improve national security as well. By promoting strong agricultural systems in the developing world, we will eliminate some of the primary causes that fuel political instability and diminish the economic vitality of developing nations.

ENSURING PRIVATE WORKING LANDS ARE CONSERVED, RESTORED, AND MADE MORE RESILIENT TO CLIMATE CHANGE, WHILE ENHANCING OUR WATER RESOURCES

USDA plays a pivotal role in working with farmers and ranchers to protect and restore private working lands, while making them more resilient to threats and enhancing our natural resources. USDA partners with private landowners to help protect the Nation's 1.3 billion acres of farm, ranch, and private forestlands.

The budget includes record levels of support for conservation programs, bringing total funding to about $6 billion, which includes $5 billion in mandatory funding for the conservation programs authorized in the 2008 farm bill and nearly $1 billion in discretionary funding for other conservation activities, primarily technical assistance. This level of funding supports cumulative enrollment of more than 304.6 million acres in farm bill conservation programs, an increase in enrollment of about 10 percent over 2010.

The budget will accelerate the protection of our natural resources by strategically targeting funding to high priority program areas. This includes an increase of $25 million to implement the Strategic Watershed Action Teams initiative that will target identified watersheds for a period of 3 to 4 years with the intent of reaching 100 percent of the landowner base in each watershed eligible for farm bill conservation program assistance. The additive effect of planned and applied conservation practices would hasten environmental improvement while keeping production agriculture competitive and profitable.

Research

Underlying the achievement of all of the Department's goals is a strong research program. Research fuels the transformational change that rural America needs to excel. To help bring about this change, I have launched the National Institute of Food and Agriculture (NIFA), which will be a key element in providing the knowledge and technical advances that will lead to increased productivity, more abundant food supplies, improved nutrition, safer food, and a cleaner environment.

Agricultural research ultimately leads to increased profitability for farmers, reduced food costs and greater choice for consumers, and improved management of the natural resource base. To get more out of our research, the Department must focus its research and development components on making sure we do our very best job not just to increase productivity but also to make sure that we protect what it is they are growing and raising. The National Institute is going to have a more focus, in part on improving productivity and also being able to figure out how we can do a better job of protecting crops and animals from pests and disease. The more we produce, the healthier we produce, the better off we will be. If you conduct more research that will enable farmers to be more productive and improve the protection of their crops from pests and disease, in concert with protecting the market through food safety, we will be able to expand domestic markets and increase export markets.

As I have highlighted a few of the most significant research initiatives, I would like to point out that the 2011 budget proposes the largest funding level ever for competitive research with $429 million for AFRI, an increase of $166 million over 2010. AFRI is the Nation's premier competitive, peer-reviewed research program for fundamental and applied sciences in agriculture. It is broad in scope with programs ranging from fundamental science to farm management and community issues.

The budget also maintains formula funding for research and extension at 1862, 1890 and 1994 land-grant institutions, schools of forestry and schools of veterinary medicine at the 2010 level, thereby maintaining the research infrastructure needed to meet our research goals. These important capacity building programs will allow institutions to sustain the matching requirement that many of these programs have, thereby allowing Federal funds to leverage non-Federal resources. All of these institutions are also eligible to apply for AFRI funding to enhance their research efforts.

Management Initiatives

The budget also includes a number of management initiatives that will improve service delivery, ensure equal access to USDA programs, and transform USDA into a model organization.

As part of a government-wide effort to improve service delivery and IT security, the Department will continue to implement improvements to address vulnerabilities to aging IT systems used for delivering billions of dollars in farm, conservation, and rural development program benefits that will result in more reliable, customer-focused service to producers.

Ensuring that the Department and its programs are open and transparent is a priority for USDA. Therefore, USDA is proposing to expand the Office of Advocacy and Outreach, which was established by the 2008 farm bill, to improve service deliv-

ery to historically underserved groups and will work to improve the productivity and viability of small, beginning, and socially disadvantaged producers.

In support of my commitment to improve USDA's handling of civil rights matters, the budget includes funding to ensure that USDA has the staffing and resources necessary to address its history of civil rights complaints and seek resolution to claims of discrimination in the Department's employment practices and program delivery. To demonstrate this commitment, USDA under my leadership has been aggressively pursuing resolution to several pending discrimination lawsuits against the Department. Most notably, USDA and the Department of Justice reached a settlement of outstanding claims of discrimination by Black farmers in the *Pigford* case. Resolution of this litigation is evidence of the commitment to resolving all of the large civil rights cases at USDA, including those involving Hispanic, Native American, and women farmers.

As USDA's workforce interacts directly with the public we serve every day, the Department's employees are some of our most valuable assets. To enhance the Department's human resource capabilities, USDA will focus on improving leadership development, labor relations, human resources accountability, and veterans and other special employment programs. Investing in our employees will create an environment that is more responsive to the Department's broad constituency.

There is no doubt that these tough times call for shared sacrifice. The American people have tightened their belts and we have done so as well. We made tough decisions, but this budget reflects our values and common sense solutions to the problems we face. It makes critical investments in the American people and in the agricultural economy to set us on a path to prosperity as we move forward in the 21st century.

I would be pleased to take your questions at this time.

PREPARED STATEMENT OF PHYLLIS K. FONG, INSPECTOR GENERAL

I want to thank Chairman Kohl and Ranking Member Brownback for the opportunity to submit testimony about the Department of Agriculture's (USDA) Office of Inspector General's (OIG) fiscal year 2011 budget request. My statement will summarize a number of the most important oversight projects and investigations we performed in fiscal year 2009 and 2010 to date and present the key elements of the President's fiscal year 2011 budget request for OIG.

During this period, we issued a total of 78 audit reports regarding USDA programs and operations. We obtained $131 million in potential monetary results by reaching management decision with USDA on our recommendations. In that time period, we reported 866 convictions and $179 million in potential monetary results as a result of OIG investigations.[1]

My statement will begin with an overview of our work to assess and improve the Department's American Recovery and Reinvestment Act of 2009 (Recovery Act) programs and operations, cover our most significant recent audit and investigative activities, and conclude with a summary of the President's fiscal year 2011 budget request for OIG.

OIG OVERSIGHT OF USDA'S RECOVERY ACT ACTIVITIES

The Recovery Act provided USDA with $28 billion in additional funding for an array of programs and activities. Among the USDA programs funded by the Recovery Act are farm loans, watershed protection, nutrition assistance, wildfire management, capital improvements and maintenance, and rural development. With the subcommittee's leadership, the Recovery Act also provided OIG with $22.5 million to oversee the USDA programs funded by the Act; these funds are available through fiscal year 2013.

In response to this call for additional oversight, in 2009 OIG modified its audit and investigative programs, added staff to handle the additional workload, and reprioritized its current work. Along with expanding the scope of audits already in process, we added 54 additional audits that were specifically designed to address Recovery Act programs.

Our approach to auditing Recovery Act-funded programs involves three phases that will be implemented over the next several years. In the first phase, we are reviewing USDA agencies' documented internal control procedures relating to Recov-

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[1] Audit monetary impacts are derived from funds put to better use and questioned/unsupported costs, as established by Congress in the Inspector General Act of 1978. The components of our investigative monetary results include fines, recoveries, restitutions, claims established, and administrative penalties, among others.

ery Act programs. In the second phase, through field reviews, we are evaluating program delivery, reviewing participants' eligibility, and ensuring Recovery Act funds are being used for their intended purposes. In the third phase, we will evaluate program performance measures and how accomplishments and results are reported by USDA agencies.

As of April 1, 2010, we have issued 12 audits regarding the Department's Recovery Act programs and operations. Our audits addressed USDA's internal controls over loan and grant processing, management of the Supplemental Nutrition Assistance Program (SNAP), actions taken in response to prior audit recommendations, aquaculture grants, and Forest Service (FS) contracting and grants management. We have also issued another six audits relevant to USDA's Recovery Act activities that were in process when the Act was passed. These audits examined programs that subsequently received Recovery Act funding, such as the rehabilitation of flood control dams, broadband loans and grants, nutrition assistance, and rural development. At present, we have 34 Recovery Act audits in process, with 10 additional audits scheduled to start in the coming months.

We have also developed a new reporting process to provide USDA agency managers with prompt feedback regarding the use of Recovery Act funds; these "fast reports" convey issues to program managers as soon as they are identified. Fast reports are then consolidated and issued in a formal, audit report at a later date. As of April 1, 2010, we have issued 30 fast reports addressing matters such as business and industry loans, contract issuance and management, Recovery Act reporting, housing loans, nutrition assistance, farm operating loans, water and waste disposal grants and loans, and floodplain easements. For example, the fast report we issued concerning SNAP found the budgetary estimate for SNAP had increased significantly since the original estimate included in the Food and Nutrition Service's Recovery Act Plan. The change was not consistently or timely reported on Recovery.gov and associated agency Web sites.[2] The Department agreed to work with the Office of Management and Budget (OMB) and the Recovery Accountability and Transparency Board to establish a process for changing estimates reported on these public Web sites.

Our Investigation Division has been working to ensure the integrity of Recovery Act programs by investigating allegations of potential fraud, preparing to conduct investigations, and implementing a whistleblower allegation program. To accomplish these goals, we developed a two-phase approach. As part of the first phase, we are increasing fraud awareness training for Federal, State, and local officials involved in the disbursement and administration of Recovery Act funding from USDA.

In the second phase, we are assessing complaints and referrals OIG has received to ascertain if criminal investigations should be opened. As of April 9, 2010, OIG had received 31 referrals relating to USDA Recovery Act contract awards and 20 complaints to our hotline. Our goal is to expeditiously evaluate any concerns raised about USDA's Recovery Act activities and expenditures and ascertain if there is potential criminal activity or, alternatively, administrative issues. As of April 9, 2010, we had identified no criminal activity in our reviews of Recovery Act referrals and complaints.

GOAL 1: STRENGTHEN USDA'S SAFETY AND SECURITY MEASURES FOR PUBLIC HEALTH

One of OIG's most important goals is to protect public health and ensure the wholesomeness of the food reaching both U.S. consumers and consumers in foreign markets. In fiscal year 2009 and the first half of fiscal year 2010, we completed several important oversight projects related to food safety. We also completed work related to other USDA activities potentially affecting public safety, such as assessing the ongoing rehabilitation of aging dams throughout the country.

Evaluating Food Safety Controls Prior to Slaughter of Cattle

In 2008, when videos came to light documenting the abuse of cattle awaiting slaughter at a meat packing company in Chino, California, the Food Safety and Inspection Service (FSIS) oversaw the company's recall of approximately 143 million pounds of raw and frozen beef products—the largest recall in U.S. history. OIG's audit of conditions at the slaughter facility determined there was not a systemic failure offFSIS' inspection process, but that plant personnel acted deliberately to bypass required inspections.

OIG investigators continue to work closely with the U.S. Attorney's Office and FSIS to investigate the events that took place at this facility. Meanwhile, in 2009,

[2] The original estimate totaled more than $19.8 billion through fiscal year 2013. This amount increased to $65.8 billion through fiscal year 2019 when estimated for the fiscal year 2011 budget.

OIG audit's work on this beef recall led to three major audits concerning the quality of beef processed in the United States.

Evaluating the Recall

Given the unprecedented size and scope of this beef recall, OIG evaluated whether FSIS effectively oversaw the recall, verifying if the packing company contacted beef distributors, retrieved the potentially contaminated meat, and properly disposed of it. We also assessed whether FSIS had implemented corrective actions in response to recommendations OIG made in two prior reports on the agency's recall process.

While FSIS had generally taken appropriate actions in response to our prior recommendations, we found that FSIS needs to improve how it evaluates the success of its recalls. To determine if a recall has been successful, FSIS samples and follows up with distributors who have received potentially adulterated beef. The agency, however, had no procedures to replace sampled distributors who were found not to have actually purchased any of the recalled beef. The size and completeness of the sample is important because FSIS depends on statistical projections to support its overall conclusions concerning a recall's effectiveness.

In this recall, 41 percent of the companies FSIS contacted had not received the recalled product and therefore should not have been used to evaluate the recall—some were out of business, some did not sell meat at all, and others never purchased any of the recalled beef. We also found that FSIS needs to implement written procedures to ensure that all of its district offices follow a standardized and statistically valid process for evaluating recalls. FSIS agreed with OIG's recommendations to strengthen agency procedures to evaluate recalls.

Evaluating Controls Over Residues in Cattle

Another public food safety issue facing the United States is the contamination of meat with residual veterinary drugs, pesticides, and heavy metals. "Residue" of this sort finds its way into the food supply when producers bring animals to slaughter plants while they have antibiotics or other drugs in their system. When the animals are slaughtered, traces of the drugs remain in these animals' meat when shipped to meat processors and retail supermarkets, and eventually purchased by consumers. In cooperation with the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA), FSIS inspectors are required to sample and test animal carcasses to verify that beef is not contaminated with harmful residue.

Our March 2010 report found that the National Residue Program is not accomplishing its mission of monitoring the food supply for harmful residues. For example, FSIS, FDA, and EPA have not established thresholds for many dangerous substances (e.g., copper or dioxin), which has resulted in meat with these substances being distributed in commerce. To address these serious shortcomings in the National Residue Program, FSIS, EPA, and FDA need to take steps to improve how they coordinate with one another.

Acting on its own initiative, FSIS can strengthen the National Residue Program by requiring slaughter plants to increase their controls when processing dairy cattle and bob veal calves. Our analysis shows that plants handling these animals were responsible for over 90 percent of residue violations. The agency can also do more to focus on repeat violators-producers who have a history of bringing to slaughter animals with residue in their system. FSIS agreed with our findings and recommendations.

Purchasing Ground Beef for Federal Nutrition Assistance Programs

The Agricultural Marketing Service (AMS) purchases ground beef products for use in Federal nutrition programs. Our newly released audit found that the agency had significantly improved its procedures to ensure that contracted ground beef suppliers comply with purchasing requirements. However, our audit found that further improvements are still needed. AMS has not made a formal determination as to whether ground beef suppliers should be required to obtain bonding or insurance to safeguard the Department against possible monetary losses resulting from major product recalls. The agency needs to strengthen its criteria to hold suppliers accountable for their non-conformances and to properly track non-conformances to ensure that ground beef suppliers meet eligibility requirements for continued program participation. In addition, AMS needed to strengthen its controls over the selection of product samples for laboratory testing and the laboratory testing process itself. This would provide increased assurance that ground beef products purchased for Federal programs meet quality and safety standards. AMS officials agreed with OIG's findings and recommendations.

Overseeing the National Organic Program

The public's interest in environmental concerns and food produced with fewer pesticides and chemicals has led to increased focus on USDA's National Organic Program. Over the past decade, the organic industry has grown between 14 and 21 percent annually. In 2008, it sold more than $24.6 billion in agricultural products. Administered by AMS, the National Organic Program is responsible for ensuring that when consumers purchase foods labeled "USDA organic," those foods meet uniform standards.

Our recent audit of the National Organic Program found that program officials need to improve their process for handling complaints and taking appropriate enforcement actions. For example, AMS did not take enforcement action against a farming operation that marketed nonorganic mint under USDA's organic label for 2 years. Other farming operations continued to improperly market their products as organic while AMS considered enforcement action, which in some cases took as long as 32 months.

Organic products must originate from farms or operations certified by agents accredited by USDA. These certifying agents grant organic certification upon determining that an operation's procedures comply with regulations. We found that AMS did not ensure that its certifying agents consistently enforced the requirements of the organic program so that products labeled as organic meet a uniform standard. AMS officials agreed with OIG's findings and recommendations.

OIG has also investigated criminal schemes to defraud the National Organic Program. In February 2010, as a result of a joint investigation involving OIG agents, the owner of an organic commodities company in Texas was sentenced to 24 months imprisonment and ordered to pay $520,000 for falsely certifying that conventionally grown crops (grain sorghum, beans) were organic.

Rehabilitating Aging Dams To Address Public Safety

Since the 1940s, the Natural Resources Conservation Service (NRCS) has assisted in the construction of more than 11,000 dams, many of which have reached (or will soon reach) the end of their planned design lives and need rehabilitation. Congress appropriated over $159 million from fiscal years 2002 to 2007 to assist dam owners in rehabilitating these structures, most of which are owned by local governments and utilities.

Our 2009 audit found that instead of first coordinating with State dam agencies, NRCS selected dams for assessment as they were volunteered by their owners, regardless of the potential threat to life and property or their proximity to the end of the planned design life. Six years after the program was initiated, NRCS had not assessed 1,345 of 1,711 high-hazard dams (79 percent) and has spent $10.1 million to assess and rehabilitate lower hazard dams. (The failure of a lower-hazard dam is unlikely to result in loss of life.) NRCS lacks authority to compel owners to take any particular action, even in the case of a dangerous high-hazard dam. NRCS officials agreed with OIG's findings and recommendations.

OIG Investigations: Food Safety

OIG considers investigations involving food safety our highest priority due to the potential impact on the health and well-being of the American public. In our food safety investigations, we typically see various schemes such as product tampering, adulteration, the falsification of documents, smuggling, and inhumane slaughter. Within the last year, we completed a number of noteworthy food safety investigations as illustrated by the following two cases.

The first involves a Texas food company that schemed to defraud several Middle Eastern food companies as well as the U.S. military, which relies on these companies to provide food to its troops in Iraq and Afghanistan. The owner of this food company forged USDA export certificates and Halal certificates and directed his employees to wipe expiration dates off the products and stamp new dates on them. In July 2009, the owner pled guilty to charges that he conspired to defraud the Government. He was sentenced to serve 24 months in jail and ordered to pay $3.9 million in restitution to the Federal Government.

The second significant OIG food safety investigation involved the seizure of smuggled duck and other meat/poultry products aboard cargo ships at Port Elizabeth, New Jersey. The importer attempted to illegally bring the products into the United States by not listing them on the ship's manifest, thereby avoiding USDA inspection. A multi-agency investigation found that the food products originated from China, which was prohibited from exporting poultry to the United States. The owner of the American import company ultimately pled guilty to conspiracy in February 2010. To date, this investigation has resulted in Federal fines in excess of $6.7 million being imposed on several companies and their owners.

Animal Fighting Investigations

Animal fighting is a crime that has gained national attention recently due to several high-profile investigations. OIG has been involved in investigating animal fighting for several years because of the effect these activities have on animal health, as well as human public health and safety concerns. The animals used in these illegal activities can introduce diseases into the United States. Individuals participating in animal fighting operations are also often implicated in illegal activities involving firearms, drugs, contraband, gambling and, in some instances, public corruption. In fiscal year 2009 and the first half of fiscal year 2010, our animal fighting investigations resulted in 405 individuals being convicted and monetary results of approximately $223,000.

An OIG investigation disclosed that the former sheriff in Luray, Virginia, was accepting campaign contributions to protect an illegal cockfighting and gambling operation at the local sportsman's club. He was also using his position to conduct other improper activities, such as misusing inmate labor for personal gain. Due to OIG's investigation, the sheriff resigned from his position and was ultimately sentenced in December 2009 to 19 months imprisonment, 2 years of supervised release, forfeiture of $75,000 to the Federal Government, and approximately $5,000 in other monetary penalties. The sportsman's club was also fined and several associated individuals received prison terms ranging up to 18 months.

GOAL 2: STRENGTHENING USDA'S PROGRAM INTEGRITY AND IMPROVING THE DELIVERY OF BENEFITS

OIG has also completed a number of projects intended to ensure that USDA programs are reaching the people who most need and are eligible for program benefits. These projects range from audits verifying the accuracy of payments made to farmers to investigations resulting in the prosecution of individuals who defraud SNAP.

Determining the Accuracy of Financial Assistance to Peanut Producers

From 2002 through 2007, the Farm Service Agency (FSA) provided more than $1 billion in financial assistance to peanut producers. FSA determines how much assistance is needed based on weekly average peanut prices published by the National Agricultural Statistics Service (NASS). Even very small changes in peanut prices can result in significant changes in the amount of assistance provided—a penny one way or the other equals roughly $33 million a year. Our March 2009 audit found that NASS' peanut prices are not based on reliable market data. Since there is no public commodity market for peanuts, NASS solicits price data from peanut buyers. Their participation is voluntary and confidential by law, and NASS does not verify the data they provide. Without mandatory and verifiable price reporting, FSA has no assurance that its program payment rates depending on NASS' published prices correspond to a true market price. FSA officials generally agreed with OIG's recommendations.

Improving USDA's 2008 Disaster Relief Response

The Disaster Relief and Recovery Supplemental Appropriations Act of 2008 provided USDA with extensive supplemental funding for disaster relief assistance to individuals and communities affected by the hurricanes and flooding in the Midwest and South (primarily) that year. Due to the efforts of this subcommittee and your counterparts in the House, the Act provided OIG with $5 million in supplemental no-year funding for oversight of the Department's emergency relief activities.

Our disaster relief oversight program has focused on whether USDA agencies have implemented the internal control improvements regarding emergency benefits that OIG recommended after assessing their response to the 2005 Gulf Coast hurricanes. That experience demonstrated that management controls regarding emergency assistance eligibility and program oversight are vital to prevent the waste or misuse of USDA disaster funding. OIG's audit program for USDA disaster relief activities programs is assessing the Department's short-term emergency relief assistance and its longer-term rebuilding efforts. We are currently reviewing aspects of USDA 2008 disaster relief operations, such as the Emergency Watershed Protection Program and the Emergency Conservation Program.

Ensuring That All Farm Loan Recipients Are Treated Fairly

A provision in the 2008 farm bill required OIG to review how FSA was processing foreclosures to "socially disadvantaged" farmers (i.e., women and minorities) to ensure that all loan recipients were being treated fairly and in conformity with the law. By analyzing FSA's actions at critical points in the foreclosure process, we found that FSA generally followed its established process in servicing and foreclosing loans to socially disadvantaged borrowers and that the agency's decisions

conformed to applicable laws and regulations. We did find a few instances where FSA did not technically conform to prescribed timeframes for some policies and procedures; however, there was no statistically significant difference between how socially disadvantaged borrowers were treated compared to the rest of the population.

OIG Investigations: USDA Benefit and Farm Programs

Ensuring the integrity of benefits provided by USDA programs is the hallmark of the investigative work we do. OIG investigations of criminal activity in USDA's nutrition assistance programs resulted in 250 convictions and over $44 million in monetary results in fiscal year 2009. I would like to highlight for the subcommittee several noteworthy OIG investigations regarding USDA benefit programs that achieved significant sentencings and/or restitution orders in fiscal year 2009.

—An Illinois store owner and employee conspired with at least five additional retail grocery stores to illegally exchange SNAP benefits for cash. Together, the owner and his employee were sentenced to 83 months of incarceration and ordered to pay $6.3 million in restitution to USDA.

—An Oklahoma entity receiving Child and Adult Care Food Program benefits made false statements and claims on monthly meal reimbursement records to fraudulently obtain additional meal reimbursements. The director was sentenced to 41 months imprisonment and ordered to pay $1.6 million restitution to the U.S. Government.

—Kentucky business owners fraudulently used the same collateral to secure two bank loans guaranteed by USDA's Rural Business Cooperative Service. In February 2009, the owners pled guilty to bank fraud, wire fraud, and money laundering and were sentenced to 27 months and 30 months imprisonment, respectively. They were ordered to pay $4.5 million in restitution to USDA and two other entities.

In fiscal year 2009, OIG also completed several investigations into fraudulent activities involving FSA and Risk Management Agency (RMA) programs. These are some of the most complex investigations we conduct, as they often involve large monetary amounts and voluminous documentation. In this area, OIG found that:

—A Florida farming entity received over $1 million in fraudulent crop insurance payments. The OIG investigation resulted in the corporation being ordered in March 2009 to pay $1.1 million in restitution to USDA. The farmer was ordered to pay in excess of $460,000 in taxes and penalties to the Internal Revenue Service.

—A Missouri farmer made false statements to obtain loans, convert collateral, and commit bank fraud. In September 2009, the farmer pled guilty to all charges and was sentenced to 9 months incarceration and ordered to pay $550,000 to the Federal Government.

GOAL 3: OIG WORK IN SUPPORT OF USDA'S MANAGEMENT IMPROVEMENT INITIATIVES

OIG continuously monitors risks to USDA programs to assist the Department in identifying and correcting programmatic concerns, and to improve overall Department management.

Enhancing the Integrity of the Federal Crop Insurance Program

RMA oversees private companies that sell crop insurance policies to American farmers. The total liability for this insurance has increased markedly in recent years—from 2005 to 2009, total liability increased from $35 billion to approximately $91 billion. OIG found that RMA needs to take a number of steps to strengthen its oversight of this industry. Above all, it needs a comprehensive, systematic, and well-defined strategy for improving the integrity of the crop insurance program, including a strategy that coordinates the various activities being conducted by the different RMA divisions. In order to use RMA's limited compliance resources as effectively as possible, the strategy should focus those resources on program vulnerabilities, which we recommended RMA determine by performing a risk assessment. We identified steps RMA can take to strengthen its oversight of the crop insurance companies that are responsible for much of the day-to-day operations of the program. Such steps include improving the agency's review of large insurance claims and holding the private insurance companies responsible when RMA finds that they made errors while processing claims. We continue to work with RMA officials on corrective actions to address OIG's recommendations.

Strengthening the Security of USDA Information Technology

Over the last decade, USDA has improved its information technology (IT) security, but many longstanding weaknesses remain. In 2009, the Department implemented its Cyber Security Assessment and Management System to provide it with current

agency security information and enhance the Department's oversight capabilities. USDA still needs to take steps to address a number of security weakness, such as developing a Department-wide plan for addressing IT security vulnerabilities, updating software, addressing vulnerabilities, deploying both encryption and the Federal Desktop Core Configuration, and using standard security settings. With such a large and diverse Department, ensuring that all agencies comply with these standards will take time and resources. The Office of the Chief Information Officer is continuing to work towards these goals.

Financial Statements for Fiscal Years 2008 and 2009

Pursuant to the Chief Financial Officers Act of 1990 and OMB guidance, Federal OIGs are responsible for annual audits of departmental and agency financial statements to obtain reasonable assurance that the financial statements are free of material misstatements. USDA's fiscal year 2008 and 2009 consolidated financial statements received an unqualified opinion, as did the fiscal year 2008 and 2009 financial statements for five other USDA entities.[3]

OIG Investigations

In order to promote integrity of departmental operations and activities, OIG has responsibility to investigate incidents of severe misconduct and potential criminal activity by USDA personnel. The following OIG investigations involving former USDA personnel resulted in sentencings in fiscal year 2009:

—A former FS employee in Wisconsin was found to have misused purchase card convenience checks and misappropriated almost $320,000 over a 4-year period. In May 2009, she was sentenced to 12 months incarceration and ordered to pay $320,000 in restitution to the Federal Government.

—In December 2009, a former FSIS employee was sentenced in the Southern District of Mississippi to 11 months in prison and 3 years of probation for threatening and pointing an assault rifle at OIG agents. OIG agents had been sent to interview the former employee after he made threatening phone calls to the FSIS Regional Director. The individual pled guilty to one count of assaulting, resisting, or impeding Federal employees.

GOAL 4: IMPROVING USDA'S STEWARDSHIP OF NATURAL RESOURCES

USDA provides leadership to help America's private landowners and managers conserve their soil, water, and other natural resources. Our goal in auditing these activities is to increase the efficiency and effectiveness with which USDA exercises stewardship over natural resources.

Encouraging Farmers and Ranchers To Become Good Stewards of the Land

NRCS' Conservation Security Program (CSP) provides financial assistance to producers who meet the very highest standards of conservation and environmental management. OIG assessed NRCS' CSP administration for one fiscal year in which the agency was authorized $259 million in financial assistance for prior year contracts and new signups for conservation practices, as well as technical assistance to develop conservation plans. Of the approximately 4,400 contracts for the new signups with first year payments totaling $51 million, we sampled 75 contracts that totaled $11.8 million. We found that half (38 of 75) were given to participants who did not qualify for the program. NRCS relied on applicants to provide accurate information, but did not confirm key information that would help verify producer qualifications. Agency officials agreed with OIG's recommendations and we continue to work with NRCS on appropriate corrective actions.

Forest Service

Employing approximately 30,000 employees and overseeing 193 million acres comprising 175 National Forests and Grasslands, the U.S. Forest Service (FS) is the largest USDA agency. In fiscal year 2008, FS spent more than $5.8 billion managing and protecting America's natural resources. Because FS is an extremely decentralized agency that has a history of weak internal controls, OIG devotes a significant percentage of its resources to overseeing its operations. The following are brief descriptions of several of our more noteworthy oversight reviews pertaining to FS operations.

[3] Rural Development, Commodity Credit Corporation, FS, Food and Nutrition Service, and Federal Crop Insurance Corporation. NRCS received a disclaimer of opinion, but this did not change the opinion for the consolidated statements.

Purchasing and Maintaining the Aircraft FS Needs To Fight Fires

We reviewed FS' plans for purchasing new aircraft for its firefighting program, and found that FS did not present the best case possible to justify buying new aircraft. With an average age of more than 50 years, more than half of the 44 airtankers available under contract in 2004 were grounded for safety concerns. By 2012 the remaining 19 airtankers will begin to be either too expensive to maintain or no longer airworthy. FS will probably have to purchase replacement aircraft—at a cost of up to $2.5 billion—rather than lease airtankers, as it has done in the past. FS agreed with our recommendations to: (1) collect current aviation performance data to determine how new aircraft will improve its firefighting performance; (2) use aviation firefighting performance measures that directly demonstrate the cost impact of its aging airtanker fleet; and (3) formally establish an integrated team to take charge of developing the agency's budget document.

Improving How FS Uses Contracted Labor Crews To Fight Fires

Since FS relies on contractors to fulfill many of its firefighting responsibilities, we assessed how effectively and efficiently FS is deploying these resources. We found that FS needs to analyze its mobilization data from previous seasons to identify trends in how firefighting labor crews are used in conjunction with other resources (i.e., aircraft operations, fire engine crews). Analyzing this data would greatly improve FS' ability to identify more effective deployment strategies, especially during severe fire seasons when FS' resources are most taxed. We continue to work with FS to obtain agreement on the corrective actions.

Evaluating How FS Plans To Replace Its Critical Personnel as They Retire

FS could face a significant shortage of qualified firefighters as its workforce ages and firefighters face mandatory retirement. As of 2009, approximately 26 percent of FS' critical firefighters were eligible to retire. Unless adequate replacements are available, the nation could face losses to its natural resources and firefighters could be at increased risk of harm. We concluded that FS has not taken the necessary steps to ensure it has a sufficient number of qualified staff to meet its future wildland fire management responsibilities. FS officials agreed with OIG's findings and recommendations.

OIG INVESTIGATIONS

In the case of each fatality of an officer or employee of the FS that occurs by a wildfire entrapment or burnover, OIG is required by law to conduct an independent investigation.[4] Thus, when five FS firefighters fighting the Esperanza Fire died due to a burnover in October 2006, OIG investigated the circumstances of their deaths. Our investigation found that there was no evidence of any criminal wrongdoing involved in the accident.

OIG's Wildland Fire Investigation Team will continue to work with FS to ensure that there is transparency and established procedures for handling future investigations of this sort.

OIG'S FISCAL YEAR 2011 BUDGET REQUEST

Before concluding, I would like to address key elements of the President's fiscal year 2011 budget request for OIG. We are very grateful for the support of the administration and of the Congress particularly the Members of this subcommittee—during this budget process. Your ongoing support and interest in our work has enabled us to consistently provide constructive oversight for a wide array of USDA's extensive programs and operations.

Over the last 5 fiscal years, the total appropriation available for OIG was approximately $413 million. The potential dollar impact of OIG's audits and investigations for this same period was $1.36 billion, resulting in cost savings and recoveries of approximately $3.29 for every dollar invested in our oversight work.

We respectfully ask that you support the President's fiscal year 2011 request of $90.3 million for OIG. This appropriation would be an increase of $1.6 million over our fiscal year 2010 level and would provide:

—$1 million for 2011 mandatory pay costs;

—$162,000 to support investigator training, which includes required Federal law enforcement training, training peer counselors for Critical Incident Stress Management, and continuing legal training to maintain the current professional standards set for OIG staff;

[4] 7 U.S.C. 2270(b).

—$394,000 to support the Council ofInspectors General on Integrity and Efficiency (CIGIE, or the Council).

Pay cost increases are needed to maintain current staffing levels to enable OIG to carry out important oversight work in areas such as food safety, program integrity, and departmental management. Approximately 86 percent of OIG's budget is dedicated to personnel compensation. The remaining 14 percent is expended for contract services and rental fees (7 percent); travel (5 percent); and supplies, equipment, and telecommunications (2 percent). This leaves very limited flexibility to OIG managers to absorb mandatory pay increases.

The President's request provides funds to support CIGIE, which is an organization of 69 Federal IGs established by the Congress via the IG Reform Act of 2008.[5] As authorized by the Congress, the Council's mission is to address integrity, economy, and effectiveness issues that transcend individual agencies and increase the professionalism of the IG workforce. USDA OIG is a member of the Council and serves as its first elected Chair. To fund CIGIE's activities and responsibilities and fulfill its legislative mission under the IG Reform Act, the administration has included $394,000 in the budgets of 15 OIGs, including USDA OIG. Your support for this request is essential to funding this newly established Council.

We would be pleased to provide the subcommittee's Members and staff with any additional information you may require to fully consider the President's fiscal year 2011 budget request for our office.

This concludes my written statement. I want to again thank the Chair and Ranking Member for the opportunity to submit testimony for your consideration.

Senator KOHL. Thank you very much for that fine statement.

DAIRY FARMERS

Mr. Secretary, last year dairy farmers in my State of Wisconsin, and as well as all around the Nation, experienced the worst downfall in prices in history, as you know. We were able to provide some direct assistance to dairy farmers in our bill last year. Can you please update us on what USDA has done to implement the assistance we provided, other things you have done to stabilize the dairy sector, as well as your outlook for the coming year?

Secretary VILSACK. Mr. Chairman, the dairy outlook is, I think, much better than it was last year when we were faced with record low prices. There has been a slight rebound in prices, and our hope is that that will continue.

We took aggressive steps last year, in the form of increasing price support, encouraging an expansion of the Dairy Export Incentive Program to spur exports and to allow us to be more competitive. We focused on, as you know, rapidly implementing the support and assistance that Congress provided at the tail end of the year, distributing roughly $270 million of the $290 million in cash, that was provided by Congress in the appropriation to farmers, pursuant to a formula that tried to mirror the MILC payment structure, with a few modifications to ensure an equitable distribution of those resources among all dairy farmers. The balance of the $350 million has been used in purchasing cheese, in an effort to make sure that all of the dairy farmers throughout the country have been helped and assisted through this effort.

I think it's fair to say that we got the resources out, and in a relatively quick period of time. The cheese purchases have recently been concluded. And so, at this point, we have eliminated or utilized all of the resources that Congress has provided, with the exception of the small percentage of the cash payments to make sure

[5] Public Law 110–409.

that, if we made a mistake on a MILC calculation or payment calculation, that we can correct that mistake.

Senator KOHL. Thank you Mr. Secretary.

WIC ARRA FUNDS

The American Recovery and Reinvestment Act of 2009 provided funding to support increased WIC participation. According to this budget, not all of this funding has been yet allocated. Will you use your transfer authority to obligate any of the remaining funds from the Recovery Act for other nutrition programs, or will these funds be returned to the Treasury?

Secretary VILSACK. Mr. Chairman, we are watching very carefully the resources provided under the Recovery Act, in terms of nutrition assistance. We are hopeful that we are making the right set of decisions.

I will say that with SNAP we've seen a rather dramatic increase in the numbers. We haven't necessarily seen that same corresponding increase in some of the other programs. And we are working with States to make sure that, with the tough budget situations that States face, that they aren't reducing their administrative assistance and help to get the information out about these programs. So, we are cautious about transferring resources from one program to another until we are confident that the trends we're seeing in SNAP are not all of a sudden going to be recognized in WIC or some of the other programs.

Obviously, our goal is to make sure that we do as much as we possibly can with this nutrition assistance. And the reason for it is not just to make sure that people have adequate resources to buy groceries, but also the economic stimulus that these items represent. For every dollar we spend in the SNAP program, for example, we know there's $1.84 in economic activity. We know it has helped to retain jobs in grocery stores and trucking facilities and processing facilities around the country. So, we're going to be very careful about how we manage these resources. Our budget does request additional resources for WIC; it does focus on additional resources for breastfeeding, because we know that that leads to a healthier start for our youngsters. We will continue to monitor this.

WIC BUDGET

Senator KOHL. Just to follow on, the budget includes, as you know, a big increase for the WIC program, because this program, as you know, is volatile, as well as essential. Do you believe the budget is sufficient to cover the demand for the WIC program, given the recent history of unforeseen food costs, as well as other problems?

Secretary VILSACK. I do, Mr. Chair, in part because the rather dramatic increases we've seen in food costs are not being reflected in the numbers we're seeing for food increases this year. There has been a moderation of those increases, number one. On the other hand, we changed the WIC package to include more nutritious choices and options. And so, we're obviously focused on making sure that we keep an eye on the cost of the package, because we want to encourage more nutrition.

Frankly, what we're also focusing on is expanding the 27 States that are making electronic benefit transfer cards available to WIC participants. We see this as a way of encouraging participation and making it easier on families to be able to utilize these resources in an effective way without having any stigma attached to it.

Today, 50 percent of America's infants are engaged in the WIC program. So, it is obviously a very important program for the nutritional need of America's children.

Senator KOHL. Can you say that again? Fifty percent——

Secretary VILSACK. Yes sir.

Senator KOHL [continuing]. Of America's children?

Secretary VILSACK. Infants, the infants——

Senator KOHL. Yes.

Secretary VILSACK [continuing]. Fifty percent of the infants born in the United States are in the program.

SNAP STATE ADMINISTRATIVE EXPENSES

Senator KOHL. Okay. Mr. Secretary, as you are aware, Congress recently approved additional funding to cover the costs of State administrative expenses for the SNAP program. Because of budget constraints, some States have chosen to use these funds for other programs. I outlined this problem to you in a recent letter signed by the ranking member and myself. What is the Department doing to make sure that these funds are only being used for SNAP? Are there any repercussions to States for using these funds on other programs?

Secretary VILSACK. Mr. Chairman, I had the opportunity to visit, informally, with a number of the Nation's Governors during the recent National Governors Association meeting here in Washington, to reinforce the message that we are here to help, but we want to make sure our help is focused and directed in the proper manner. We have also recently sent correspondence to the Nation's Governors on the important role that SNAP is playing, and on making sure that, despite the difficult choices that they have to make, that they don't misuse these resources. And we are keeping an eye on it.

We are focused on a couple of States, in particular, who have had some significant difficulties with the administration of the SNAP program. Decisions that were made to outsource some of the administrative activities have not done as well as they had anticipated. And so, we are working with those States to make sure that they are focused.

We're also focused on States where the participation rate has been less than, I would say, optimal. There are States that, still today, 50 percent of those who qualify for SNAP are not participating. So, we're encouraging and trying to incent, recognizing the difficulties and circumstances that Governors face. Having been in that situation for 8 years in Iowa, 6 of the 8 years, while Governor I had less money than I had the year before. So I am somewhat sympathetic, but understand our responsibility is to make sure those resources are used appropriately.

Senator KOHL. Did you say there are States that are eligible for SNAP, but they don't participate?

Secretary VILSACK. Well, they participate, but they don't actively and aggressively promote the program. So, as a result, in a number of States, a little over 50 percent of the people who are eligible to participate in SNAP are, in fact, participating. It's one of the reasons why we're constantly looking for ways in which we can assist folks with categorial eligibility.

In our budget proposal, we're taking a look at the asset tests. We're taking a look at extending some of the provisions of the Recovery Act that are working pretty well to provide that floor, that nutritional floor that SNAP and the nutrition assistance programs provide. We have seen an increase, obviously, in the numbers in SNAP. We now have more than 38 million Americans participating in the program. But, if all of America participated, I think you would see even more significant numbers.

Senator KOHL. Thank you.

Senator Brownback.

Senator BROWNBACK. Thank you, Mr. Chairman.

ETHANOL

There have been proposals kicking around on the Hill to up the percentage of ethanol in some of the fuel mixtures from 10 percent to 15 percent. I don't know of a better way to move up ethanol than do something like that. Is there—has the agency been able to look at that, or weigh in on that debate, Secretary?

Secretary VILSACK. Senator, we have. As you probably know, the EPA is currently considering adjusting the E10 rate to as much as E15. They are in the process of working with the Department of Energy in a series of tests that are being conducted on a variety of engines. I believe that there's an indication that, in the later-model vehicles, E15 would work without significant problems. In some of the older vehicles it may be a little bit more difficult. And so, they're trying to figure out precisely where that cutoff point is.

Second, when we put together the Biofuels Task Force report, recognizing that we wanted to make sure that this industry was a national industry and not necessarily a regional industry, we recognized that there were some deficiencies in our strategy. One deficiency was that there really wasn't adequate distribution, and that's why it's important, I think, for us to set up regional efforts so that we can have regional distribution systems so that this fuel doesn't have to travel long distances to get to where it can be used.

Second, we saw an overlapping of our research efforts. Department of Energy was focused on what really wasn't its core competency, and we were focused on things that weren't our core competency at USDA. So, we have separated the research responsibilities, with USDA focused on feedstocks, Department of Energy focused on conversion efficiency. We're also looking at ways in which we can focus on the near term, things that could be implemented within the next 10 years, with the Department of Energy looking at more of the longer-term attitude.

So, there is a comprehensive look at this, and we are going to work as hard as we possibly can to get to that 36-billion-gallon threshold that you all have set.

Senator BROWNBACK. When—is EPA going to make a ruling on this sometime fairly soon, or——

Secretary VILSACK. I think that they are waiting on a completion of the Department of Energy testing. The last time I checked, there was still some testing to be done on some of the older vehicles. I would anticipate and hope that we would see this relatively soon. I think we got positive news, from a ethanol and biofuel industry standpoint, with the RFS2, reflecting that virtually—the corn-based ethanol and biodiesel would be able to qualify under the new RFS2.

So, we're moving aggressively forward. We're looking at ways in which we can use both Recovery money and our regular program money to encourage this distribution system for biorefineries. We're trying to accelerate the energy title of the farm bill provisions so we can make the resources available to really jumpstart this industry. We see this as a critical component, as I said earlier, a critical pillar to a new revitalized rural economy. And we absolutely need this, Senator. We need this and a lot more. And we need, I believe, a regional approach, in terms of how we invest these resources so we get the biggest bang for the buck.

Senator BROWNBACK. Well, I'd sure urge you to put your shoulder in on this—on the EPA, on that percentage, because I don't know anything that could quicker move us up than a move like that would. And your voice, and your strength on this, and your speaking for rural America, could be a key piece of that, if you can.

METHANE RESEARCH

Also, we are having difficulties—some people are looking at methane within livestock operations. It—I think it would be a worthwhile thing for the Department to invest in methane-to-electricity research—collection-gathering type of systems. They have them in dairies—in confined dairies. They aren't, off of large cattle operations, because of the collection and the dirt that's involved in it, instead of a confined facility.

We need help in that field. If—in your electricity—or, excuse me, when you're looking at the biofuels sector, if you can see—that piece of it would be very helpful, as well.

Secretary VILSACK. I'd say a couple things in response to that comment, Senator. First, one of the reasons we wanted to focus our competitive research dollars was to be able to advance areas that had great significance so that our National Institute of Food and Agriculture would become the equivalent of the National Institutes of Health, in terms of its ability to leverage additional resources. One of the areas we think we should be leveraging more dollars competitively is in this energy area.

Second, we entered into a memorandum of understanding with the dairy industry. The dairy industry and the retail community have combined together to commit to reducing their carbon footprint by a significant amount, and one strategy for doing that is expanded use of digesters. And so, we are in the process of working with the dairy industry to figure out how we can use our grant programs more effectively to allow dairy operations to utilize this digester capacity. The problem there is that the smaller dairies are often not included because it's cost prohibitive. So, how can we help those smaller dairies?

And then, finally, I have been and I have seen farms—hog operations, in particular—where there has been a rather phenomenal thing taking place, in terms of large hog operations essentially converting the methane produced in their pit to electricity, and doing it with solar-powered technology. It's happening in North Carolina, and it's happening in a number of other parts of the country.

Senator BROWNBACK. We need some help with that in the large feed-yard cattle operations. It's just a different setting, it's not a——

Secretary VILSACK. Right.

Senator BROWNBACK [continuing]. Confined unit. And yet, as you might guess, the methane production is fairly substantial with it. So, you'd—it's something to watch.

AGRICULTURE EXPO

Just a final thought would be—I'm a big person that, if you show people or if you provide an opportunity for people to see something, they really—their imagination catches on and things start to happen. I've pushed, for some time, that we would a new products expo where you would—the USDA—maybe USDA, with Department of Energy, or with NREL—would host a "bring your latest gismo out of what you're doing with agriculture renewable products." Maybe it's like a Detroit auto show, where you—the latest and greatest comes out, and maybe you want to host it in a great Midwestern city of—like, Kansas City, maybe, or something like that. I don't know what—the Kansas side of Kansas City—but, you know, in that area anyway. But, I think you would really get a lot of interest. And I think you'd—there'd be a lot of people looking at it. Just as these things—they start to tend to tell people a different narrative of what future that can be different. And I think it also helps attract human capital into our industry, which is at the root of what we need to do. We need to attract more people into the industry. And to do that, you've got to sell some excitement with it. And I think these things can be very exciting. So, I hope you'd consider doing that.

Secretary VILSACK. Positive suggestion. I won't commit to the Kansas part of it, because I've got a Wisconsin chair, I've got a Missouri friend, Mississippi probably could make a case for it, and I know—Senator Harkin's not here, and I'm sure he'd be—his interest would be piqued in having it in Des Moines. Mine would be, too, frankly.

Senator BROWNBACK. Thanks, Secretary.

Senator KOHL. Thank you, Senator Brownback.

Senator Bond.

Senator BOND. Thank you, Mr. Chairman.

And thank you, Mr. Secretary. I agree with my friend from Kansas. You ought to go to an ag show. It just so happens that the Danforth Plant Science Center, the NIDUS Center, which is coming up with all of these wonderful ag developments, has their annual ag show—it's an international ag show—the last week in May. And I hope that you will be there, because they are doing tremendous things, particularly in biofuels. And I would be—be happy to provide you information, if some of your staff wants to attend. And my colleagues are welcome to come, too.

I would agree strongly with what the Senator from Kansas said about ag development. We found—as a result of requests from the president of Afghanistan, and our commanding general at the time, now Ambassador Eikenberry—that providing agricultural tools can totally switch around the area. The State Department was unable to send ag development specialists, but the Missouri National Guard went with ag specialists, working with a land grant college—in 1 year they brought reasonably modern ag practices that were much more productive and lucrative than poppy farming—and poppy production in Nangarhar, in 1 year, went from the second highest in the Nation to almost zero. And there are now at least 10 other States, backed up by land grant colleges—they can provide a very valuable resource in what—Secretary Clinton and I strongly believe smart power is the only way to establish stability in many of these countries. So, that is an area where the USDA can help.

I commend you and thank you for the significant increase to $425 million for competitive grants through ag and food research. I think NIFA has—is developing wonderful things for improving nutrition, making much greater availability of food for a growing population, lessening the use of chemical pesticides, and improving agricultural energy.

But, one of the problems we see in the developing area is biotech. Many of the experts in the area say, "This is a tremendous industry, but it's being strangled by regulation." And right now, we've seen roundup-ready alfalfa—been 3 years since the court order. They go back for an EIS. It's likely going to be 4 years before they get a final EIS. So, this has been tested, tested, and retested. And in order for farmers and consumers to realize the benefits of agrobiotechnology, it's essential the USDA continue to implement a timely—a science-based, but timely approval process.

I'd like to hear your thoughts on that; and if there are things that we can do legislatively to help you clear away the underbrush so we can bring these new products to market, I would be very happy to join with my colleagues to provide you all the help you need.

AFGHANISTAN AGRICULTURE

Secretary VILSACK. Senator, first of all just a brief comment about Afghanistan. I went to Afghanistan in January to visit with 64 USDA workers who were over there working with National Guard troops, as you mentioned, and with the Afghan farmers. And I agree with you——

Senator BOND. Oh, it's——

Secretary VILSACK [continuing]. There is——

Senator BOND [continuing]. Huge.

Secretary VILSACK [continuing]. A tremendous opportunity. The Afghan Agriculture Minister is a person, I think, of good integrity. He's got a framework in place focused on increasing agriculture productivity, regenerating agribusiness in Afghanistan, making sure the natural resources are protected, and change management to his own operation. There's a lot of work yet to be done there, but I think you're going to continue to see——

Senator BOND. Okay.

Secretary VILSACK [continuing]. A USDA presence there.

BIOTECHNOLOGY

As it relates to biotechnology, let me, first of all, say that, when I came into office, I was confronted with an inspector general's report suggesting that the Department did not have a strategy for promoting biotechnology, not only within the United States, but around the world.

Senator BOND. Right.

Secretary VILSACK. We have spent the last 7 or 8 months focusing on developing such a strategy, that includes continued promotion of a science-based and rules-based system; using public diplomacy, pointing out the benefits of biotechnology, in terms of its capacity to increase productivity, less reliance on natural resources, and on chemicals and protection of the environment. So, we're in the process now of implementing that strategy.

We are also focused on our own rulemaking process, which we began a number of years ago, in this effort. We got quite a bit of comments from people from all parts of the spectrum.

NUTRITION GUIDELINES

Senator BOND. Mr. Secretary, I—time's running out. I just want to add one final thought. I support the First Lady's Let's Move campaign, but as one who shops in a rural grocery store and sees people going through with food stamps for the SNAP program, with obese children and parents, and baskets full of empty-calorie food, have you thought about implementing the same kind of guidelines you have for WIC, school lunch, to SNAP to say that you have to use it to buy milk, fruits, vegetables?

Secretary VILSACK. Senator, we have looked at this. The complexity is in the fact that there are now, on average, 50,000 different items in a grocery store. And using the technology to be able to adjust the EBT card makes it difficult to do what you've asked to be done.

What we are looking at is creating a set of incentives. We have a program now in which we are encouraging States to look at point-of-sale incentives, where, instead of a dollar being credited to your EBT card for vegetables and fruit purchases, the grocer would get the dollar, but you, the person with the card, would only be charged 80 cents. So, that would extend their card a bit, as a way of encouraging and incenting fruits and vegetable purchases. We're going to see. We've got about $20 million of incentive grants for pilots, to see how this is going to work, if it's going to work. And that's how we're approaching it right now.

I will say our principal focus this year on fruits and vegetables is trying to make sure that we get more of them in our school lunch and school breakfast programs.

Senator BOND. Thank you very much, Mr. Secretary.

I thank you, Mr. Chairman, and apologize for running over.

Senator KOHL. Thank you very much, Senator Bond.

Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you very much. I appreciate your leadership of this subcommittee.

And, Mr. Secretary, welcome. We appreciate your dedicated service as Secretary of Agriculture. I know you have a couple of hot-button issues in our State, we've always got one or two. Don't want you to get bored in your job.

FARMERS LAWSUITS

One of these is the implementation of judgment in the minority farmers lawsuit, which had been pending for some years. There is now a directive that funds be paid to those who were shown to have been discriminated against in the administration of Department of Agriculture programs over a period of years. I wonder if you could just give us a status report on what the administration is doing to settle these claims, and what the outlook is. What's the request, if any, for specific settlement payments in this bill?

Secretary VILSACK. Senator, thank you for asking that question. When I came into office, on a bipartisan basis, the former Agriculture Secretaries that I talked to encouraged me to focus time and attention and resources on trying to get these cases settled. As you know, there are cases involving Black farmers, women farmers, Hispanic farmers, and Native American farmers. They are all different, in terms of where they are in the court process.

The *Pigford* case, which is the Black farmer case, was probably the most mature case. We had a class-action certification. We had had a settlement of the case. Late filers came in. Congress essentially, in the farm bill, reopened this matter, but did not put sufficient resources to actually get it settled. I encouraged the President and the administration to fix a dollar amount that would actually be real, which they did. The President submitted in his budget last year, and has submitted in a recent supplemental request, $1.25 billion that would be distributed in somewhat the same way that the first tranche of resources were distributed.

You'd have two tracks, a speedy track, which would require less proof of claim, but a lower dollar amount that you would be entitled to, with debt relief; and a more complicated track, that would allow you to get up to $250,000. That process requires Congress to appropriate the resource. We've made the request, and we're going to continue to work with Congress to make sure that that is followed through, and hopefully done by the end of this month.

The other cases, we have encouraged the Department of Justice, and it has responded, to begin the process of discussing negotiations. In the *Keepseagle* case, which is the Native American case, there are numbers being discussed. There's a fairly wide gap between the parties at this point, but we're continuing to have conversations to narrow that gap. In the other two cases, the *Love* and *Garcia* case, we're in the process now. They are complicated because they're not yet certified as class action, so, in a sense, they're individual cases, tens of thousands of individual cases.

Candidly, to get these cases settled, in my view, one of two things has to happen. Either there has to be an understanding and agreement on a dollar amount that lawyers representing an adequate number of plaintiffs will agree with the Department of Justice on, or Congress has to essentially direct a process for USDA to go through for a rapid evaluation of the claims so that we'd get a sense of what the potential liability could be in those other three

cases. We are very committed to trying to get these cases settled and closing this rather sordid chapter of USDA history.

Senator COCHRAN. Well, we appreciate your insights and sharing with us the status of these programs, and your efforts to help resolve this in a fair way, and one that's consistent with the judgments of the courts that have rendered decisions on that subject.

FOREIGN CATFISH

In our State, we have been advised, by some of our aquaculture catfish farmer constituents, that the Department hasn't been doing much to support them in their effort to get inspection of foreign fish that are imported into the country, some of it labeled as if it's catfish from Mississippi—it doesn't say "Mississippi," but it borrows the name—and in other ways is making it difficult to compete, because they're not going through the inspection processes and other safeguards that are required of our domestic producers. And so, we've got a problem there. And folks are not only angry about it, but they're going out of business.

I drove through the delta the other day and noticed some bulldozers just pushing down the impoundments, and I found out that that person, the landowner involved, is going to try to make money growing soybeans again. And maybe that's, you know, a good decision, based on the fact that we do have this difficult competitive situation.

What is the status of implementation of the inspection programs for foreign fish coming in? And do you have any encouragement that I can pass on to my fish farmers down in Mississippi?

Secretary VILSACK. Senator, again, thanks for asking that question. One of the things that I've tried to do as Secretary is occasionally walk down the various long hallways at the USDA building and pop into someone's office and just sit down and find out what they're up to. Not long ago, I happened into the office of the fellows who are working on the catfish regulations, and over the next 45 minutes, I found out how complicated this issue is.

First, we had to determine the intent of Congress, from the legislation that was passed, as to whether or not Congress intended a narrow definition or an expansive definition. There are 39 different varieties of catfish, I found out from my brief visit with those fellows. And they are, as you indicated, raised in a number of parts of the world in different conditions and circumstances.

Following that conversation, we did put together a rule, and we submitted that to OMB. And at the current time, that is where the process is. OMB is in the process of reviewing that rule. So, we have made our determination as to what we think is appropriate, but, in light of the process that we have to follow, folks have to sign off on that. We're encouraging OMB to do that as quickly as possible.

We recognize this is a complicated circumstance, because you've got safety issues, you've got consumer information issues, you've got the economic development capacities of folks who are raising these fish in America. You also, obviously, have relationships with other countries that get complicated, based on decisions that we make here.

Let me just simply say, from USDA's perspective, we are concerned about safety, and ought to be; that's our number one concern. We are also concerned about making sure the consumers have the right information to make the right and more informed choices as they go shopping, that they are getting what they are paying for and what they think they are getting. We are also interested in making sure that what we do is consistent with the science-based systems that we are advocating in trading relationships throughout the world. So, those are the three criteria that we used in developing our rule.

Senator COCHRAN. Thank you. Thank you very much.

Thank you, Mr. Chairman.

Senator KOHL. Thank you, Senator Cochran.

Senator Collins.

Senator COLLINS. Thank you, Mr. Chairman. Mr. Chairman, Senator Brownback, I want to start by thanking you both for your leadership of this subcommittee.

IRRIGATION FUNDING

Mr. Secretary, recently I met with a group of potato growers from Maine who expressed to me their difficulty in securing funds for important irrigation projects in my State.

It's my understanding that there are two USDA potential sources for irrigation projects. One is the Environmental Quality Incentives Program (EQIP). And the second is the Agricultural Management Assistance Program. Unfortunately, our potato farmers have had difficulty in securing funding from any of these programs on an ongoing basis. And let me explain why it's important.

In 2007, the need for irrigation funding was greatly increased when the State of Maine established low-flow rules for streams and rivers. These rules were the result of a collaborative process between agricultural stakeholders and environmental groups, and they developed significant new environmental standards for minimum flow levels. Everyone worked together in a collaborative process, and it was understood, at the time, that NRCS would provide the resources to assist in implementing these rules. They're particularly a problem in the months of July and August, when irrigation is most needed for the crop. Thus, the potato industry is in desperate need of funds to establish irrigation ponds and purchase efficient irrigation equipment.

Now, there are local meetings that are held to decide how to allocate part of the NRCS funds, but those meetings are inevitably scheduled, it seems, during either planting or harvesting times. And thus, the farmers are unable to leave their farms to participate.

So, my first request would be for you to encourage those in charge of the program in our region to schedule those allocation meetings at a time when the farmers can attend.

The second issue is, the director of the program has discretion with some of the funding, and yet is putting it to other uses. This is an ongoing problem. When the Maine Potato Board came to see me recently, it was their number one issue. And I worked with the chairman last year on a colloquy urging the Department to help us. Unfortunately, nothing really has changed.

So, I want to ask you, personally, to help us resolve this irrigation problem that has been created by my farmers, working in a very collaborative way with environmental groups, to come up with minimum flow standards. But, it has created a need for more irrigation.

Secretary VILSACK. Senator, first of all, I've just instructed the staff to make sure that the meetings are scheduled at a more convenient time for the farmers. That is an absolutely fair request, and I'm not quite sure why that hasn't been done, but we will certainly try to rectify that immediately.

I have been advised that $750,000 of EQIP money was made available, and resources under the Agricultural Management Assistance Program of about $258,000 was made available. The total AMA allocation for Maine was made exclusively available for potato growers in one county. I may get this wrong, is it "Arrows"——

Senator COLLINS. It's Aroostook.

Secretary VILSACK. Aroostook.

Senator COLLINS. Where I'm from.

Secretary VILSACK. Okay, well, that's where all that money went.

Senator COLLINS. Good.

Secretary VILSACK. The rest of the resources, the $750,000 of EQIP money, was available statewide for irrigation management. And as a result of the meetings that have taken place, NRCS in Maine has established an initiative in which it intends to fund, each year for the years 2010, 2011, and 2012, an additional $750,000 per year available statewide.

We will make sure that those resources are, obviously, strategically focused and make sure that people have input as to where they are to be spent.

Senator COLLINS. Thank you. It is an important issue. We did receive some funding, but this year the State—the conservationist, the head of NRCS, has allocated the AMA irrigation funds for other purposes. So, we look forward to working with you.

Mr. Chairman, I know my time is expired. I would ask that I be permitted to submit, for the record, a question on our dairy industry, which is still facing tough times. But, I want to thank the Department for the work that you've been doing to try to provide some assistance.

And also, an issue that Senator Snowe and I have written to you about—new regulations being promulgated by the Food Safety and Inspection Service that have a big impact on a chicken producer in Maine. We're just asking that the full rulemaking process be followed so that we can have the opportunity for input.

Secretary VILSACK. Mr. Chairman, can I just make——

Senator KOHL. Go ahead.

Secretary VILSACK [continuing]. Two quick comments to Senator Collins?

We have met with the Maine business that has concerns about the ready-to-eat, not-ready-to-eat products. And we had a good meeting with them.

And second, we do have a dairy council that we have established to take a look at long-term strategies for moderating the severe ups and downs of the dairy industry so there can be greater predictability. That group will meet by conference call in March, and

they'll have their first in-person meeting in Washington, DC, in April. Our hope is that they can report to us by the end of this year with recommendations.

Senator COLLINS. Thank you.

Thank you, Mr. Chairman.

And thank you, Mr. Secretary for your hard work.

Senator KOHL. Thank you very much, Senator Collins.

Senator Harkin.

Senator HARKIN. Thank you very much, Mr. Chairman.

And, again, thank you, Mr. Secretary, for your great leadership, and that of your Deputy Secretary. It is good to see our Budget Officer here again, as it is every year for a long time, Mr. Steele.

First of all, let me just, again, congratulate you and thank you for the tremendous emphasis that you have put on child nutrition. That is long overdue, and I can sense a refocusing of the Department's efforts in this area under your leadership. That extra billion dollars a year for 10 years is truly, as you said in your statement, an historic proposed investment, improving the quality of the food that kids get in schools, improving their nutritional level, and getting more kids included, of course, in the programs.

We had a good meeting with the First Lady, and I know we're all going to be working together—this subcommittee, and other committees I'm on, the Health, Education, Labor, and Pensions Committee, and the Agriculture, Nutrition, and Forestry Committee—to make this a coordinated effort. So, I thank you for having that in the budget.

In the WIC program, the increase in the fruit and vegetable vouchers—again, that is something long overdue. So, I'm glad you're addressing that also.

On food safety, as you know, the—we have a food safety bill, that the House has passed—we have it about ready to go. I'm sure you've looked at it, at least what the House has done. We'll be tracking closely with the House; there'll be a few differences that we'll have to work out. I'm hopeful that we'll have that food safety bill on the Senate floor soon. If not this work period, it definitely will be at the top of the list as soon as we come back after Easter. And so, I hope to have that done and to the President's desk perhaps by late May, something like that.

That bill is FDA, and USDA's Food Safety and Inspection Service is equally critical—focusing not just on diseases, but also better food safety pathogen controls. You've addressed that also in your statement, and I appreciate that.

Regarding the Know Your Farmer, Know Your Food initiative, again, I've sensed, in the last few years, a growing interest in this effort, in Iowa and in other States. In fact—more and more often, young people are getting involved in agriculture, not with 10,000 acres but smaller enterprises, where they're growing for local markets, fruits, and vegetables, livestock or poultry, that kind of thing, and are filling niche markets. It may not be a full-time occupation, but it's something that they're doing with their families. And they may have other sources of income. I sense this as a very big—a growing movement all over the country. So, to the extent that you have focused on that, and are focusing on local processing, local meatpacking, local projects that can build off of that, it generates

income, it's good for the rural economy, and people will tend to stay in those local communities. So, again, I commend you for your focus on local food initiatives and urge you to continue to really push that Know Your Farmer, Know Your Food effort.

CONSERVATION FUNDING

Okay, those are all the good things. Now let me get to a couple of other things that I'm not quite so happy with, Mr. Secretary. And I say that all in good friendship and admiration. One has to do with conservation.

We worked very hard, on the 2008 farm bill, Mr. Chairman, to strike balances. It was a long process, but we had overwhelming support for the bill here and in the House. In fact, it took overriding two Presidential vetoes to get it done, but we did so with overwhelming vote. You, yourself, Mr. Secretary, have pointed out a number of conservation efforts—the Mississippi River Basin initiative, the Coral Reef Conservation initiative are examples that show—and I know, personally—I know your commitment to conservation that you had as Governor of the State of Iowa. But, I'm disappointed in the budget, on conservation.

Last fall, in just 56 days, USDA received 21,300 applications for the Conservation Stewardship Program, covering an estimated 33 million acres. But, we could only enroll 12.8 million acres for 2009 under the farm bill—so, the demand is there. The demand is there, but we couldn't meet it all. In the EQIP program, at the end of 2009, USDA had on hand, but didn't have the funding for, 54,329 applications. So, again, the demand is there. And as we keep reading in the paper, whether we pick it up and read about the Chesapeake Bay and what's happening there, or we look at the water quality in Iowa and other States, we just can't back off of all the great strides we've started to make in conservation.

Farmers want to carry, but, you know, when a farmer is faced with a cost-price squeeze—well, that additional few acres of land that maybe was being devoted to conservation—well, maybe a farmer is pressured to plant that land to corn or beans or wheat, or something like that, or to cut back other conservation efforts to make ends meet. So, the pressure's become great on farmers. They want to be conservationists. You know that as well as I do. They just need some help. They're willing to put in their own labor, they're willing to put their own money into it, but they need some help from the Federal Government.

And the estimate I have is that the budget cuts will eliminate conservation that would be carried out on about 4 million acres of land.

So, please talk to me about that, Mr. Secretary. I know there are budget problems, but it just seems to me that this is one area where we can't back off—I'm concerned deeply about it.

Secretary VILSACK. Well, Senator, first of all, let me acknowledge the fact that you have been a champion of conservation for as long as you've been in this body, and have certainly led the effort in the 2008 farm bill, and in previous efforts to try to get people's attention focused on conservation as if it were, in a sense, a commodity.

Senator HARKIN. Commodity.

Secretary VILSACK [continuing]. As significant.

You know, I haven't been in Washington very long, so I don't quite understand the way Washington thinks, at times. Last year, we basically funded enough resources to enroll roughly 277 million acres—almost 277.5 million acres—in our conservation programs totally. The budget we submitted this year will cover almost 305 million acres, an increase of over 27 million acres. So, I think we are continuing to try to look for ways in which we can enhance conservation.

Now, I can understand there's a difference between authorized levels and appropriated levels, but we believe that this budget actually appropriates more money to conservation than the previous year. So, more money and more acres.

One of the challenges that we have is to manage these programs properly. And NRCS has been under a cloud of an audit for the last couple of years, because it didn't do all it needed to do, in previous years, in making sure that people were applying properly and that people were getting resources for the right type of conservation. So, we want to make sure that, as we increase and ramp up some of these programs, that we do it in a way that we manage the resources effectively and that we don't continue to be under this cloud of an audit. It will take a couple of years for us to fix this problem, because, frankly, we tried to do too much too soon, and didn't have enough people. So, we're in the process of trying to make sure we do this properly so that we can respond to taxpayers that we're spending their money wisely.

So, I think our budget is a constructive one. And I think it is furthering the interests of conservation. It may not be as much as folks would like to spend, but, given the fiscal realities, we thought we did a pretty good job of balancing.

Senator HARKIN. Well, I understand what you said. But, in the farm bill we put that money in there, including funds for technical assistance and personnel to carry it out, and we paid for it. It was fully offset. And that's why, I think, we got so many votes for the farm bill. We fully offset it. It was fully paid for. So, again, yes, you're increasing, but you're "here" and the farm bill is "here," so there's a—there is a gap there, a reduction from what we enacted. Now, if you're saying that you want to make sure that you have the people in place and everything to make sure that the programs work, well I can understand that, too, I guess. But, I'm just worried about whether or not we're going to be able to get these people signed up in the numbers that we had laid out and fully paid for in the farm bill. You think we'll be okay on that this year, that we'll have—be able to sign up the 12.8 million acres again this year—in the CSP, for example?

Secretary VILSACK. I think we'll probably, candidly, be closer to 12 million, but we'll probably see a significant increase in EQIP. So, it kind of depends on which program folks sign up for.

I will say, Senator, our goal is not to undercut the conservation efforts. I think the worst thing that could happen would be for folks to learn that people who weren't entitled to money for conservation were getting money. And we want to make sure that we do this right. And if you read the audit of NRCS, as I have, you realize that there were some serious issues that had to be addressed, and are being addressed, and they were fairly comprehensive.

So, I don't want to, with resources, not properly manage those resources. I think I have a responsibility to do that.

Senator HARKIN. Right.

Secretary VILSACK [continuing]. So, we are trying to ramp this up in a way that is manageable.

Senator HARKIN. Thank you.

BIOREFINERY ASSISTANCE PROGRAM

Next is on the whole area of the Biorefinery Assistance Program, section 9003 of the farm bill. Again, there is a lot of strong support for that. I know you've been a supporter of biofuels. But, the budget is $245 million in 2010, $150 million was authorized for 2011, but your budget only calls for $17 million. Why such a low budget figure for the Biorefinery Assistance Program?

Secretary VILSACK. Senator, we have a significant amount of carryover to take from the previous year. There has not been as—well, let me back up.

In order for this to work, I think there had to be a strategy, there had to be a holistic and comprehensive approach to how you build this industry. When credit became difficult, when prices collapsed and there was a challenge in the ethanol industry, because of a very tough year last year, there was sort of a slowing down of interest in this area.

That's one of the reasons why the President did two things: He instructed us to put together a strategic plan for the biofuels industry and to accelerate, as best we could, the other components of the energy bill that you all put together in the 2008 farm bill. Because all of them have to, sort of, work in concert. You have to have the resources available to farmers to incent them to produce the feedstocks. You have to have resources available to biorefineries that can be retrofitted to become more efficient. You have to have a broader expanse of opportunity, not just in one region of the country, but all across the country. You have to have coordinated research that increases the efficiency of what we're currently doing and develops new feedstocks so we can meet the 36 billion gallon threshold.

And so, as a result of all of that, we are trying to coordinate all of these resources. So, with the carryover and coordinated resources, we think we're going to have a much stronger and more viable biofuels industry, and we are already seeing signs of interest picking up. The uncertainty about the RFS2 also had issues, which we've now cleared up. And Senator Brownback and I had a conversation, before you came, about E15 and the important role that could play in stimulating additional growth. So, there were a lot of moving pieces in 2009, some of those pieces have come into place. I think you're going to see more aggressive effort this year. And I think you'll see us do a better job, in terms of resources, in the future. But, at the present time, we think the carryover plus that amount is enough to, probably, meet the demand, and especially using some of the loan guarantee assistance.

ETHANOL

Senator HARKIN. Did you—did you state earlier anything about the timeframe on when we're going to see the RFS2 come out?

Secretary VILSACK. Well, it's——

Senator HARKIN. It's not your Department, but——

Secretary VILSACK [continuing]. It's come out, in the sense that the EPA has indicated that corn-based ethanol is alive and well, meeting the threshold of 20 percent; soy diesel, biodiesel alive and well, meeting the threshold. So, that was a positive indication and sign.

Senator HARKIN. But the—upping the percentage of ethanol that can be blended——

Secretary VILSACK. The blend rate is——

Senator HARKIN [continuing]. Blend rate——

Secretary VILSACK [continuing]. Still—as I explained to Senator Brownback, Senator, the Department of Energy is currently doing testing on older vehicles to determine the impact of E15 on those older vehicles. They're fairly confident that the newer vehicles can take E15, but they want to make sure they know what the cutoff point is. And as they are figuring that out, we, obviously, are figuring out ways in which we can provide assistance and help through rural development for the kind of blender pumps that I think ultimately we'll have to have. Because I think somebody will drive into a gas station and want E15, somebody will want E85, and somebody will want E10, and you have to be able to have the pumps to be able to meet that. And so, that's part of our effort to try to build this industry, is to create rural development resources to make that happen.

Senator HARKIN. Very good.

Secretary VILSACK. And I should say we're using rural development resources from the Recovery Act to essentially promote those kinds of gas stations that have capacity to do E85. And once we get a read from EPA on whether it's E10 or whatever it is, then we can move forward on the appropriate distribution systems.

Senator HARKIN. Very good.

Mr. Chairman, thank you. I have a couple questions, one dealing with crop insurance. I'll just—I'll submit it in writing.

Senator KOHL. Sure.

Senator HARKIN. I'm a little concerned about——

Senator KOHL. Yeah.

Senator HARKIN [continuing]. Some of the cuts in the underwriting and in the administrative and operating—A&O, as they call it, expenses for crop insurance. I'm just—I'm concerned about that, but I won't take any time here. I'll just submit it in writing.

Secretary VILSACK. Senator, if I can just clarify—staff's just given me—so that you know—in terms of the biorefinery, we believe we have loan guarantee authority up to $900 million. So, there's discretionary money, and there's mandatory money. What you referred to, I think, was the discretionary money that we're adding on—in addition to the mandatory resources. So, in biorefinery—we have $900 million of guarantees, which is a fairly significant amount, I think. And I would like the opportunity to comment about the crop insurance——

Senator HARKIN. Well——

Secretary VILSACK [continuing]. If I could——

Senator HARKIN [continuing]. Go right ahead.

Secretary VILSACK [continuing]. If that's——

Senator HARKIN [continuing]. I just didn't want to take——
Secretary VILSACK [continuing]. All right——
Senator HARKIN [continuing]. Any more time. But——
Secretary VILSACK [continuing]. I——
Senator HARKIN [continuing]. If you have something you want to add.
Secretary VILSACK. I mean this is a very important issue.
Senator HARKIN. Yes.

CROP INSURANCE

Secretary VILSACK. And it's one that I think folks have to understand.

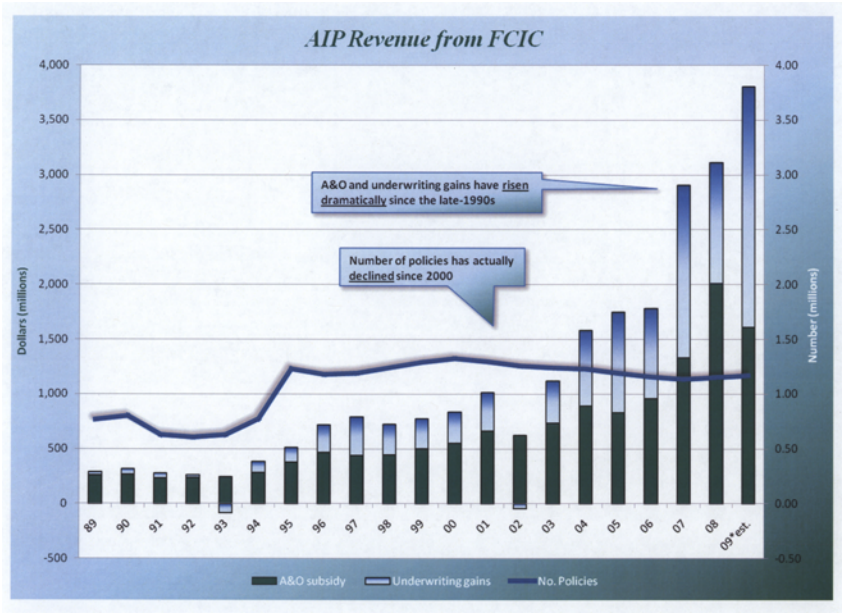
When crop insurance was first devised, it was not a product that people were aware of. It was a new product. And so, there had to be a way in which it could be incented so that people would think about it and purchase it. It wasn't the thing that was mandated, it wasn't a—it was a choice.

And so, there were efforts to try to encourage agents and companies to get into this business. Over the course of time——

Scott, do you have that chart?

Mr. STEELE. Yes.

Secretary VILSACK. Over the course of time the profits for both the agents and the companies have grown rather significantly. And, in fact, in the last couple of years—and this is the chart. You, obviously, can't see it very well, but this is the chart. This is where it started, and this is where it is today. And you've seen a dramatic increase in profits in the last couple of years, in part because agents are paid based on the value of the policy, as opposed to the number of policies they sell. And the companies have done a pretty good job; they've gotten about a 16 percent return on their money.



So, what we're proposing is a change that would adjust the A&O so that agents would be paid for the number of policies they sell. I mean, the reality is that most bankers today require crop insurance as a condition of loans. So, it's not all that difficult to sell this product.

And on the profit side, we think a 12 percent return is a fair return, and so there's a slight adjustment. Now, why do we say that? Because we had a study done, by an independent research group, that suggested that 12 percent would be a pretty good return. I would take 12 percent on my money.

And then, second, the GAO was very critical of this program, so we tried to respond to the concerns of GAO, to the independent study, to the fact that, today, there are 200,000 fewer policies being written than there were in 2000. So, the profits have doubled in the last couple of years, for 200,000 fewer policies. So, we think, you know, there has to be some adjustment; there has to be a fair balance between the need for this product, which is a very important risk-management tool, and the need for farmers to have it, and also the taxpayers to be treated fairly.

And finally, some of the resource is going to be used to expand access to the product in some parts of the country where it has been very difficult to get crop insurance at all. So, it's an effort to try to spread the opportunity and the risk management tool in other parts of the country.

Senator HARKIN. Well, I appreciate your explanation. I may want to just get some more elaboration on that. But, you make a strong argument. Thank you, Mr. Secretary.

Secretary VILSACK. Thank you.

Senator HARKIN. Thank you, Mr. Chairman.

Senator KOHL. Thank you, Senator Harkin.

NATIONAL ANIMAL IDENTIFICATION SYSTEM

Mr. Secretary, after the discovery of mad cow disease in North America nearly a decade ago, there was great interest in developing a system to trace diseased animals that move in commerce. This was considered vital to protect the livestock sector against catastrophic market collapse in the event of a serious disease outbreak. Since then, there have been substantial Federal investments to develop a National Animal Identification System, as you know.

However, on February 5th of this year, USDA announced an abrupt about-face, in the nature of goals of this system. This revised system will be national, only to the degree that animals pass into interstate commerce, leaving much of the responsibility to States and Native American tribes. Rather than taking the lead, USDA will be a collaborator, assisting States and tribes to create diverse localized responses.

So, Mr. Secretary, what assurance can you provide that, in the face of the next widespread animal disease discovery, this system will increase consumer confidence, mitigate economic impacts of the outbreak, and maintain market access of U.S. products—U.S. producers in global markets? What is your timetable for development and implementation of this new system? How will costs be borne among the Federal Government, States, and tribes? How do you plan to assist these States and tribes that are not able to as-

sume the additional costs of development and implementation of a diverse State-centric system? And, as you know, the dairy sector has developed a fairly sophisticated identification and animal tracking system already. How will your proposal affect dairy farmers or alter the system they already have in place, Mr. Secretary?

Secretary VILSACK. Mr. Chairman, we had a series of listening sessions throughout the country, on animal identification. There were 15 in all, I attended 2 of the 15, and read comments from the other 13. A wide range of concerns about the former system, starting with confidentiality and privacy and how the Federal Government was going to dictate the technology, the cost, and the fact that there were differences between various types of livestock. Greater acceptance of this program among sheep, among hogs, goats, and the poultry industry; great resistance from the beef industry, to the point that less than 35 percent of operators were, essentially, participating, if you will, in this system. So, we really didn't have the kind of cooperation and participation that we thought we would have.

Congress, and many Members of Congress, began to express concerns about the resources that were being allocated to this program, and were suggesting that—Chairman Peterson, I think, suggested the time had come to basically pull the plug on this. So, a lack of confidence in Congress, and a lack of confidence on behalf of the cattle industry in particular, led us to think, "Is there a way in which we could get greater participation?"

We're still taking advantage of the things we learned from the resources that we've spent, and not disrupting what perhaps the poultry industry or the hog industry had developed, and not disrupting what we had learned from other disease management strategies.

We felt that the one way to do this would be to have a partnership between the Federal Government and State governments to focus on where the real issue is, which is cattle and livestock that pass in interstate commerce, and work with the States to develop a strategy that would focus on low-cost technology that would get the job done, have a higher rate of participation, and therefore, allow us to do a better job of traceability, which is really what this is all about, and encourage a more rapid response if there is, in fact, an outbreak.

So, we are in the process of meeting with State ag commissioners and secretaries this month. We start this process with our team meeting with those folks, and we will begin to develop sort of a standard for how this could work.

Recognizing that, once the standard's put in place, it would probably likely focus on lower-cost technology; it would address the concerns that were expressed by those who were just local producers and local consumers, that they didn't know why they had to participate in a program, when all they were going to do was slaughter it for their own use or for their neighbors' use; deal with the issue of confidentiality by ensuring that Federal Government wasn't going to be having this massive database of information about people that would be used for purposes other than traceability; and work with folks, in terms of the more difficult issues of liability; providing Federal resources to help purchase the low-cost tech-

nology; and see whether or not we could get significantly greater participation.

There may very well be decisions made by these commissioners that what's working in poultry and what's working in pork may continue, and we would be supportive of that. They may decide that they want ear tags, they may decide that there's some other technology that makes sense for them in their State; we'll help pay for that.

What we think will happen at the end of this is that there'll be greater cooperation between State and Federal Government; there'll be greater participation on behalf of those in all sectors; and we'll have a better job of promoting traceability, and, at the end of the day, will probably reduce the cost overall to the Federal Government.

If we continued down the road we were on, we'd continue to have participation in some, but not all, of livestock, and we would continue to be confronted with the notion that when only 30 to 35 percent of people participate, it means 60 to 65 percent of the folks aren't participating, and that means that you really don't have a traceability system, and you don't have the capacity to really do what you need to do to preserve the market. So, we wanted to try something different.

Senator KOHL. How will this affect the dairy sector?

Secretary VILSACK. Well, I think it depends on the individual State. I mean, the reality is that if animals are crossing State lines, there's going to have to be a system to make sure that we can track them back to the State of Wisconsin. For example, if they go from Wisconsin to Iowa, then we'll have a system that will allow us to track them back to Wisconsin. Then, within Wisconsin, you can decide how far back you want to go from that point. You may want to go back to the case with Wisconsin, where there's been great cooperation and participation in the system, you may want to continue that. You can do that.

But, the State's going to be the one that's going to make that decision, the producers within that State will have a greater say in it, and the technology will be something that producers will be satisfied that it's reasonable and that they're not being dictated to.

NEW INITIATIVES

Senator KOHL. All right. Mr. Secretary, the budget proposed a number of initiatives, including the Healthy Food Financing Initiative, and enhancements for organic and sustainable agriculture production. Could you please walk us through these initiatives? For example, how much of this involves a real increase in spending and how much is simply a redirection of funds from existing programs?

Mr. Secretary, I'd like your thoughts on this. I'd also like to hear from Deputy Merrigan, if she has any additional comments.

HEALTHY FOOD FINANCING INITIATIVE

Secretary VILSACK. Mr. Chairman, I'll give you a general overview and then ask the Deputy to provide more specifics.

As we began the process of taking a look at how to better link local production and local consumption, one of the things we found out was that there were many communities, both rural and in

inner-city America, that did not have access to a grocery store that would allow them to have access to fruits and vegetables and healthy food choices. There was a plethora of convenience stores located in these areas that provided an opportunity for processed food and more expensive food, but not a grocery store.

So, one of the things we wanted to focus on was a way in which we could respond to that challenge. And so, we began a process of looking at States and cities that had been addressing this aggressively such as the State of Pennsylvania and the city of Philadelphia, as an example. And what we learned was that, with additional resources and the use of market tax credits, we could creatively and innovatively respond to the fact that there were places where people would go miles and miles and miles without access to a grocery store, that we could do this in an innovative and creative way, and we could increase the nutritional opportunities that these folks have, and also create business opportunities and rural economic development. A community without a grocery store has a very difficult time attracting any other kind of opportunity.

What we also found was, when a grocery store located, it created enough traffic that other business wanted to collocate, so that you could create some momentum in these communities.

So, working with the Treasury Department, the Health and Human Services Department, the First Lady's initiative, and USDA, we put together a $50 million proposal, part of which would be used to help create that innovative and creative approach to getting that grocery store located. And it may not even be a fixed facility, it may be a mobile facility. We just need to be creative about this.

We also wanted to focus our efforts on a continuation of farmers markets, community-supported agriculture, and we wanted to create our rural development resources with enough flexibility that if somebody wanted to build a small processing facility or a slaughter facility or a mobile slaughter facility or a cold storage warehouse so that you could aggregate enough product to be able to provide a school or hospital with a steady supply of good quality food, locally produced, we ought to be able to look at ways in which we could do that.

So, all of this is designed to use new money, but also to redirect some existing resources in what we think might be a more effective way.

But, I want the Deputy, who's worked a lot on this and knows more of the details about it, to amplify, if that's all right.

Dr. MERRIGAN. Thank you, sir.

The Secretary did a great job talking about Healthy Food Financing Initiative, which we're doing in cooperation with Treasury and HHS. We have a variety of strategies to deal with the food deserts that were identified by the Economic Research Service, as mandated by the 2008 farm bill. We're excited about that.

KNOW YOUR FARMER, KNOW YOUR FOOD

In terms of the Know Your Farmer, Know Your Food Initiative, which Senator Harkin mentioned, great excitement across the country about that. I was in Kansas City a couple months ago, there was a lot of action going on there around local, regional, with

your healthcare and your farmers working in cooperatives. I'm on my way to Madison this month. I was at Iowa State not that long ago.

But, the Know Your Farmer, Know Your Food Initiative is not a program in and of itself. It doesn't have staff, it doesn't have its own budget. The concept is to use existing USDA authorities, we've got a lot of resources, we've got a lot of people, and make sure that we're really following through on some initiatives in the 2008 farm bill, in particular. For example, the Business and Industry Loan Guarantee Program, which Congress had asked that there be 5 percent of that money set aside for local food promotion, when Secretary Vilsack and I got into the Department and got down into the details, we found out that nobody had applied for that money. Our question naturally was, "Well, why not?" Are we doing enough to get the word out that this money is available? And so, part of Know Your Farmer, Know Your Food is really trying to better utilize existing resources within the Department. It's also about having a national conversation, particularly with young people, about where we want American agriculture to go. And that's all been positive.

NATIONAL ORGANIC PROGRAM

In terms of organic, we will be having an inspector general report coming out, probably this week, that will look at some longstanding problems in the National Organic Program. These are problems that we're getting ahead of now, and, for that reason, we've asked for a $3.1 million increase in the regulatory program. We believe that this is the age of enforcement.

We're instituting new initiatives, like residue testing, unannounced inspections on farms. We really want to increase the rigor of this program. At the same time, we want to fund organic initiatives around the Department, really just small increases in pots that are already there. For example, Market News, trying to find out more about what's going on in organic dairy in the marketplace. So, we've just asked for a small amount of money increase there.

So, there's a variety of footholds in the Department for organic, but no huge new program. Again, it's getting USDA, which is a very big-tent organization, finding a way for the different kinds of production schemes to have a home within our different agencies.

KNOW YOUR FARMER, KNOW YOUR FOOD

Senator KOHL. Deputy, you talk about Know Your Farmer, Know Your Food Initiative. We all know it's gaining in popularity through expanding farmers markets, and other means also. Would you speak a bit to the economic efficiencies of reduced transportation costs and the ability for rural communities to keep more of the wealth it generates in those local communities. And are there other new challenges in food safety or other problems, due to this shift in marketing, that we should be made aware of?

Dr. MERRIGAN. Well, Secretary Vilsack and I are always on the road, saying that nobody gets a pass in food safety. Food safety is not a size-relevant thing. Whether you're a little guy or the big guy, we all have to do better. But, because one of the emphases in

Know Your Farmer, Know Your Food is to get more institutional purchasing of locally grown, regionally grown food, maybe that's our school system, there are new relationships there, and there are questions about what food safety certifications need to be put in place; what are the concerns about liability; how contracts should be written. And that's one of the reasons that we have a Farm to School team that's going around the country trying to figure out where Farm to School has been successful, and where it has failed. There are 43 States now that have a foothold in Farm to School. Get the lessons learned and document that so that other institutions can follow. Get that roadmap in place.

In terms of its potential for rural economic development, we think it's great. As we know from our NASS Survey data, there is a real uptick in small farms, those that are grossing $10,000 and less. We also know that there's that disappearing middle of family farmers that are just not finding ways to make ends meet. We think that if we can build stronger local and regional ag systems, those smaller farmers will graduate into the middle-sized farms, and those middle-sized farms that are trying to find a way to survive in a differing, evolving agricultural climate, that they'll be able to do so.

And so, again, it's a lot of strategies. It may be helping fund a mobile flash-freezing processing van that will help small farmers; it might be about helping augment cold storage; it might be facilitating the development of a farmer cooperative, so they can aggregate materials, so they can actually satisfy an institutional buying request. So, again, a variety of strategies. And again, no food safety concerns that I'm aware of, at this point.

Senator KOHL. Thank you very much, Deputy Merrigan.

Senator Brownback.

Senator BROWNBACK. Thank you, Mr. Chairman.

Just wanted to follow from the opening comments I made, and then Senator Bond hit it, as well.

GLOBAL AGRICULTURE DEVELOPMENT

There's a chart you have, Secretary, on agriculture development as a percentage of total development assistance. And it's what I was mentioning to you earlier about how this has fallen off substantially. We had a big investment in agriculture development, globally, in the 1980s. It was, I guess, trendy but not sufficient enough to grab on. And then the—you can see how much it's fallen off, by this chart here—and then you have it.

This recent uptick, I'm told, is Millennium Challenge funding—accounts funding, which is good. But, again, I think it's outside of the wheelhouse. So, you're the one that's got the expertise in this field; USDA and the land grant system is the one that knows it. And I just—my hope is that, as Gates gets into this more, as Millennium Challenge gets into this more, as AID focuses on this area more, as we look at ways that we stabilize countries around the world via agriculture development—like Iraq and Afghanistan, to name two—and as, I think, there's more of a focus on Africa—that it's USDA and it's the land grant system that's in there doing this, because that's where the expertise is.

This is very good investment for foreign affairs, in my estimation, for the United States. And where I—it seems like we're kind of in the—betwixt and between on how we're actually going to do this, who is going to do it. And I would hope that maybe the funding goes through Millennium Challenge, or the funding goes through AID, but it ends up working through the expertise that you have, and the expertise that's at the land grant universities.

And it would be my hope, as well, that the overall number would go up, because this is—we're a long ways down the road of—we give a lot of development assistance, we give a lot of food aid, in places around the world, but, you know, these are ones that, over the longer period of time, have been very successful in many places around the world. We're still hard-stretched in some places. And there's a concentrated set of countries, particularly sub-Sahara Africa countries, that the picture—as I've looked at this over 20 years, it's narrowed in, a narrower set, when we can—we can deal with a lot of these problems. And I'm hopeful you can tackle that and deal with it.

Secretary VILSACK. Senator, this is a very important aspect of our job at USDA. And as part of our strategic vision for the Department, we realize that we have to do a better job of providing assistance to deal with food insecurity issues across the globe.

We have a one-government approach to this. And so, the State Department, USAID, and USDA have an interagency task force, if you will, that had been put together to promote global food security, the Global Hunger and Food Security Initiative. And it is focused on, first of all increasing resources, as the President indicated during the G20 meeting last year, and which I indicated a commitment to when I traveled to Italy for the first G8 Agriculture Ministers meeting on food security ever. It is targeted, in terms of its impact on the countries in sub-Saharan Africa and some of the poor countries, such as Haiti is another targeted area, even before the earthquake. And it is focused on three fundamental approaches; first of all, increasing agricultural productivity in these countries. And that involves USDA providing opportunities for greater exchanges through the Borlaug and Cochran fellowships, which we've requested additional resources for. It is working with agricultural ministries, like we are in Afghanistan and Iraq and Pakistan, to address specific issues that we have expertise on that we can share. It is designed to promote a science-based approach, in terms of biotechnology, and the benefits that that could potentially have in increasing crop production in drought areas, with drought-resistant crops and other strategies, more appropriate use of fertilizer, a better understanding of soil conditions, things of that nature.

Second, even if you grow the food, it doesn't necessarily mean it gets to the people who need it; and therefore, it doesn't necessarily create economic opportunity for those farmers. So, we need to also focus on creating greater access, and that deals with developing market strategies, developing regulatory structure and legal frameworks that allow this to happen, and the infrastructure, both the storage facilities to avoid post-harvest loss, transportation facilities, and the like.

And then, finally, even if it's available, even if it's accessible, it may not be properly utilized. And so, therefore it goes into an education effort to make sure that there's proper refrigeration, proper handling, proper cooking of the food so that it's safe for people to consume. When you do all of that, you really do create a much more vibrant agricultural economy. And in these countries that are fragile and are food insecure, that is absolutely the first thing that has to happen.

We are doing pretty significant work in Afghanistan. And, you know, I know time doesn't permit me to go into great detail about it, but I think we are seeing some results from that.

Senator BROWNBACK. Well, I—one other thing that you didn't mention, and it's not in your area, but I think it's just critically important, is that—the structure of the government in those countries. We—we've seen places—and particularly—I know I can look at examples in sub-Sahara Africa, where we put quite a bit of money in over a lot of years. And I've traveled these places and you meet with the leadership and they kind of ask the question, "Where'd the money go?" And that's why I like the Millennium Challenge account approach, where they go—there's a—a key piece of this is about governance, on how you govern. And when places like China and India went to a more open-market sector, and away from the way they were doing it, systems and things started to flourish.

So, I would hope that we learn our lessons, too, from our past engagement, when we put a fair amount of money in this, is that it does matter whether a country is willing to help itself and structure itself in a way that these dollars can take hold. It's like whether it can take root or not, or are we going to just throw some money in here. And I would kind of hold it back, say, "We're ready to do this, but you've got to change these two things before we're going to put this—we're ready to do it, and we want to do it." But, otherwise, I think we may repeat some past problems, where we poured money into some countries and we don't have a whole lot to show for it.

Secretary VILSACK. Well, that precise discussion took place in Afghanistan, with reference to Minister Rahimi and his efforts at developing this framework, part of which is change management. His own ministry has to operate effectively. And we made a commitment of resources, but it was conditioned on those resources being used to bolster his capacity to actually do the work that needs to be done, and to understand the core competencies that a ministry requires. So, there is a concerted effort, in that country and in all countries, to make sure that we have the regulatory structures, the government structure and framework that's actually going to make this work. And that's certainly what we're focused on at USDA.

SPENDING CUTS

Senator BROWNBACK. One final thought. And I really appreciate your time and your knowledge of your subject and your agency. Last year, when we went through the process, chairman, on the floor we had a number of amendments proposed by individuals suggesting different cuts in places within USDA. Our office is going to go back through and look those over to see if there were some good

suggestions there of things that we should look at cutting and maybe putting that in other places, or even have a pruned-down budget even further. Because I think we owe it to the taxpayer, in these times of, you know, record deficits, to say, "What is it we can do to get this number down?" We need to do our functions, we need to do them well, but we also—with a $1.5 trillion deficit, we've just got to get—we've got to get the numbers down. And so, we're going to go back through and look at some of the suggestions our colleagues put in, last year, for possibilities to get the budget number down further.

And I appreciate it, Mr. Chairman.

And thank you, Secretary, for your time.

RESEARCH PROGRAMS

Senator KOHL. Thank you very much, Senator Brownback.

Mr. Secretary, I'm pleased to see that the budget continues the growth we began last year on the competitive Agriculture Food and Research Initiative, known as AFRI. As you know, I'm a strong supporter of this program. However, in order to pay for the unprecedented increase that the budget proposes in AFRI, a large number of other research programs are eliminated, including formula funds.

As I said, I'm pleased to see the beginning of the long-term growth for AFRI. Its mission, however, is different from that of formula programs. Formula programs are, by their nature, more flexible and able to rapidly respond to emerging research needs which require more immediate action than a long-term research contract. Can you respond to this concern?

Also, Mr. Secretary, I've heard from Senator Byrd, who has expressed concern about proposed elimination of ongoing ARS work in West Virginia. We'll be submitting some questions for the record on behalf of Senator Byrd. I'd just like to know—you to know that I'm going to submit those, and would appreciate a response.

Secretary VILSACK. Very good, Mr. Chairman. Let me see if I can respond. Our understanding of what we proposed on the formula funding is that we maintained the funding that was included in last year's budget, that basically it's the same formula funding as the previous year.

We recognize the concerns that the subcommittee expressed about the need to maintain formula funding, and we tried to respect that with status quo formula funding. We did eliminate some of the programs that were specifically designated, or earmarked, if you will, by members of the subcommittee, as is consistent with our practice, and refocus those resources into a more competitive circumstance. We honestly think that we will get a bigger bang and a better bang for our buck if we do this. We want research that's actually going to move the dial. We want research that's focused on key priorities that this Congress, this administration, this country needs to focus on.

As it relates to ARS, we appreciate Senator Byrd's concerns. Our view is that, before we begin spending additional resources on ARS facilities, that we really need to take a step back and do a strategic overview of precisely what facilities we have, what condition they're in, and prioritize the maintenance and expansion and new

construction projects. We'd like a year to be able to do that, and we'd like a small amount of money to be able to do that, so that we can come back to this subcommittee with a thoughtful and strategic approach to improvements, to construction to these labs. We recognize the important role they play. We just, again, want to make sure we're using taxpayer dollars wisely.

FSIS BUDGET

Senator KOHL. All right, Mr. Secretary, I appreciate that.

Mr. Secretary, the FSIS budget request asks for a much smaller increase than in recent years, but it does include significant performance measures. This includes a goal of decreasing total illnesses from all FSIS regulated foods by more than 17 percent between fiscal year 2009 and fiscal year 2010, as well as additional decreases in the following years. Is FSIS on track to meet these goals?

Secretary VILSACK. We think they are, Mr. Chairman. I think it's appropriate for me to say that there is a need for better data collection so that we have a better understanding of precisely what causes the difficulties and illnesses that Americans experience, and at what part in the food chain those difficulties are experienced. One of the things that we would like to do is to increase data collection. We'd like to use additional resources to focus on better data collection so that we could focus on trend lines, establish baselines by which we then can make better risk assessment and better decisions, relative to where there may be problems.

We think we need to strengthen our capacity to respond to multiple jurisdictional illnesses that cross State lines, which is why we have proposed additional resources for strengthening our public health programs. We think there needs to be expanded research efforts on identifying pathogens that we may not even be aware of today, that could potentially cause problems. We're obviously continuing to focus on improving the HACCP program with particular focus on improving surveillance of pathogens, and expanded sampling that's necessary to do that.

And finally, we want to focus on our school food programs to make sure that they are not creating difficulties for our school children, in terms of unsafe food. We're doing a top-to-bottom review of those programs. We will be looking at our inspection and procurement programs. We'll also have an independent set of eyes at the National Academy of Sciences take a look at some of those programs. We want to improve a notification system between the Federal Government, State, and school districts.

And so, there's an awful lot of work going on within FSIS. It isn't always necessarily about additional resources; it's about making sure that you're focusing your time and attention on the things that matter. And we want to make sure that we get a regulatory structure in place with the resources that we have.

STATE INSPECTION PROGRAMS

Senator KOHL. What about State-inspected meat programs, are they going to be continuing to receive your attention and funding?

Secretary VILSACK. You know, that is a question I will have to get back to you on, unless the Deputy's going to——

Dr. MERRIGAN. We're——

Secretary VILSACK [continuing]. Bail me out here.

Dr. MERRIGAN [continuing]. In rulemaking, hopefully soon to come out with a final rule, on the interstate meat. I know that's something that Wisconsin is desperately waiting for, and we've certainly had a lot of comments. I think it's a great way to facilitate some of the niche markets. It's very important, for the smaller plants, for opportunities there. And we're looking forward to publication of the final rule. We did get a lot of comments, and we're trying to fine tune the proposal so everyone will be ready to embrace it.

Secretary VILSACK. I would also say, Mr. Chairman, that one area that we are focused on relative to State inspections is a continued effort to promote more frequent and better inspections of schools. As you know, there is a requirement that there be two inspections per year, of schools. Not all the schools in America are up to that standard. We continue to press States to make sure that they are encouraging that to happen. We recognize, again, they are under a substantial financial stress. We don't want this to be a casualty of that.

ELECTRIC LOAN PROGRAM

Senator KOHL. All right. Mr. Secretary, USDA is the principal source of funding to improve the availability of electric power throughout rural America. Rural areas face unique challenges in accessing adequate power at affordable costs because of the high cost to extend electric power to rural household, farms, and communities due to the lower customer density, as well as the remote locational aspects.

This budget cuts the electric power program level by more than 30 percent, even though the subsidy costs for this program are small. It further stops the use of these funds for the construction, acquisition, or improvement of fossil-fueled electric generating plants, unless those funds are for carbon sequestration systems. We all support cleaner energy, particularly in rural America, but this budget proposes drastic changes in the USDA electric program.

Mr. Secretary, the planning horizon for large power projects is years. How will these proposed program changes affect the electric power supply to rural areas in the near term? And what assurance can you provide that rural areas will not be harmed, such as with higher electric rates and unreliable power availability, as a result of these proposed changes, Mr. Secretary?

Secretary VILSACK. Mr. Chairman, we are obviously encouraging farmers and ranchers across the country to take a look at their own facilities to determine whether or not they can be embracing more renewable energy opportunities. It's one of the reasons for the REAP Program. We've seen a tremendous interest in REAP; millions of dollars being spent to do audits of operations and, I think, there's a growing recognition that there is money to be made and money to be saved through renewable energy. So, we obviously wanted to send a positive message about renewable energy. The President has been very clear about his priorities in this area.

I would say that it isn't always necessarily a budget that is reflective of support that could be provided to an industry. One of the

things that we are looking at, which I know the RECs have asked us look at, is this notion of how we use our security position to enhance expansion. We have circumstances today, where we made loans to RECs, where the value of the assets that they have, have substantially appreciated since the time of our loan, which means that our loan is over-secured, if you will.

The question is, is there any way in which we can take a look at that over-security concept to determine how we might be able to provide additional resources without necessarily spending additional dollars? These are the kinds of things that we need to be looking at to make sure that, in these fiscally difficult times, we're stretching the resources as effectively as we can. So, we're looking at ways in which we can help the RECs particularly in this way. We haven't yet made a decision on it, but we are looking at it.

Senator KOHL. So, the assurances that I'm looking for here this morning are forthcoming, but not——

Secretary VILSACK. Well, you know, I don't want to mislead the chair. I'm not in a position today to tell you that all of the demands are necessarily going to be met. I can tell you that I think there is a growing demand on the renewable side, which is why our budget reflects that. It's also consistent with the President's comments to the world, to the globe. And I think there are perhaps other strategies that we could utilize that would supplement for additional resources. But, we recognize and appreciate the importance of affordable power.

BROADBAND

Senator KOHL. On broadband, Mr. Secretary, for the last several years, substantial funding has been provided annually to extend broadband service throughout rural America. In addition, the Recovery Act made a substantial investment to strengthen the program with funds that must be obligated by this September. This budget seeks additional funding for broadband loans for fiscal year 2011. Mr. Secretary, please describe the progress you are making extending broadband service to remote, unserved, and underserved rural areas. By the end of this year, how much of rural America do you think will still be without adequate broadband service? Do you expect to obligate all of the Recovery Act funds for this by this September? And with the abundance of funding already provided for this program, can you justify an additional $400 million in fiscal year 2011?

Secretary VILSACK. Mr. Chairman, I think it's fair to say that the tremendous work that Congress and the President did in the Recovery Act in creating opportunities for broadband expansion represent a significant downpayment, but by no means a balloon payment, on the need for expanded broadband access in the United States.

We've seen literally thousands of applications for these resources, far in excess of the resources that were made available in the Recovery Act. I believe we are on track to obligate our resources by September 30 from the Recovery Act, but there will still be significant demand after those applications have been approved and funds are provided.

What we are trying to do with this is to emphasize, particularly in rural communities, the importance of having this technology. It isn't just simply expanding broadband, it's making sure that people in rural communities understand how best to utilize it. Whether it's distance learning, or telemedicine, or business expansion by expanding markets from local to global markets, or the opportunities for farmers and ranchers to have realtime information. There is a need for additional education for people to understand that this is a tool that they ought to have, if they have to pay a subscription fee or whatever, they ought to be willing to make that investment, because it will return that investment.

I would say that, as I said earlier in my earlier comments, it is a linchpin, a pillar of a new rural economy that we have to construct in this country. Without that technology, businesses, farmers, ranchers, communities will not be able to succeed in the 21st century.

So, I think we have to continue to invest. I think we have to be wise about our investments. We have to make sure that folks understand how to utilize the resource, that they have the financial wherewithal and the technological expertise to utilize it properly in communities, and that we need to look for projects that will benefit not just a single community, but a region, a group of communities, multiple communities from resources.

We're seeing projects for example, my home State recently received an award in which 12 counties, 90,000 people, will be impacted by this. I think it was something like 30,000 small business operations and farms and activities in this area would be benefited. So, it's an enormous opportunity here. So, I would encourage the subcommittee to look strongly at continuing to invest in this very important technology.

Senator KOHL. You've made the point, and I agree with you, that broadband is absolutely essential to future of rural America. When do you imagine that we'll have full broadband service, as well as, as you pointed out, the ability of individuals to know how to use it?

Secretary VILSACK. Senator, I'm not sure I can give you a specific date. I will tell you that I think we have a ways to go. I know my State, when I left as Governor, we had roughly 90 percent of the State covered, but that didn't necessarily mean that it was being fully utilized and fully appreciated. And that took 5 or 6 years of hard work on the part of our utility companies and on the part of our small telephone companies to make that happen in the State regulatory structures.

So, there's a lot of work yet to be done here, but I think we need to accelerate. I would say that a continued investment is an indication, from this Congress and this administration, of the importance of it and the need to continue to look for ways to leverage these resources. And part of our challenge, candidly, is that there are places where you may have 300 or 400 people, but the investment will be multiple millions of dollars. And so, it becomes very difficult to be able to explain to people why a subsidy of $50,000 or $60,000 or $70,000 per customer can be warranted, which is why we're looking at lower-cost strategies to at least get people further ahead in the technology arena than they are, whether it's satellite or

other strategies that may be perhaps a little bit less expensive than broadband, but can still provide access to the Internet, can still provide some distance learning opportunities. And so, it's conceivable that, at the end of this process, if we have resources left over from the applications with the Recovery Act, that we'll put a small amount of money out there for these communities that just cannot justify a $50,000 subsidy, but we could justify a satellite operation or a tower or some kind of antenna system.

FOOD BANKS

Senator KOHL. All right.

Mr. Secretary, according to a Feeding America study, more than 37 million people receive emergency food each year through food banks and other agencies. This is an increase of 46 percent since 2006. With the current economic situation not improving for many Americans, what is the Department doing to help food banks make sure people have access to food?

Secretary VILSACK. Well, the Recovery Act provided us a tremendous shot in the arm, and we got those resources out as quickly as possible. We'll continue to use our commodity purchasing capacity. It's a little bit limited, based on activities that have taken place prior to this year, but we will continue to look for ways in which we will provide help and assistance.

EMERGENCY FOOD ASSISTANCE PROGRAM

Senator KOHL. The budget includes a small increase for the Emergency Food Assistance Program. Do you believe this increase is sufficient?

Secretary VILSACK. The answer to that question, Senator, depends, in part, on how well and how quickly the economy recovers. We expect and anticipate that we're going to see a steady increase in economic activity, as we have seen in the last couple of months, with our stock market being stabilized and the housing market being somewhat stabilized. Our hope is that that help will be reflected in job growth at some point. And then, when that happens, there'll be less demand and less pressure. But, in the meantime, we want to provide some resources that will allow us to respond. Whether this is enough or not, it somewhat depends on where we are 6 months from now or 9 months from now. Our hope is that it is enough, but I'm not going to say that we wouldn't come back here, at some point in time, and tell you we need more.

SCHOOL FOOD SERVICE EQUIPMENT

Senator KOHL. Mr. Secretary, this subcommittee provided grants, through the stimulus bill, for the purchase of school food service equipment. Can you please provide an update on the status of those funds?

Secretary VILSACK. Over 5,000 schools received assistance from those resources. And I will say that part of the child nutrition reauthorization effort is also focused on continuing to provide additional resources for equipment. The reason for this is, a lot of schools are not in a position to take full advantage of more nutritious food, because they don't have the capacity to prepare it or deal with it.

They may have a fryer, but they may not have something that can steam or cook vegetables, for example.

So, we have to continue to look for ways to provide resources and help, both on the equipment side and the technological side, and training of school food personnel. So, that's part of what we're proposing, in terms of our reauthorization effort.

HUNGER-FREE COMMUNITY GRANTS

Senator KOHL. Mr. Secretary, last year we provided funding for Hunger-Free Community grants, as authorized in the farm bill. What is the status of those funds?

Secretary VILSACK. We asked for additional resources in that area; I think it's a $3 million increase. There is a real opportunity here for us to encourage more innovative and creative strategies. We are particularly concerned—again, back to children—particularly concerned about the summer months, when our feeding programs just, frankly, don't get enough resources and assistance, and there are a lot of youngsters who don't get adequately fed.

So, we're encouraging, through the grant program, through our reauthorization efforts, to try to find additional resources to incent more creative and thoughtful approaches. How can we take resources and utilize them so that we go to where children are, for example, in the summer? Are there programs where we can identify where youngsters are, as opposed to compelling youngsters to come to a central location for a congregate meal type of activity? Is there a way in which ballparks, swimming pools, playgrounds, where kids will normally and traditionally congregate, and could we figure out some kind of mobile strategy that would meet those needs? How do we continue to provide backpack opportunities during the weekends when there is a snowstorm and school's out for week because people can't get to school, what do we do for those youngsters?

So, we want to incent and encourage communities to focus on creative strategies. They're going to need resources and incentives to do that, which is why we're asking for additional resources.

Senator KOHL. Very good.

I'd like to thank everybody here today for attending. Secretary Vilsack, we appreciate your participation particularly, with your assistance Dr. Merrigan, and Dr. Steele.

PREPARED STATEMENT

Before we recess this subcommittee hearing, Senator Tim Johnson has asked that his statement be made part of the record.

[The statement follows:]

PREPARED STATEMENT OF SENATOR TIM JOHNSON

Thank you, Chairman Kohl and Ranking Member Brownback, for holding today's Agricultural Appropriations Subcommittee hearing on the President's proposed fiscal year 2011 budget. Secretary Vilsack, thank you for coming to the Hill today to discuss USDA's funding proposal.

Mr. Secretary, I appreciate your working to implement Country of Origin Labeling according to Congressional intent, and look forward to reviewing USDA's rules regarding agricultural competition as authorized by the 2008 farm bill. I am hopeful that together, we can make some meaningful improvements for independent producers. The President's fiscal year 2011 budget contains some very good things, including a substantial investment in nutrition as with the proposed increase for the

Commodity Supplemental Food Program and investment in child nutrition and WIC.

The budget, however, also includes some questionable funding cuts, including the elimination of the Resource, Conservation and Development program. While the conservation funding included in the budget allows for a 10 percent increase in acreage enrollment over 2010 levels, I am concerned for the proposed reductions in acreage or funding which may impact conservation programs in the future.

Mr. Secretary, thank you for your time this morning and I look forward to working with you on priorities of importance to South Dakota.

ADDITIONAL COMMITTEE QUESTIONS

Senator KOHL. We'd like to request that all members submit any questions for the record within 1 week, which is March 9. Secretary Vilsack, also like to request that USDA respond to those questions within 4 weeks, which would be Tuesday, April 6. We look forward to working with each of you as we continue this appropriations process.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR HERB KOHL

HEALTHY FOOD FINANCING INITIATIVE

Question. The Budget proposes an appropriation of $35,000,000 under the Office of the Secretary plus a reserve of $16,280,000 from other agencies for the USDA component of a multi-departmental Healthy Food Financing Initiative that would total in excess of $400,000,000. The goal of this initiative is laudable. Improvement in accessibility of healthy foods to many populations will help combat obesity and other health problems tied to improper diet.

This initiative is described as "multi-year" in nature. Do you foresee that this program will operate indefinitely or do you have a specific timeframe in which you expect to meet the program's expectations? What measurements will you use to determine program effectiveness?

Answer. Through the new multi-year Healthy Food Financing Initiative and by engaging with the private sector, the administration will work to eliminate food deserts across the country within 7 years. With the first year of funding, the administration's initiative will leverage enough investments to begin expanding healthy food options into as many as one-fifth of the Nation's food deserts and create thousands of jobs in urban and rural communities across the Nation.

The objectives of the initiative are to increase access to healthy and affordable food choices in struggling urban and rural communities, and help reduce the high incidence of diet related diseases; create jobs and economic development; and establish market opportunities for farmers and ranchers. As a result, measurements of program effectiveness will include the number of new grocery stores and other healthy food retail outlets built in food deserts, the number of people previously living in food deserts who are served by the new retailers, and other such output measures. It is going to take a lot longer, possibly decades to have definitive data on improved diets, better health and reduced obesity. USDA plans to involve evaluators in the initiative to ensure proper measurements of program effectiveness and overall success of the initiative.

Question. Please describe how USDA will coordinate this initiative with other departments and please explain the specific functions the other departments will employ in carrying out this initiative.

Answer. Each of the three agencies brings a particular expertise and set of resources to the Healthy Food Financing Initiative. Specifically:

The Department of Agriculture specializes in improving access to healthy foods through nutrition assistance programs, creating business opportunities for America's farmers, and promoting economic development in rural areas. USDA's proposed funding level of $50 million will support more than $180 million in public and private investments in the form of loans, grants, promotion, and other programs that can provide financial and technical assistance to enhance access to healthy foods in underserved communities, expand demand and retail outlets for farm products, and increase the availability of locally and regionally produced foods. USDA has a solid

track record of supporting successful farmers markets, and has also invested in grocery stores and creating agricultural supply chains for them, such as in the People's Grocery project in Oakland, CA.

The Treasury Department will support private sector financing of healthy foods options in distressed urban and rural communities. Through the New Markets Tax Credit (NMTC) and financial assistance to Treasury-certified community development financial institutions (CDFIs), Treasury has a proven track record in expanding access to nutritious foods by catalyzing private sector investment. The Healthy Food Financing Initiative builds on that track record, with $250 million in authority for the NMTC and $25 million for financial assistance to CDFIs devoted to helping finance healthy food options.

The Department of Health and Human Services (HHS) specializes in community-based efforts to improve the economic and physical health of people in distressed areas. HHS will dedicate up to $20 million in Community Economic Development program funds to the Healthy Food Financing Initiative. Through the CED program, HHS will award competitive grants to Community Development Corporations to support projects that finance grocery stores, farmers markets, and other sources of fresh nutritious food. These projects will serve the dual purposes of facilitating access to healthy food options while creating job and business development opportunities in low-income communities, particularly since grocery stores often serve as anchor institutions in commercial centers.

Question. Since this initiative will combine the efforts of a number of different USDA agencies and mission areas, how will you ensure that proper coordination will occur and who or which agency will be ultimately responsible for this initiative?

Answer. USDA will establish an internal coordination mechanism. Leadership for the initiative within USDA is currently assigned to Ann Wright, Deputy Under Secretary for Marketing and Regulatory Programs, and Cheryl Cook, Deputy Under Secretary for Rural Development. They are assisted by staff throughout the Department.

Question. Please provide an explanation of specifically what each USDA agency involved with this initiative will do to carry it out at both the headquarters and field level.

Answer. The Agricultural Marketing Service, Rural Development, and the Office of the Secretary will work together to ensure that expertise within USDA is appropriately leveraged to carry out the initiative. AMS has considerable knowledge and expertise enhancing food access for low income populations and improving retail market access for small and mid-sized producers. Rural Development has significant expertise funding and supporting infrastructure development for purposes of economic development.

Together, the two agencies, working in concert with the Office of the Secretary will make funding available to provide:

—Technical assistance to grantees to help them with facility, and distribution logistics, and food marketing;

—Grants, loans, and loan guarantees in support of business and infrastructure development and investment; and

—Administrative support of HFFI and project evaluation.

Each agency will work through its existing programs to carry out the program. There will be no reprogramming of funds:

Rural Development

Rural Development's Community Facility Grant Program supports the success of rural communities by providing loans and grants for the construction, acquisition, or renovation of community facilities or for the purchase of equipment for community projects.

The Business and Industry loan program is designed to help new and existing businesses in rural areas gain access to affordable capital.

The Rural Business Enterprise Grant Program provides grants for rural projects that finance and facilitate development of small and emerging rural businesses.

The Rural Microentrepreneur Assistance Program provides loans and grants to support new and existing rural micro businesses by providing funds to microenterprise development organizations for micro lending and technical assistance.

The Intermediary Relending Program (IRP) provides loans to local organizations that relend to rural businesses.

The Rural Business Opportunity Grant Program provides grants for training and technical assistance to support economic development.

Agricultural Marketing Service

The Farmers Market Promotion Program provides grants to support the development of farmers markets and other farm to consumer marketing businesses. Money from this program can be spent to equip farmers markets with electronic benefit transfer equipment so credit cards and Supplemental Nutrition Assistance Program (SNAP) benefits can be redeemed at the markets.

The Wholesale, Farmers and Alternative Market Development Program provides technical assistance to create or upgrade markets and marketing facilities.

Question. Since the USDA initiative envisions the use of Rural Development funds to enhance food accessibility in urban areas, how do you reconcile the requirement and underlying objective that rural development programs are enacted to serve "rural" America?

Answer. Programs that serve rural America do not necessarily need to be located in rural areas. In the case of the Healthy Food Financing Initiative, rural areas are expected to benefit from the increased demand for agricultural commodities. In addition, all America will benefit from a healthier citizenry and stronger economy in both rural and urban areas.

Question. How will you prioritize areas in the Nation to participate in this initiative and, more to the point, how will you determine where factors such as crime rates and lack of security are the dominant forces that determine success or failure of businesses such as full service grocery stores? What effect will lack of security or similar factors play in your determination where to make Federal investment?

Answer. The administration has set an ambitious goal for the initiative—to eliminate food deserts across the country in 7 years. To accomplish this goal, the initiative will inevitably need to fund projects in areas of the Nation that suffer from high crime rates and lack of security. Agencies providing assistance under the initiative will draw upon past work they have funded in communities with similar characteristics and study and apply the lessons learned from similar initiatives such as the Pennsylvania Fresh Food Financing Initiative to ensure best practices are being applied to the selection and implementation of projects. In addition, the agencies will strategically invest in projects in the initial years that will further the knowledge and practice of ensuring successful projects in these communities. It is worth noting that crime and lack of security have not stopped fast food establishments from thriving in food deserts and other deprived areas.

Question. Since a main (if not the primary) underlying purpose of this initiative is to improve the diets of Americans who might otherwise have to rely on food items from less than full-service grocery stores where it is more common to find items of convenience rather than high nutritional value, is the Department also looking at other changes to improve the nutritional intake of Americans. For example, do you think the SNAP program should be reformed to restrict benefit use to disallow items of low nutritional quality?

Answer. By most standards, almost all American diets are in need of improvement. Given interest in using Federal nutrition assistance programs to promote healthy choices, some suggest that SNAP recipients should be prohibited from using their benefits to buy foods with limited nutritional value. However, there are serious problems with the rationale, feasibility and potential effectiveness of this proposal.

First, there are no clear standards for defining foods as good or bad or healthy or not healthy. Foods contain many components that can affect health, and diets contain many foods. As a result, it is challenging to determine whether and the point at which the presence or absence of desirable nutrients outweighs the presence of nutrients to be avoided in ruling a food in or out.

Second, there are operational issues. Implementation of food restrictions would increase program complexity and costs. The task of identifying, evaluating and tracking the nutritional profile of every food available would be substantial. The burden of identifying which products met Federal standards would fall on an expanded bureaucracy or on manufacturers and producers asked to certify that their products meet Federal standards.

Third, restrictions may be ineffective in changing the purchases of participants. About 70 percent of all SNAP participants who receive less than the maximum benefit allotment are expected to purchase a portion of their food with their own money. There is no guarantee that restricting the use of SNAP benefits would affect food purchases other than substituting one form of payment (cash) for another (SNAP benefits).

Finally, there is no strong research-based evidence that SNAP participation contributes to poor diet quality. Recipients are no more likely than higher income consumers to choose foods with little nutritional value; thus the basis for singling out SNAP recipients and restricting their food choices is not clear.

USDA believes the better approach is nutrition education about healthy eating and physical activity to foster real behavior change. Incentives rather than restrictions that encourage purchases of certain foods or expanded nutrition education to enable participants to make healthy choices are more practical options and likely to be more effective in achieving the dietary improvements that promote good health. The Healthy Incentive Pilot program, established by the farm bill and supported with $20 million in 2009 will explore this question. The President's fiscal year 2011 budget proposes $6 million to expand this effort.

OFFICE OF ECOSYSTEM SERVICES MARKETS

Question. The Budget includes an increase of $2,021,000 for the Office of Ecosystem Services Markets, as authorized under section 2709 of the 2008 farm bill. It is stated that the purpose of this request is to expand the Department's efforts to develop technical guidelines to quantify environmental services provided by America's farmers, ranchers, and forest landowners. Since this request is for the expansion of Departmental efforts, please provide information on the activities (including funding levels) currently underway that serve this purpose.

Answer. The Office of Environmental Markets (OEM), originally established in December 2008 as the Office of Ecosystem Services Markets, builds on and will complement a strong foundation within USDA to assess the environmental services provided by conservation and land management actions. Ongoing USDA efforts include: the work of the Climate Change Program Office within the Office of the Chief Economist established the only set of comprehensive farm-level greenhouse gas estimation guidelines used in the Government's Voluntary Greenhouse Gas reporting Registry; efforts to assess the conservation and environmental benefits of USDA actions through the Conservation Effects Assessment Program; and monitoring resource conditions through programs including the National Resources Inventory (NRI) and the Resource Conservation Assessment (RCA).

OEM is currently active in a project called Farm of the Future that demonstrates how landowners are accelerating their environmental performance and receiving a positive return on their investment by participating in environmental markets. In addition, OEM is leading a series of inter-Departmental dialogues that brings together senior leadership from across the Federal family to discuss coordination for the development of performance metrics and overall infrastructure for environmental markets at a national level. In 2010, the OEM intends to conduct an assessment of existing science-based technical guidelines and develop recommendations on national guidelines for greenhouse gases, water quality, biodiversity and wetlands.

OEM will provide preliminary recommendations for integrating carbon, water, wetlands and biodiversity values on the same landscape. OEM also intends to assess existing registries and other reporting mechanisms and develop initial recommendations to the Secretary for a national, integrated registration process. OEM is well positioned to build on existing information and move in a new direction that expands the Department's work to build the infrastructure for a robust marketplace.

Question. While section 2709 of the 2008 farm bill directs the Secretary to issue guidelines regarding this effort, it does not call for the establishment of a separate office. Why do you feel this is necessary? Why can't these functions be carried out under the Office of the Chief Economist, the Economic Research Service, the Natural Resources Conservation Service, or some other appropriate agency?

Answer. All these agencies you mention play a critical role in developing information to study and support environmental markets including the necessary research. To be effective and increase communication between all of the relevant parties, these efforts must be coordinated and having a central organization to coordinate this work across USDA and the Federal Government as well as with the private sector requires an office with a specific focus. The Office of Environmental Markets (OEM) is the entity that will coordinate across Federal and private sector lines all these critical elements.

Question. Please provide a description of the types of services markets that you envision as coming under the purview of this activity and please explain how they will generate additional income to participants.

Answer. The four environmental markets that USDA will potentially be focusing on may include greenhouse gases (carbon trading); water quality trading: (nutrients, sediment, and temperature) conservation banking (species and habitat); and wetland banking. The Department, through the Office of Environmental Markets and the Climate Change Program Office, will potentially work to develop guidelines for these markets consistent with the guidance provided in section 2709 of the 2008 farm bill. Environmental markets may offer a cost effective alternative for regulated communities to meet their environmental obligations by purchasing environmental

benefits from landowners who apply enhanced conservation actions on their operations. These conservation solutions could be applied at a fraction of the cost of technological options and typically include additional environmental benefits as well. Landowners would potentially have the option of engaging in environmental markets by offering new commodities such as water quality, habitat and other environmental benefits as part of their suite of products for sale.

OFFICE OF TRIBAL RELATIONS

Question. The Office of Tribal Relations was created in fiscal year 2010 with initial funding of $1,000,000. Please describe the activities and accomplishments of this Office during the current fiscal year and those that are planned for fiscal year 2011.

Answer. The Office of Tribal Relations serves as the USDA central point of contact for all 564 federally recognized tribal governments. The Director of the Office of Tribal Relations (OTR) serves as the Senior Advisor to the Secretary for Tribal Affairs. Interim staff members have been detailed into the office from around the Department to begin operations, and the hiring of permanent staff is under way. In fiscal year 2010, OTR has participated in the White House Tribal Nations Conference of November 2009 and led the development of USDA's Action Plan for Tribal Consultation and Collaboration. As part of the development of the Action Plan, OTR participated in a number of meetings and venues seeking consultative input from tribal leaders. OTR is now leading efforts of the Department's Native American Working Group to implement the Action Plan.

Planned activities for fiscal year 2011 include: finalization and adoption of a new USDA Departmental Regulation on Tribal Consultation; launch of USDA Employee Education and Training initiative relating to tribal consultation and collaboration; launch of a reporting and accountability structure to track tribal consultation and collaboration activities throughout the Department; participation in numerous consultation activities throughout the Department; and launch of regional consultative venues to more fully engage tribal leadership in consultation and collaborative activities.

OFFICE OF THE CHIEF ECONOMIST

Question. One of the functions of the Chief Economist relates to the work of the Climate Change Program Office (CCPO), which coordinates the Department's climate change activities and generally represents the Department on issues and policies relating to this phenomenon. Since agricultural production is extremely sensitive to changes in weather patterns and the consequences of extreme weather events, please describe ongoing efforts of CCPO and policy implications of the Department that work to achieve protection to American producers and agricultural production around the world.

Answer. The Climate Change Program Office (CCPO) within the Office of the Chief Economist (OCE) provides syntheses and assessment of the implications of climate change on agricultural and forested systems. In 2008, OCE released The Effects of Climate Change on Agriculture, Land Resources, Water Resources, and Biodiversity. Since then, OCE has followed up with shorter reports and brochures designed to make this information available to farmers, ranchers, forest land owners, and the general public. OCE/CCPO has responsibilities for coordinating the Department's research program on climate change to ensure that the Department's research is providing answers to the most pressing questions related to climate change and is leading efforts to develop a USDA Strategic Plan for Climate Change Research. A goal will be to provide credible, validated, and effective climate change science and technology and to make this information easily available to internal and external USDA customers and stakeholders on scales relevant to decisionmaking.

Question. Were there any outcomes of the Climate Change Summit 2009 in Copenhagen, or other national or international meetings in the past year, that have affected the operations of CCPO or the Department?

Answer. Several meetings on climate change in 2009 will affect the work of CCPO and the Department. The 15th Conference of the Parties (COP 15) to the Framework Convention on Climate Change produced a new international agreement—the Copenhagen Accord. Under this Accord, the United States has pledged to reduce greenhouse gas emissions by 17 percent from 2005 levels by 2020—contingent on domestic legislation. In addition, a series of preparatory meetings were held in 2009 prior to COP 15. These included meetings in Bonn, Bangkok, and Barcelona.

Land use issues for developed and developing countries were central to these negotiations. CCPO led USDA's involvement in the negotiations and ensured that USDA technical expertise were applied to the issues of: how to address emissions from deforestation and forest degradation in developing countries, how to include

agricultural mitigation opportunities in new agreements or arrangements, and how to account for forest carbon in reporting systems.

At COP–15, USDA made a series of announcements related to climate change actions domestically and internationally, including the Global Research Alliance on Agricultural Greenhouse Gases and a Memorandum of Understanding with the Innovation Center for U.S. Dairy to work together to reach a 25 percent reduction in greenhouse gas emissions while benefiting dairy farmers.

OFFICE OF BUDGET AND PROGRAM ANALYSIS

Question. For many years, this subcommittee has enjoyed an excellent working relationship with the Office of Budget and Program Analysis (OBPA) that in our view has been mutually beneficial to both the Congress and the Department. Last year, a reorganization of the Department occurred in which the status of OBPA was apparently reduced and the agency placed under the Assistant Secretary for Administration. The Committee continues to be concerned that many of the functions of OBPA that have been instrumental over the years for sound and useful exchanges of information between the Committee and the Department have lost, to a degree at least, their vitality and depth of purpose. Are all reports requested in appropriations acts or reports being coordinated and reviewed by OBPA, and if not, please explain.

Answer. OBPA continues to review all reports requested in the Appropriations Acts.

Question. Please identify any categories of information or policy recommendations that are not being reviewed by OBPA that were prior to the reorganization.

Answer. Under the delegations of authority OBPA is assigned responsibility for a range of budget, legislative and regulatory analysis, process and reporting functions. These delegations of authority have not been changed as part of the Departmental Management reorganization.

Question. Please identify Departmental positions that have management authority over OBPA who did not have such authority prior to the reorganization.

Answer. Since the reorganization, the Assistant Secretary for Administration and the Chief Financial Officer has management authority over OBPA.

OFFICE OF ADVOCACY AND OUTREACH

Question. The Budget proposes a substantial increase in funding for the Office of Advocacy and Outreach, from the fiscal year 2010 enacted level of $1,700,000 to $7,009,000 for fiscal year 2011. Of this increase, $4,000,000 is a transfer from the Rural Housing Service account for carrying out a Farm Worker Program. Please describe the activities and accomplishments of the Farm Worker Program in fiscal year 2010.

Answer. The budget request is a $1.3 million increase for the Office of Advocacy and Outreach. Four million dollars is provided through RHS in 2010 for the 14204 program to fund farm worker job stability, safety and training demonstration projects. This funding will be used to assist agricultural employers and farmworkers by improving the supply, stability, safety, and training the of agricultural labor force. USDA plans to assist with: agricultural labor skills development; the provision of agricultural labor market information; transportation; short-term housing; workplace literacy; health and safety instructions; and other supportive services.

An interim Farm Worker Program Leader has been assigned to the position while the selection for a permanent Supervisory Leader is underway. The interim leader has developed a plan of operations for the program within the Office of Advocacy and Outreach. The program leader is working on emergency assistance for farm workers in the devastated Florida freeze zone, meeting with Farm Worker organizations and Faith Based Organizations to discuss potential USDA assistance, and developing a Federal Emergency Humanitarian Farm Worker Aid Plan. The Farm Worker Program Leader chairs the Farm Worker subcommittee of the USDA Deputy Secretary Know Your Farmer, Know Your Food initiative.

Other activities of the Farm Worker Program scheduled for 2010 include: administer funding as available of section 2281 of the Food, Agriculture, Conservation, and Trade Act of 1990, low-income and migrant seasonal farm worker funding; work with USDA, Federal, State, local agencies, as well as, Faith Based Organizations, Farm Workers Organizations and other CBO's to provide emergency humanitarian aid to Farm Workers in disaster areas; maintain external communication with CBO's, Farm Worker Organizations, Faith Based Organizations, educational institutions and others to keep abreast of emerging topics, trends, and community needs to assist in appropriate USDA response to Farm Worker issues; and provide internal leadership and council to USDA agencies on Farm Worker issues, as well as,

compare community needs with USDA programs and make recommendations for program modifications or development.

Question. To what extent does the Farm Worker Program duplicate the mission of NIFA extension and education programs?

Answer. The Farm Worker Coordination Program was established to meet the needs of the farm workers that are not currently being addressed in USDA and to better coordinate existing USDA programs and activities to assist this community. NIFA Extension is managed by individual State educational institutions which are not always consistent nationwide in addressing the needs of farm workers. The Farm Worker Coordination Program will provide leadership to USDA agencies and others to provide consistency in program delivery. The program will also provide leadership in the modification of existing programs and development of new programs that benefit Farm Workers, especially those that assist farm workers to become farm operators or owners. This program will work in conjunction with NIFA Extension as well as all the other USDA agencies.

Question. To what extent has the centralization of program outreach activities for various USDA agencies into the consolidated Office of Advocacy and Outreach resulted in savings in the appropriations accounts of the affected agencies? Will the requested increase in funding for this Office result in even further savings in fiscal year 2011?

Answer. The program outreach activities of USDA agencies have not been centralized in the Office of Advocacy and Outreach (OAO). Congress established the OAO in the Food, Conservation and Energy Act of 2008 and established duties which included establishing and monitoring goals and objectives of the Department to increase participation in programs by small, beginning, or socially disadvantaged farmers and ranchers; assessing effectiveness of Departmental outreach programs; developing and implementing a plan to coordinate outreach activities; providing input on agency programmatic and policy decisions; measuring outcomes of programs and activities of the Department on small farms and ranches, beginning farmers and ranchers, and socially disadvantaged farmers and ranchers; and recommending new initiatives to the Secretary. As a result of these activities, USDA anticipates more effective, coordinated and focused outreach across the USDA agencies, who will continue to maintain their own outreach programs. The 2008 Act also transferred several USDA programs residing in other agencies to OAO, which has already begun efforts to increase access and utility of these programs to small, beginning, and socially disadvantaged farmers and ranchers.

OFFICE OF THE CHIEF INFORMATION OFFICER BUDGET

Question. In fiscal year 2010, an increase of nearly $44,000,000 was provided to the Office of the Chief Information Officer for IT security upgrades. In view of recent breaches of USDA IT information systems, the Congress believed this investment was necessary to protect the integrity of Departmental security. Please describe how these funds have been used.

Answer. The fiscal year 2010 Appropriation for the United States Department of Agriculture (USDA) Office of the Chief Information Officer (OCIO) included nearly $44,000,000 in new funding to support our strategy to improve information technology security. The increase in funding is being used in support of the following three initiatives:

—Nearly $17.2 million to Conduct Network Security Assessments to analyze the state of USDA's network to identify vulnerabilities;

—Nearly $14.3 million to Procure and Deploy Tools for enhanced monitoring and detection; and

—Nearly $12.3 million to establish an Agriculture Security Operations Center to monitor and protect USDA's systems.

A summary of activities through early February, 2010, addressing each of the three initiatives in turn, is provided below for the record.

[The information follows:]

Conduct Network Security Assessments.—The purpose of this initiative is to gain a comprehensive understanding of how USDA computers and networking equipment are interconnected and the existing vulnerabilities of that equipment. Nearly $17 million has been allocated for this initiative. The following paragraphs provide an overview of key projects.

The Vulnerability Assessment project is underway. We shall complete 11 assessments by the end of fiscal year 2010. Currently, we have completed assessments of three USDA agencies and staff offices: the Foreign Agriculture Service (FAS), Washington Communications and Telecommunications Services (WCTS), and the National Information Technology Center (NITC). An assessment of the Food Safety and In-

spection Service (FSIS) is currently under way and one for the International Technology Services (ITS) is ramping up. The 11 assessments represent USDA networks carrying 80 percent or more of the Department's total network traffic. We are documenting the methods and tools involved to create a repeatable process that we can apply regularly to ensure our knowledge remains current and improve our internal processes.

The Network Modeling and Performance project is in acquisition phase. We plan to complete implementation of the project in the 4th quarter fiscal year 2010. Once completed, we shall have a comprehensive network inventory, including diagrams showing the interconnections. This shall help identify the most economical and effective placement of security devices to protect data connections within and external to USDA networks. With these devices we can identify and analyze patterns at key points in the network to thwart attacks and prevent data leakage.

The Security Management Sensors and Console project is in acquisition phase. We have identified our core requirements and are in the process of selecting suitable vendors to install the sensors and console. We shall have our security management sensors deployed to 12 locations within USDA to protect network traffic. We plan to complete the acquisition and begin implementation in the 4th quarter fiscal year 2010 and complete implementation in the 1st quarter fiscal year 2011. Collectively the sensors will analyze and protect our networks from vulnerabilities and report centrally to a management console at the Agriculture Security Operations Center.

Procure and Deploy Security Tools.—Acquiring and deploying a number of security tools will help us defend against exploits of vulnerabilities as well as maintain a near real-time understanding of the health our networks and the devices attached to them. Nearly $14 million has been allocated for this initiative. The following paragraphs provide an overview of key projects.

The Endpoint Security project is in the operations phase. This project installs a piece of software on each end user desktop, laptop and server within USDA. It allows us to examine reports centrally, and, ultimately, manage end user computers connected to our networks. As of the first part of February 2010, we have installed the software on over 70,000 devices; the remaining devices will be completed in the 3rd quarter of fiscal year 2010. Currently, the software where deployed allows us to identify the status of patching and compliance with the Federal Desktop Core Configuration. We have been using the data to identify commercial software vulnerabilities and plan the remediation efforts.

Our Whole Disk Encryption (WDE) project is in the operations phase. Full implementation is expected by 4th quarter fiscal year 2010. By encrypting the entire hard drive we nearly eliminate the possibility that unauthorized users will gain access to sensitive government information from lost or stolen equipment. As of the first part of February 2010, we have installed WDE on over 36,000 laptops. WDE is fully implemented on laptops across 18 agencies and staff offices. We are continuing our efforts to implement WDE across the remaining agencies and staff offices.

The Email Security project is in the acquisition phase. This project enhances our Enterprise Mail Solution to increase our capacity so that we can inspect all email passing through our email gateway to allow for a broader protection against data loss and malicious attachments. When completed, we will have a capability to classify data across departmental systems based on key indicators or data patterns. The Email Security project will be operational in the 3rd quarter fiscal year 2010.

The ASOC Information Technology Service Management (ITSM) project is in the development phase. ITSM will provide USDA with the capability to record IT security incidents Department-wide and enable a more robust analysis of incident trends and patterns. ASOC is modeling its ITSM after the one in use at the Department of Justice's Security Operations Center. ITSM will be operational in the 3rd quarter fiscal year 2010.

The Data Loss Prevention project is in the pilot phase. We are evaluating a number of commercial products to determine the best solution to preventing costly leaks of data to outside the USDA networks. Once completed, we shall analyze the results of the pilot to determine the most economical and effective way to acquire a solution that can be deployed across the entire USDA network. The pilot will be completed in 3rd quarter fiscal year 2010.

There are several other projects where we are in either the evaluation or acquisition phase regarding products to support functions such as computer forensics and file protection. These proactive measures shall reduce our exposure to vulnerabilities and provide a greater control of the health of our systems.

Establish the Security Operations Center.—The new Agriculture Security Operations Center (ASOC) is ramping up operations and has taken responsibility for the ongoing IT security operations functions of USDA. This fiscal year alone the ASOC has responded to 75 percent more incidents in the first 4 months as compared to

the same timeframe last fiscal year. This higher incident rate is an indication that USDA is evolving to a more mature and proactive stance regarding security monitoring and incident handling. Approximately $12 million has been allocated for this initiative.

We have completed the organizational design of the ASOC and have begun staffing its critical positions with talented Federal employees. In the meantime, we have obtained a number of contractor services to support our daily operations while we complete our staffing. The new organization is active in issuing guidance to our component agencies and staff offices to address their IT security needs in the face of increasing exposure to complex technologies and social networking. The ASOC is overseeing the execution of all the initiatives and projects listed above to ensure the citizens of the United States that waste and duplication are eliminated and that the results address the greatest risk to the security of Federal information assets entrusted to the care of the Department of Agriculture.

IT SECURITY RISKS

Question. To what extent have security risks been resolved and if any still exist, what plans do you have to resolve those problems?

Answer. New security risks are always appearing, and the methods to mitigate them entail balancing conflicting business requirements with resources which are not unlimited. The result always includes some residual risk and our challenge is to reduce that residual risk to an acceptable level. The USDA's strategy is to employ a risk management framework based on the guidance of the National Institute of Standards and Technology (NIST) in its Series 800 of Special Publications. We have established the ASOC to ensure operational security incidents are quickly identified and promptly remediated.

One principal source of risk to USDA IT assets is the difficulty in identifying and centrally reporting specific vulnerabilities which come from the misconfiguration and/or out-of-date software installed on our computers. Our Endpoint Protection solution readily identifies in near real-time specific devices which are out of date and allows us to bring these devices in compliance with the latest recommendations. The solution provides an infrastructure that allows us to extend the capabilities to accommodate future monitoring requirements.

An additional source of risk stems from the disparate environments housing our application servers. These environments are spread throughout the Nation, do not have uniform access controls (both logical and physical), nor uniform environmental controls, and hinder disaster recovery efforts. By consolidating our application servers into a small number of Enterprise Data Centers we greatly reduce the variation among environments and ensure that all USDA servers benefit from common security controls.

Another risk comes from multiple points of entry into the USDA network. USDA is following OMB guidelines and embracing the Trusted Internet Connection model; still, USDA has a significant portion of its workforce that is highly mobile, and connectivity for these workers ranges the full spectrum of broadband technologies. By consolidating the number and type of connections we limit the points of attack, and can consolidate our monitoring and mitigation efforts.

A final risk that merits mentioning is our overseas operations. Adequately securing overseas installations has been a continuing challenge for the USDA Foreign Agricultural Service (FAS). We are mitigating this risk by moving all FAS overseas end user support into the Department of State's OpenNet to take advantage of its existing security controls and experience with this operating environment. Simultaneously, we are consolidating their data operations into our Enterprise Data Center, to provide a more robust security infrastructure and operational model.

These examples highlight key operational risks to USDA. Identifying, evaluating and tracking these risks in the light of new guidance and internal reviews shall be the focus of our initiative to develop a Governance, Risk Management and Compliance System. This system will streamline the execution of USDA's risk management framework to ensure we continue to reduce the residual risk to an acceptable level.

E-GOVERNMENT INITIATIVES AND LINES OF BUSINESS

Question. USDA participates in 31 e-Government initiatives and Lines of Business. To what extent are USDA customers using the e-Government options open to them to inquire about USDA programs or to make application for assistance? What sort of growth rate has there been in such use among USDA customers over the last several years?

Answer. USDA participates in 31 e-Government initiatives and Lines of Business (LoBs). Seven of these initiatives and LoBs are customer-facing and provide measur-

able services that provide a means for the public to inquire about USDA programs or make applications for assistance. The remaining 24 initiatives and LOBs are internal facing and/or support other Federal agencies. A brief description of the services provided by each of the seven customer-facing initiatives is provided immediately below for the record.

[The information follows:]

BUSINESS GATEWAY

By creating access to consolidated compliance information, Business Gateway directly benefits USDA's "customers" (e.g., farm owners, food industries, and agricultural chemical producers), all of whom are subject to complex compliance requirements across multiple agencies.

The Business Gateway initiative comprises two Web sites: Business.gov and Forms.gov. USDA posts agency forms on Forms.gov so customers do not have to search multiple Web sites to find forms they need to apply for government assistance. Links to program-related Web pages are posted on Business.gov to allow customers to search for information on government programs from a central location. Customers find a synopsis of programs on Business.gov and are able to "click-through" to USDA Web pages to find more information if they desire. A summary of customer activity on these Web sites for fiscal years 2008 through the present is provided in the table below.

Fiscal year	Number of USDA forms available	Number of times forms were accessed	Number of customer click-throughs
2008	563	268,496	12,643
2009	546	407,801	13,612
2010 (to date)	546	249,320	6,924

E-AUTHENTICATION

E-authentication is a public-private partnership that enables citizens, businesses, and government employees to access online government services using credentials issued by trusted third-parties, both within and outside the government.

The e-authentication initiative provides a single, centralized authentication service for Web-based applications across USDA, serving USDA employees and customers as well as other Federal agencies. USDA's e-authentication service represents USDA's implementation of the E-Authentication Presidential Initiative.

The number of applications protected by USDA's e-authentication service and the number of users who own an e-authentication credential grows each year. USDA employees and customers use this service to authenticate themselves by entering a user name and password. Once a user is authenticated, he or she is authorized to access multiple individual applications protected by the service. A summary of USDA's use of the e-authentication service is provided in the table below.

Fiscal year	Number of Web applications protected	Average number of active users [1] (per month)	Average number of authentications [1] (per month)	Average number of authorizations [1] (per month)
2007	256	−268,000	−1,648,000	−6,398,800
2008	289	−310,000	−1,828,000	−7,096,800
2009	335	−350,000	−2,129,000	−7,167,000
2010 (to date)	365	−435,000	−2,143,000	−7,182,400

[1] Includes USDA employee and customer accounts.

E-RULEMAKING

USDA's 14 rule-making agencies completed migration to the Federal Docket Management System (FDMS) on December 8, 2006. As a result, all USDA Federal Register rules, proposed rules, and notices are available for public comment on e-rulemaking's Regulations.gov. This initiative increases the transparency of USDA's rulemaking process. A summary of the rules and proposed rules made posted by USDA to Regulations.gov and the number of comments received from the public in response from calendar year 2007 to the present is provided in the table below.

Calendar year	Number of rules and proposed rules posted by USDA	Number of notice documents posted by USDA	Number of public comments received
2007	300	843	7,133
2008	317	868	13,272
2009	339	915	28,986
2010 (to date)	115	332	24,791

E-TRAINING

AgLearn is USDA's implementation of the E-Training Presidential Initiative. E-training and AgLearn provide a single, USDA-wide learning management system that replaces seven legacy, agency-specific systems and widespread manual tracking of training. USDA employees are the primary users of AgLearn, but the resource is also available to select customers and contractors. A summary of USDA's use of AgLearn is provided in the table below.

Fiscal year	Number of active users (employees and customers)	Number of active courses available	Number of different courses completed by at least one user	Total course completions by all users
2008	131,247	11,216	3,614	[1] 900,935
2009	134,957	14,423	5,684	778,564
2010 (to date) [2]	120,030	14,552	4,295	323,994

[1] Information Security Awareness and Privacy courses were separate. These were merged for 2009 and forward.
[2] Through February 2010.

In addition to the metrics presented above, USDA also uses AgLearn to deliver mandatory annual civil rights and cyber security training. AgLearn is USDA's official system of record for processing Standard Form (SF) 182, which allows USDA to track training requests and associated costs. In an average month in fiscal year 2009, nearly 2,000 SF–182 forms were processed using AgLearn. This represents an increase of 100 percent over fiscal year 2008.

GOVBENEFITS.GOV

GovBenefits.gov provides a self-service tool for citizens to get information about agency benefit programs, which reduces the need for traditional channels such as call centers and mail. Citizens are able to search for program descriptions on GovBenefits and follow links to USDA Web pages where they can gather more information. The table below provides a summary of the number of USDA benefits programs listed on GovBenefits.gov, the number of times citizens viewed those benefits descriptions, and the number of referrals to USDA Web pages that resulted.

Fiscal year	Number of USDA benefits programs on GovBenefits	Number of page views	Number of referrals to USDA Web pages
2008	34	650,000	109,000
2009	34	1,198,321	360,275
2010 (to date)	34	330,128	100,422

GRANTS.GOV

Grants.gov provides a single location to publish grant (funding) opportunities and application packages, and provides a single site for the grants community to apply for grants using common forms, processes, and systems. Since May 2006, USDA has offered the option to apply electronically to 100 percent of its discretionary grants and cooperative agreements to applicants through the Web site. The number of unique grant opportunities posted by USDA varies by year, but customer usage (submission of electronic applications) has increased each year. The table below demonstrates this increase in usage from fiscal year 2007 through the present.

Fiscal year	Number of grant opportunities posted	Number of electronic submissions received
2007	144	6,614

Fiscal year	Number of grant opportunities posted	Number of electronic submissions received
2008	143	7,821
2009	136	10,786
2010 (to date)	18	2,303

RECREATION ONE-STOP

Recreation One-Stop consolidates information about Federal recreation areas from disparate sources (databases, Web sites, and publications) by standardizing data and interfacing recreation-related computer systems. The initiative provides information for planning visits to Federal recreation sites and making campground/tour reservations through a customer friendly recreation portal (Recreation.gov).

The National Recreation Reservation Service gives the public a customer-friendly recreation portal (www.recreation.gov) with information for planning visits to thousands of Federal recreation sites.

Information related to the public's use of the Recreation.gov Web site was requested from the Managing Partner, Department of the Interior. As of this response no statistic information has been received from the Managing Partner.

GAO GREENBOOK REPORT

Question. What has the Department done to comply with the recommendations included in the October, 2009, GAO report?

Answer. The Greenbook Departmental Reimbursable Programs are operated for the general benefit of the Department and its agencies. The centralization of these programs avoids the duplication of efforts and costs that would otherwise be incurred if each of the USDA agencies tried to address these program needs on their own. As noted in USDA's comments on the GAO report, the Department has already taken steps to document and provide a more formal process for the annual budget review. USDA issued formal budget requirements for the fiscal year 2011 Greenbook budget. The fiscal year 2011 Greenbook budget guidance provided specific requirements for performance measures and analysis of benefits of Greenbook activities. Based on the budget submissions, this is an area that will be developed more fully to measure the value of the individual activities to USDA and its agencies and Staff Offices.

In 2009 an interagency review board was formed. The Deputy Assistant Secretary for Administration Management chaired the board. Consisting of representatives appointed by seven USDA mission area Under Secretaries, the board was charged with reviewing the fiscal year 2011 budgets for the Greenbook reimbursable activities. Board members held a series of budget review meetings, in which reimbursable program managers presented their budget requests and responded to questions from board members. The board completed its review and submitted its recommendations via the Chief Financial Officer to the Assistant Secretary for Administration for use in making the final funding decisions.

The Department plans to continue building on the progress that was made in 2009 in developing the Greenbook budgets. While working with its agencies, USDA will issue guidelines for decision-making related to activities added to or removed from the Greenbook. These guidelines will strengthen the oversight of the activities and require that decisions made during the budget process are documented.

OFFICE OF CIVIL RIGHTS

Question. The Budget proposes to relegate the Office of the Assistant Secretary for Civil Rights to be absorbed within the Office of Civil Rights, as was directed as part of last year's Department reorganization. Given the high profile cases of civil rights that are still pending and the stated intent of the Department to reverse any history of discrimination at USDA, why did the USDA take this action which will leave the perception that "civil rights" is now being relegated to a position of lesser rank than the other Sub-Cabinet posts?

Answer. As part of the reorganization of the staff offices and administrative services of the Department, numerous functions have been consolidated under the Assistant Secretary for Administration in an effort to improve the effectiveness and efficiency of the Department.

The Office of the Assistant Secretary for Civil Rights has been realigned into Departmental Management in order to enhance civil rights leadership to USDA employees, applicants and customers and to provide more effective enforcement of civil rights programs. Including the Office of the Assistant Secretary for Civil Rights in

the new Departmental Management will also improve necessary focus, communication, and coordination with the new Office of Advocacy and Outreach and the Office of Human Resource Management.

PENDING CIVIL RIGHTS CASES

Question. Please provide information regarding the status of pending civil rights claims including the number of cases pending during the past two fiscal years, the number that have been closed during that period, and the number of new cases filed. Also, please indicate the Department's ability to manage and reduce the number of pending cases during fiscal year 2011.

Answer. During fiscal year 2008, 1,264 new civil rights program claims were filed and 1,621 program claims were closed. As of September 30, 2008, the Office of the Assistant Secretary for Civil Rights (OASCR) had a pending inventory of 806 program claims. During fiscal year 2009, 1,326 program claims were filed with OASCR and 1,079 program claims were closed, for a final inventory of 1,053 program claims.

The Department has the ability to reduce the number of pending cases during fiscal year 2011. The OASCR's Programs Directorate has been staffed to manage the complaints that are less than 2 years old. The Civil Rights Program Complaints Task Force manages the inventory of complaints that are more than 2 years old. Under the reorganization, a Program Adjudication Division was formed and staffed with seven adjudicators; plans include hiring three more adjudicators. In addition, the Program Investigation Division staff has been increased from 5 to 15 investigators.

Question. Please distinguish the status and categorization of the claims under *Pigford II, Garcia, Keepseagle,* and *Love* petitions.

Answer. While there are distinctions in the legal posture of the large civil rights cases, the Department remains committed to resolving each of these important cases. The Justice Department has reached out to the plaintiffs in cases all of these cases regarding discussions towards a meaningful settlement process. The Secretary has repeatedly made clear that he is committed to resolving all of the large civil rights cases quickly and fairly as he believes it is time to move past this sad chapter of USDA's history so that USDA can focus on helping all farmers be successful.

In Re Black Farmers Discrimination Litigation (Pigford II) is a collection of cases that were filed in the United States District Court for the District of Columbia by African American farmers or African Americans who allegedly attempted to farm pursuant to section 14012 of the 2008 farm bill. A settlement agreement was signed by the parties on February 18, 2010. The plaintiffs will file a motion for preliminary approval of the settlement agreement within the next 15–18 days. Also, funding for $1.15 billion needs to be secured.

Marilyn Keepseagle, et al. v. *Tom Vilsack*, is pending in the U.S. District Court for the District of Columbia. To date, a class has been certified for injunctive relief. Discovery has been completed and there are several motions pending including a motion for class certification for economic damages. The litigation has been stayed pending settlement discussions between the parties. *Guadalupe Garcia, et al.* v. *Tom Vilsack*, and *Rosemary Love, et al.* v. *Tom Vilsack*, are also pending in the U.S. District Court for the District of Columbia. Attempts to certify these cases as class actions have been rejected by the courts including a recent denial of a *writ of certiorari* by the U.S. Supreme Court. The district court has stayed litigation pending settlement discussions between the parties.

Question. In addition to the claims that are part of the *Pigford II* category, there are a number of similar claims by African American farmers (the so-called "non-Pigford" claims) that are not part of the negotiated settlement announced in February, 2010, but which still are requested some form of relief. Does the Department intend to pursue some settlement for these claims or support action by the Congress should legislation to provide relief move forward, or is it the opinion of the Department that these claims are without merit justifying further relief or settlement?

Answer. The Department intends to address the "non-Pigford" claims. The Department has identified hundreds of potentially meritorious claims involving actions for which the 2-year statute of limitations (SOL) under the Equal Credit Opportunity Act has expired. The Department has developed a plan to resolve the complaints should Congress pass legislation extending the SOL.

DEPARTMENTAL MANAGEMENT REORGANIZATION

Question. Last year, USDA executed a Departmental reorganization which, among other things, placed the Chief Information Officer (CIO) and the Chief Financial Officer (CFO) under the Office of the Assistant Secretary for Administration. Under current law, both the CIO and CFO are required to report directly to the Secretary

of Agriculture. How have you determined that the reorganization is in compliance with current law when it, in fact, relegated these two offices to positions where they would not report directly to the Secretary?

Answer. I charged the USDA staff offices with ensuring that all USDA mission areas are equipped to achieve optimal results in the most efficient and effective manner possible. By optimizing and streamlining the various operations, we can improve quality of services and communications, streamline processes and improve transparency to our customers. Ultimately, effective USDA management means effective results for taxpayers and the people USDA serves.

Prior to reorganization the USDA Office of General Counsel (OGC) reviewed the proposed reporting relationships. OGC stated that the Chief Financial Officers Act only requires that the CFO "report directly to the head of the agency regarding financial matters, not for all purposes." Accordingly, we believe that the requirements of the CFO Act may be met, consistent with the proposed organizational chart, as long as the CFO is given periodic opportunities to brief the Secretary on internal controls, budget execution and financial systems improvement projects. Similarly OGC stated that they find no legal impediment in the Clinger-Cohen act to having the CIO report to the Assistant Secretary for Administration, as long as he is given periodic opportunities to brief the Secretary directly on information resources management projects.

CONSOLIDATION OF GSA LEASED SPACE

Question. In fiscal year 2010, $6,342,000 was provided as one-time cost for consolidation of GSA leased space. Please provide the status of this consolidation.

Answer. GSA awarded the lease on behalf of USDA on November 12, 2009. The new leased facility, Patriots Plaza III, is located at 355 E St., SW, Washington, DC. This is a newly constructed building that requires build out and furnishing before USDA takes occupancy.

With GSA as the lead USDA is currently completing its final review of conceptual space plans and build out requirements. Final plans will be complete by the end of the 2nd quarter, fiscal year 2010. Final drawings for the space layout are expected to be complete by the 3rd quarter, fiscal year 2010. Build out of the space is expected to complete by the 2nd quarter, fiscal year 2011.

USDA plans to complete all moves to the new facility by the 3rd quarter, fiscal year 2011. This meets the time lines originally scheduled for the lease consolidation project.

GLOBAL RESEARCH ALLIANCE

Question. I understand the United States has been working with other members of the Food and Agriculture Organization to coordinate agricultural research through a so-called Global Research Alliance, with a focus on the needs in developing countries struggling to become food secure and to address the challenges of climate change. Please provide the status on the creation of this international collaboration on research, including the structure and governing principles of the research effort. Please identify the countries involved and those that have pledged financial support to carry out this initiative.

Answer. The Global Research Alliance (GRA) was proposed in September 2009, by New Zealand and has been under development in partnership with the United States and other countries since then. At the United Nations Climate Change Conference in Copenhagen in December 2009, 21 countries endorsed a joint Ministerial Statement on the Establishment of a GRA on Agricultural Greenhouse Gases. This statement notes the following points: Agriculture plays a vital role in food security, poverty reduction and sustainable development; the agricultural sector is particularly vulnerable to climate change impacts and faces challenges in meeting the world's increasing food demands; the agricultural sector contributes about 14 percent of global greenhouse gas emissions but has opportunities to contribute to emissions reductions and carbon sequestration; agriculture could reduce greenhouse gas emissions and increase carbon sequestration by improving agricultural systems' efficiency and productivity; and that underlining the need for food security, the GRA is established to help reduce greenhouse gas emissions intensity, increase soil carbon sequestration and contribute to overall mitigation. The statement further asserts that the GRA seeks to understand greenhouse gas emissions from agriculture, improve measurement and estimation of greenhouse gas emissions and carbon sequestration, develop ways to reduce emissions and increase carbon sequestration, mitigate greenhouse gases while sustaining or enhancing productivity and resilience as climate changes, transfer new knowledge and technology to farmers and land

managers worldwide, and build scientific capacity in developing countries via partnerships.

The structure and governing principles of the GRA are still not established and are currently under discussion among the member countries. On April 7–9, 2010, senior government officials representing countries that have endorsed the Copenhagen Ministerial Statement will meet in Wellington, New Zealand to create a roadmap to guide the first 12-month goals of this alliance, with specific objectives to agree on structure and governance principles, agree on principles for the functioning of scientific research groups, identify elements to go into a draft charter, and agree on future meetings. A government team with representatives from various USDA agencies is currently developing the U.S. position on issues to be discussed at the April meeting in New Zealand.

Countries that have endorsed the creation of the GRA are: Argentina, Australia, Canada, Chile, Colombia, Denmark, France, Germany, Ghana, India, Indonesia, Ireland, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Spain, Sweden, Switzerland, United Kingdom, United States, Uruguay, and Vietnam. Canada, New Zealand, and the United States have pledged financial support.

LEGISLATIVE AUTHORITY FOR ADMINISTRATIVE DATA PILOT PROJECT

Question. Does ERS currently have the legislative authority to undertake the proposed Administrative Data Pilot projects, in lieu of the legal obstacles that currently exist?

Answer. Yes, ERS has the legislative authority to undertake the proposed Administrative Data Pilot project. As a principal statistical Agency, ERS' mission includes the collection and analysis of a variety of data for statistical purposes. This pilot project is part of a cross-cutting initiative sponsored and developed by the Interagency Council on Statistical Policy (ICSP). [The ICSP is chaired by OMB's Chief Statistician and has the heads of the 13 principal statistical agencies as its members. The ICSP serves as an opportunity for information exchange between agencies and as a mechanism for agencies to participate in shared activities.]

The other lead agencies, with whom ERS has a tradition of partnering, are the U.S. Bureau of the Census (Census) and the National Center for Health Statistics (NCHS), who have explicit authorities to acquire and use administrative records for statistical purposes. ERS' contribution to this proposed partnership includes subject matter expertise, a strong connection to the research community whose expertise we likely will want to employ, and a strong connection to USDA policy agencies that would benefit from the substantive results of the project.

Question. Has ERS worked with other government agencies in preparation for the Administrative Data Pilot Projects to ensure, that if funded, there will be appropriate participation to determine their effectiveness?

Answer. This pilot is part of a cross-cutting initiative sponsored and developed by the Interagency Council on Statistical Policy (ICSP). ERS, the National Center for Health Statistics (NCHS), and Census will collaborate on the initiative. Census will develop the infrastructure for ERS to study the health and nutrition outcomes for low-income households participating in food assistance programs and for NCHS to examine the relationships between health, and Medicare and Medicaid enrollments. ERS is already collaborating with NCHS and the Census on other data-linkage activities.

Question. Is it anticipated that the main Federal agencies participating in the Administrative Data Pilot Projects will be USDA agencies? What other main Departments and Agencies are expected to participate?

Answer. Through collaboration with the Interagency Council on Statistical Policy (ICSP), of which the National Agricultural Statistical Service is also a member, the project will benefit the entire Federal statistical system by addressing some longstanding barriers to greater incorporation of administrative data in statistical programs. Another USDA agency that will likely participate in the proposed project is the Food and Nutrition Service, which administers USDA's domestic nutrition assistance programs and through which administrative data would be solicited.

FUNDING FOR THE STATISTICAL COMMUNITY OF PRACTICE (SCOP) INITIATIVE

Question. How was the funding request level determined for the Statistical Community of Practice (SCOP) proposal?

Answer. SCOP is one of two cross-cutting initiatives in the President's fiscal year 2011 budget to support the Federal statistical system. These costs were based upon current costs for similar activities that are ongoing in individual statistical agencies. The funding request represents the combined costs of staffing a SCOP project management office at ERS that will be responsible for providing statistical system-wide

support to build a platform to pilot cloud access to publicly available data, acquire software for interagency group purchases, support and manage the individual SCOP projects, and manage and maintain FEDSTATS, the dissemination platform for SCOP. Each individual SCOP project will be led by a representative from one of the Federal statistical agencies and staffed by representatives from other interested agencies. Those agencies will contribute financially if there are costs specific to the project (e.g., the purchase of software). However, there will be the need for support for background research and in some cases for the evaluation of existing software and the adaptation or development of new software to meet the needs of specific aspects of data collection, processing, and/or dissemination. The goal is to identify and/or develop Government-owned solutions that can be shared across the Federal statistical system, resulting in cost savings, process efficiencies and improvements across the survey life cycle.

Question. Since the SCOP will be voluntary and self-selected, how will ERS recruit participants?

Answer. Since the initiative is the product of work sponsored by the Interagency Council on Statistical Policy (ICSP), the initial participants will come from that community. The ICSP is chaired by OMB's Chief Statistician and includes the heads of 13 principal statistical agencies. The ICSP sponsors information exchange among the agencies and serves as a mechanism for the agencies to participate in shared activities. Members of the SCOP task force have met several times during the development of SCOP to brief the ICSP members on progress, to receive feedback from them, and to request formal participation from interested agencies. The ICSP is expected to serve as the Governing Board for SCOP. A number of the specific projects proposed for SCOP were a direct result of a strategic planning activity conducted by the ICSP. In addition, statistical data quality expertise will be channeled through SCOP to support the Data.gov effort within OMB. All statistical agencies will share in the benefits of SCOP project deliverables, e.g., analytical software tools.

Question. Are there other statistical agencies within the government participating in this effort? If so, is ERS the lead agency?

Answer. Under the guidance of the Interagency Council on Statistical Policy (ICSP), the ERS CIO has been working with an interagency task force that includes representatives from the OMB Statistical and Science Policy Office and 9 of the 12 other principal Federal statistical agencies. These include the Bureau of Economic Analysis, the Bureau of Justice Statistics, the Bureau of Labor Statistics, the Census Bureau, the Energy Information Administration, the National Agricultural Statistics Service (NASS), the National Center for Education Statistics (NCES), the National Center for Health Statistics (NCHS), and the Statistics of Income Division at IRS. The ERS CIO is the project lead; as such he has also met with senior staff in the OMB E-gov program to ensure that the required documentation is available for SCOP to acquire E-gov recognition as a recognized Line of Business. Five statistical agencies have officially signed on to be active participants in SCOP (Census, ERS, NASS, NCES and NCHS); based on feedback from other agencies, we fully expect the list to grow.

DURATION OF THE NATIONAL HOUSEHOLD FOOD PURCHASE AND ACQUISITION SURVEY

Question. How long is it anticipated that the National Household Food Purchase and Acquisition Survey will take to complete?

Answer. The National Household Food Purchase and Acquisition Survey (FoodAPS) is being planned and executed over several years. The contract to carry out a pilot survey was awarded in September 2009. A full scale survey would be carried out over fiscal year 2011 and 2012. Resultant data will be used to understand the determinants of food purchases and acquisitions. The proposed Community Access to Local Foods Initiative will build on this data collection effort to fund data development and to provide staff to carry out research and evaluation using the data. The initiative supports research to understand how the local food environment influences acquisitions of healthy food in low-income households. It will provide the baseline for monitoring the outcomes of policies and programs such as the Healthy Food Financing Initiative.

Question. Is this survey anticipated to be a one-time event, or something that will be continually updated?

Answer. The FoodAPS survey will be a recurring data investment. Currently, the Federal Statistical Agencies do not collect detailed price and quantity for food purchases and acquisitions. This survey is designed to address that gap. The initiative will also support on-going research on Community Access.

Question. Will the funding request fully fund the survey, or will there be additional dollars required in future years?

Answer. The initiative should not require increased levels of annual funding over the foreseeable future.

NATIONAL AGRICULTURAL STATISTICS SERVICE

Question. Will the NASS annual county estimates program funding increase be used at all to fund third-party work, for example, to continue State or local cooperative agreements?

Answer. A vast majority of the funding will be used to fully implement a probability based survey design, for improved data collection follow-up. This data collection is conducted through an agreement with the National Association of State Departments of Agriculture (NASDA). NASDA employs over 3,000 local interviewers who collect virtually all of the data used for NASS estimates.

Question. How long will it take NASS to develop the rotational organic agriculture data series, if funding is provided?

Answer. The requested funding would allow NASS to implement a 3-year rotational organic agriculture data series. Planning and preparation of the survey would take place the first year; the data would be collected in the second year; and analysis and publication would be done in the third year.

Question. How much funding at NASS is currently being used to gather data on organic agriculture?

Answer. The 2008 farm bill provided $1 million in mandatory funding, and provided the basis for the initial 2008 Organic Production Survey, which was conducted in fiscal year 2009. An additional $250,000 was appropriated in fiscal year 2010 to aid in completing analysis and publication of this new data series. The additional request in fiscal year 2011 will provide a total of $750,000 annually for organic agriculture statistics and allow NASS to conduct an organic agriculture survey on a 3-year cycle.

Question. If the TOTAL survey has been inactive since 1998, but funds have remained in the budget to fund it, as evidenced by their proposed elimination this year, what has NASS been doing with these funds?

Answer. The TOTAL survey is funded under the Census of Agriculture. This is a cyclical funding source which varies by year and only includes the necessary appropriations to complete the cyclical activities for that fiscal year. The cyclical activities include such items as the planning, conducting, analysis, and summary of the quinquennial Census of Agriculture and associated follow-on studies. The $4.0 million reduction in fiscal year 2011 are the funds that would have been used to conduct the TOTAL survey.

Question. What effect will the elimination of any activities described above have on NASS?

Answer. A comprehensive review was completed to determine the priority of each survey within the overall existing program. Eliminated programs were identified as lower priority items which could offset requested funding in support of higher priority administration goals.

CONGRESSIONALLY DIRECTED SPENDING

Question. Please provide a list of all congressionally directed spending in fiscal year 2010, including gross to location and net to location. Please provide detailed information on how any funding beyond a 10 percent difference was used, by project.

Answer. There are no funding differences beyond 10 percent. The information is submitted for the record.

[The information follows:]

Congressionally directed project	Gross amount	NTL amount
Animal Vaccines, Greenport, NY	$1,518,000	$1,366,200
Aquaculture Fisheries Center, Stuttgart, AR	519,000	467,100
Aquaculture Initiatives, Harbor Branch Oceanographic Institute, Stuttgart, AR	1,597,000	1,437,300
Arthropod-Borne Animal Diseases Research Laboratory, Manhattan, KS	1,500,000	1,350,000
Biomass Crop Production, Brookings, SD	1,250,000	1,125,000
Biomedical Materials in Plants, Beltsville, MD	1,700,000	1,530,000
Bioremediation Research, Beltsville, MD	111,000	99,900
Biotechnology Research and Development Center, Headquarters	3,500,000	3,150,000
Catfish Genome, Auburn, AL	819,000	737,100
Center for Agroforestry, Booneville, AR	660,000	594,000
Cereal Disease, St. Paul, MN	290,000	261,000
Computer Vision Engineer, Kearneysville, WV	400,000	360,000
Crop Production and Food Processing, Peoria, IL	786,000	707,400

Congressionally directed project	Gross amount	NTL amount
Dairy Forage Research Center, Madison, WI	2,500,000	2,250,000
Dale Bumpers Small Farms Research Center, Booneville, AR	1,805,000	1,624,500
Diet Nutrition and Obesity Research, New Orleans, LA	623,000	560,700
Endophyte Research, Booneville, AR	994,000	894,600
Forage Crop Stress Tolerance and Virus Disease Management, Prosser, WA	200,000	180,000
Formosan Subterranean Termites Research, New Orleans, LA	3,490,000	3,217,590
Foundry Sand By-Products Utilization, Beltsville, MD	638,000	574,200
Human Nutrition Research, Boston, MA	350,000	315,000
Human Nutrition Research, Houston, TX	300,000	270,000
Improved Crop Production Practices, Auburn, AL	1,293,000	1,163,700
Livestock-Crop Rotation Management, University Park, PA	349,000	314,100
Lyme Disease, 4 Poster Project, Headquarters	700,000	630,000
Medicinal and Bioactive Crops, Washington, DC	111,000	99,900
Mosquito Trapping Research/West Nile Virus, Gainesville, FL	1,454,000	1,308,600
National Bio and Agro Defense Facility, Manhattan, KS	1,500,000	1,350,000
National Center for Agricultural Law, Beltsville, MD (NAL)	654,000	588,600
National Corn to Ethanol Research Pilot Plant, Headquarters	360,000	324,000
North Carolina Human Nutrition Center, Headquarters	1,000,000	900,000
Northern Great Plains Research Laboratory, Mandan, ND	543,000	488,700
Northwest Center for Small Fruits, Headquarters	275,000	247,500
Pacific Basin Agricultural Research Center Staffing, Hilo, HI	700,000	630,000
Phytoestrogen Research, New Orleans, LA	1,750,000	1,575,000
Potato Diseases, Beltsville, MD	61,000	54,900
Poultry Diseases, Beltsville, MD	408,000	367,200
Seismic & Acoustic Technologies in Soils Sedimentation Laboratory, Oxford, MS	332,000	298,800
Sorghum Research, Little Rock, AR	135,000	121,500
Soybean Genomics, St. Paul, MN	200,000	180,000
Subtropical Beef Germplasm, Brooksville, FL	1,033,000	929,700
Termite Species in Hawaii, New Orleans, LA	200,000	180,000
Tropical Aquaculture Feeds, Oceanic Institute, Hilo, HI	1,438,000	1,294,200
Water Management Research Laboratory, Brawley, CA	340,000	306,000
Water Use Reduction, Dawson, GA	1,200,000	1,080,000
Wild Rice, St. Paul, MN	303,000	272,700

GREENBOOK CHARGES

Question. Please provide a list of all Greenbook charges assessed to ARS during fiscal years 2009 and 2010. From where did the funding come to pay for these charges?

Answer. These costs are funded from a 10 percent indirect cost assessment to cover administrative and program management costs associated with conducting nationwide research programs and funds set aside from lapsed salaries within the agency. The final determination of the Greenbook charges for fiscal year 2010 has not been completed. The fiscal year 2009 information is submitted for the record.

[The information follows:]

ARS FISCAL YEAR 2009 GREENBOOK

Agency programs	Amount funded
U.S. Postal Service Mail Postal Code P005	$255,000
Unemployment Compensation [1]	427,000
Workers Compensation [1]	3,592,506
Transit Subsidy	430,204
National Archives Records System	78,521
GSA HSPD–12 Lincpass Maintenance	142,088
OPM Federal Employment and Administrative Law Judges Service	41,793
Consolidated Fed Funds Report and Fed Audit Clearinghouse	11,520
Small Business Certification	1,505
FEMA Emergency Preparedness	19,087
Government-wide Council Activities	43,137
Flexible Spending Accounts FSAFEDS	158,599
E-Gov Initiatives	585,438
USDA Tribal Liaison	915
Advisory Committee Liaison Services	15,919
Faith-Based Initiatives & Neighborhood Partnerships	22,126

ARS FISCAL YEAR 2009 GREENBOOK—Continued

Agency programs	Amount funded
Hispanic-Serving Institutions National Program	118,168
1890 USDA Initiatives	198,721
USDA 1994 Program	47,529
Diversity Council	42,039
Visitors Center	21,962
Honor Awards	6,556
TARGET Center	75,965
Drug Testing Program	1,900
Sign Language Interpreter Services	18,930
Sign Language Interpreter Agency Specific Service [1]	43,616
Emergency Operations Center	180,693
Labor and Employee Relations Case Tracking and Reporting System	5,900
Continuity of Operations Planning	149,144
Personnel and Document Security	143,347
Federal Biobased Products Preferred Procurement Program	28,681
Radiation Safety [1]	624,704
Retirement Processor Web Application	27,698
Preauthorized Funding	213,062
Financial Management Improvement Initiative	250,660
E-Gov Initiatives—HSPD12	1,047,528
E-Gov Initiatives—Content Management	75,198
Enterprise Network Messaging	345,827
USDA Enterprise Contingency Planning Program	44,116
USDA IT Infrastructure Security	150,396
E-Gov Enablers-Cyber Security	79,860
Total	$9,767,558

[1] Cost centers assessed based on actual usage.

ARS ADMINISTRATIVE COSTS

Question. Has ARS considered the possibility of including a general fund to pay for all administrative costs and estimated Greenbook charges? If not, what concerns would ARS have with such a proposal?

Answer. No, ARS has not considered the possibility of including a general fund for all administrative and program management costs and estimated Greenbook and Working Capital charges. ARS assesses 10 percent on any program increases appropriated to the agency to finance administrative and program management costs associated with conducting nationwide research programs. This way of budgeting accounts for the full cost of running the program, ensuring transparency and accountability. In addition to diminishing full cost account and transparency, a centralized administrative expenses account may not accurately reflect the cost of administering the program. Costs associated with the Greenbook and Working Capital Fund are not finalized until after the beginning of the fiscal year.

CLASSICAL PLANT BREEDING

Question. What level of ARS funding is used for classical plant breeding research?

Answer. The ARS funding for classical plant breeding research for fiscal year 2010 is $74,193,800.

ORGANIC RESEARCH

Question. What level of ARS funding is used for organic research?

Answer. In fiscal year 2010, ARS invested $17,234,600 in research that directly addresses organic agriculture problems. The ARS investment in research that does not have specific organic agriculture research objectives but which indirectly benefits the organic industry is $40,951,300.

REGIONAL BIOFUELS FEEDSTOCKS RESEARCH

Question. What are the proposed locations of the Regional Biofuels Feedstocks Research and Demonstration Centers? How were those locations chosen?

Answer. The five proposed Regional Biomass Research and Development Centers will be research networks within the following five agro-eco regions:

Southeast—spans the Southern Coastal Plains and Piedmont areas (includes FL, GA, SC, AL, MS, LA, AR, NC, TN, KY, eastern TX, and HI);

Central-Eastern—covers the Mid-Atlantic, Midwest and eastern Great Plaines (includes NE, ND, SD, KS, OK, MN, IA, MO, WI, IL, MI, IN, OH, KY, TN, PA, DE, MD, and VA);

Northern-Eastern—spans the Northern Coastal Plains (includes MN, WI, MI, NY, VT, NH, ME, MA, CT, RI, PA, OH, DE, MD, and WV);

Western—spans the relatively dry Southwest and Western States (NM, AZ, CA, NV, UT, CO, MT, WY, ID, and western TX);

Northwestern—encompasses the Northwest and northern Great Plaines (includes WA, OR, ID, MT, eastern CO, WY, CA, AK, and western ND and SD).

Each Regional Center will be composed of a network of ARS and Forest Service laboratories, scientists, and their partners within that region. Each of the centers will be organized in a "hub" and "spoke" fashion with at least one "hub" and many "spokes", all of which contribute to the Regional Center's performance. "Hubs"—single laboratories within Regional Centers will help to coordinate the Center's work and relationships so as to maximize effectiveness and prevent duplication of efforts. These hubs were chosen based on the expertise each possesses for regionally adapted bioenergy feedstocks and the kinds of agricultural production systems suited to that region.

WORLD FOOD PRIZE

Question. What amount of funding is in ARS's base budget for the World Food Prize? What reasoning is provided for ARS being the USDA lead agency to support this Foundation?

Specifically, how was this amount determined and for what will it be used? Since the World Food Prize is related to international food security, do you believe it would be better suited within the Foreign Agricultural Service?

Answer. Presently, there are no funds in the ARS base budget to support the World Food Prize Foundation (WFP). Conference Report 109–255, accompanying the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Bill for fiscal year 2006, directed the Secretary to report ways in which the Department can participate in support of WFP and appropriated $350,000 for such efforts. In response to the directive, the Secretary designated ARS to support and partner with WFP and transferred the $350,000 appropriated for these efforts to ARS. No funding was appropriated in subsequent years for support of WFP.

The fiscal year 2011 budget, request for $750,000 builds upon the established relationship with ARS and the World Food Prize Foundation to relieve world hunger. The proposed funding will be used to support activities such as travel costs for distinguished participants; preparation of publications, brochures, and other materials; participation of students and teachers in the Youth Institute; and related staff and administrative support costs.

AGRICULTURE AND FOOD RESEARCH INITIATIVE

Question. Please provide a specific list of all research initiatives and funding goals for those initiatives proposed within the Agriculture and Food Research Initiative (AFRI), including those within base funding.

Answer. The information is submitted for the record.

[The information follows:]

Initiative	Fiscal year 2011 President's budget proposal
Childhood Obesity Prevention plus Improving National Nutrition and Health	$74,908,900
Sustainable Bioenergy	73,272,600
Global Food Security	28,309,040
Food Safety	39,963,000
Global Climate Change	104,909,000
Foundational Programs Listed Below:	
Plant Health and Production and Plant Products—Including Colony Collapse Disorder of Honey Bees	35,000,000
Animal Health and Production and Animal Products—Animal Health and Production	30,000,000
Food Safety, Nutrition, and Health	6,000,000
Renewable Energy, Natural Resources, and Environment	11,482,460
Agriculture Systems and Technology	10,000,000

Initiative	Fiscal year 2011 President's budget proposal
Agriculture Economics and Rural Communities—Economics of Markets and Agricultural Prosperity for Small and Medium-sized Farms	15,000,000
Total	428,845,000

Question. Is there any assurance that research programs that have been eliminated in the budget, with the justification that they will be included in the proposed AFRI increase, will be protected at the levels they currently receive?

Answer. While the specific section 406 funding mechanism and programs are not part of the 2011 budget request, AFRI will continue to emphasize food safety and climate change (include water issues). In addition, research and education supporting organic agriculture is conducted through a mandatory funded grants program, and expanded Sustainable Agriculture Research and Education activities. I will have NIFA provide additional details for the record.

[The information follows:]

Water issues will be addressed in multiple Challenge Area programs. Impacts on water use, distribution, quality and quantity will be addressed in the Bioenergy, Global Climate Change, and Global Food Security integrated and research program. Especially important is the usage of water for the expanded bioenergy crop production and continued availability of high quality water for food production. Basic research will continue through the Agricultural Water Science Foundation program also. The fiscal year 2010 funding for Water Quality was $12,649,000. The AFRI programs for the three Challenge Areas will increase funding by over $96 million.

The AFRI Food Safety Challenge Area Program will continue to provide funding for research, education, and extension efforts to improve the safety of the U.S. food supply through new and improved rapid detection methods, epidemiological studies, and improved food harvesting and processing technologies. Several basic research programs will address issues related to plant diseases and pathogen interactions, animal health, and the use of nanotechnology use to ensure food safety. The Food Safety Area will increase funding by $19,963,560. The section 406 Food Safety funding in fiscal year 2010 was $14,596,000.

The application of Integrated Pest Management will be a focus in the Global Food Security Challenge programs looking at a system approach in pest management and expand to potential partnerships with other agencies addressing appropriate national and international application of IPM principles and practices. Section 406 related IPM funding for fiscal year 2010 was $12,903,000. Foundational Pest and Beneficial Insects in Plant Systems Foundation program funding is at $6 million and the Global Food Security Challenge IPM program area is at $5 million and an increase in the Global Food Security Challenge area of over $13 million.

Organic agricultural production and management systems have been and will continue to be supported through many of the AFRI programs. Basic research through the Small and Medium-Sized Farms and Rural Communities and Economics of markets and Development programs can support research on the expansion of organic agriculture with a focus related to land use and economics of rural communities. The Global Food Security Challenge Programs can support integrated efforts both nationally and related to international food security issues. Since many organic producers market locally, regional food security efforts may be researched to address "food deserts". The Nutrition and Health Challenge programs address behavioral factors that can address providing highly nutritious food especially to children and could include improvements in nutritional value in organic crops. Section 406 Organic Transition Program funding in fiscal year 2010 was $5 million. Potential related funds from AFRI from the two Foundational Programs are $10 million and $5 million from the Global Food Security Challenge Program.

SECONDARY EDUCATION, 2-YEAR POSTSECONDARY EDUCATION, AND AGRICULTURE IN THE K–12 CLASSROOM

Question. What level of funding requests was received by USDA for Secondary Education, 2-Year Postsecondary Education, and Agriculture in the K–12 Classroom (SPECA) grants in fiscal year 2009 and 2010?

Answer. USDA received requests for Secondary Education, 2-Year Postsecondary Education, and Agriculture in the K–12 Classroom (SPECA) grants totaling $2,986,906 in fiscal year 2009 and $2,434,403 in fiscal year 2010.

HIGHER EDUCATION INSTITUTION CHALLENGES GRANTS

Question. What level of funding requests was received by USDA for Higher Education Institution Challenges Grants in fiscal year 2009 and 2010?

Answer. USDA received requests for Higher Education Institution Challenge grants totaling $15,205,883 in fiscal year 2009 and $20,600,489 in fiscal year 2010.

FOOD EMERGENCY RESPONSE NETWORK (FERN)

Question. The FSIS budget proposes to decrease funding for FERN laboratories, but the FDA budget restates the importance of these laboratories. Did FSIS consult with FDA in making this budget decision, and how do the two agencies work together on this initiative?

Answer. No, the Department did not consult with FDA prior to making this budget decision. However, we continue to work closely with FDA to further develop and manage FERN. FSIS has primary responsibility for funding and overseeing Cooperative Agreements with non-Federal laboratories that assist FERN in building surge capacity for responding to microbiological foodborne emergencies, while FDA supports Cooperative Agreement activities related to chemical and radiological emergencies. Joint activities include laboratory training, proficiency testing, surveillance testing, method validation studies, and coordination of responses to exercises and events. We have made considerable investment in the States in building capacity to respond to foodborne emergencies through its Cooperative Agreements. The level proposed for Cooperative Agreements in fiscal year 2011 is the same as for fiscal year 2009.

For the fiscal year 2011 President's budget, the administration is proposing to redirect FSIS funding from FERN in order to offset costs to support one of the key findings of the President's Food Safety Working Group which is to develop more timely estimates of pathogen prevalence. This $10 million increase above the fiscal year 2010 level will allow FSIS to improve surveillance of foodborne pathogens of human-health concern in FSIS-regulated products through significant expansion of Hazard Analysis and Critical Control Point regulatory sampling, and conducting an additional traditional baseline study. Accurate, timely prevalence estimates for pathogens are critical for evaluation of existing prevention policies and the development of new regulatory strategies.

INTERSTATE SHIPMENT PROGRAM

Question. Please provide an update on the status of the FSIS State Meat Inspection rule.

Answer. The Department is working to implement the farm bill provision to allow the interstate shipment of meat and poultry products for certain small and very small establishments. The proposed rule was published in the Federal Register on September 16, 2009.

The Department held two public teleconference meetings on the proposed regulations, on October 27 and November 5, 2009, and accepted public comments on the proposed rule through December 16, 2009. We are taking into consideration these public comments and will then move forward with the final rule.

FSIS SALARIES AND EXPENSES

Question. Will the budget adequately fund all FSIS pay costs, including required within grade increases, benefits, and other required salary increases? If not, what amount is necessary to ensure that the salaries of FSIS employees are fully covered?

Answer. The President's fiscal year 2011 budget fully funds FSIS salary needs including funding for continuation of inspection operations without interruption. I am committed to ensuring that we have the staffing, the training, the lab support, oversight and other resources that are necessary to ensure the safety of the food supply.

HUMANE SLAUGHTER

Question. The Committee has received a proposal to redirect funding previously set aside for Humane Animal Tracking in order to fund a position whose sole responsibility will be to oversee FSIS efforts on enforcement of the Humane Methods of Slaughter Act. Has FSIS considered this and what would the cost of such a position be? Further, the Committee has received a request to fund a specific team of FSIS employees whose job description would require them to perform undercover investigations of slaughter facilities to ensure compliance with the Humane Methods of Slaughter Act. Again, is this something FSIS has considered, and what would the approximate cost be?

Answer. The Department has funded a position whose primary responsibility will be to oversee FSIS efforts on enforcement of the Humane Methods of Slaughter Act. FSIS used the additional $2 million provided in fiscal year 2009 for 24 additional positions to further boost its humane handling oversight and verification inspection activities. One of these positions is a headquarters-based Humane Handling Coordinator, whose primary responsibility will be to provide consistent oversight of field-level humane handling activities. The other 23 positions—5 PHVs, 1 Supervisory Consumer Safety Inspector, 13 Consumer Safety Inspectors, and 4 Food Inspectors—were assigned to specific plants where the employee will conduct on-line or off-line activities. As of March 14, 2010, 22 of these positions had been filled, including the Humane Handling Coordinator position, and 2 were still in the hiring process.

We've recently become aware of the suggestion for an undercover investigative team and have not yet estimated the cost for such a team. Since the events at the Hallmark/Westland establishment in 2008, FSIS has made numerous efforts to strengthen and improve its verification and enforcement related to the Humane Methods of Slaughter Act. FSIS conducted covert humane slaughter surveillance operations in nine establishments across the United States within 4 months of the Humane Society's Hallmark/Westland video release and determined that all of these establishments were in compliance. FSIS can conduct covert surveillance operations under existing surveillance and investigation allocations. Moreover, FSIS instructed PHVs and other inspection program personnel to vary from day-to-day the time during their tour of duty that they perform their activities to verify that animals are treated humanely. In April 2009, FSIS issued Notice 21–09, which reminded inspection program personnel to conduct humane handling activities randomly throughout their shift.

PUBLIC HEALTH DATA COMMUNICATION INFRASTRUCTURE

Question. Is the funding requested for the Public Health Data Communication Infrastructure Funding one-time funding, or will additional investments be required in immediate outyears?

Answer. Reliable connectivity to information systems and applications is critical to the accomplishment of FSIS' inspection, investigative, and food defense responsibilities. The backbone that underpins these systems and applications must be expanded to support the increased requirements of PHIS in both the installed base and for additional users. Provision of additional telecommunications support will subsume $2.3 million of the $8.0 million requested. These are on-going costs.

In addition, the Agency will spend an additional $5.7 million to support the on-going costs for the migration to and operation of the Department's two Enterprise Data Centers (EDCs). These costs will increase as PHIS is brought on-line. Front-line personnel will benefit from the increase in the number of centralized mission critical applications available under the EDCs. Interoperability of Agency systems with other governmental and non-governmental systems will also increase demand for EDC-hosted applications, which will in turn, increase the Agency's costs for support of those systems. While the Agency has received additional funding for the EDCs in fiscal year 2010 and 2011, the Agency's contribution to the overall EDC support will rise as we move from the implementation to the maintenance and operations phase with increased user demand. The requested funds are therefore intended to be a baseline increase.

The third major element is to increase the number of FSIS employees with daily access to computers. The request includes $5 million to purchase 3,600 computers, as part of a longer-term plan to move towards one-computer per employee. Much of the agency's frontline workforce is highly mobile, making it difficult to share computers across multiple sites when access to real-time applications are required. Likewise, the agency has not had the systematic ability to turnover computers at the work sites of its existing computer users, to enhance workforce productivity. Shortening technology lifecycles and the increasing complexity of FSIS applications has led to an agency-wide computer strategy that includes both increasing the installed base and refreshing the computers to the existing users. The requested funds are therefore intended to be a baseline increase to support the agency's over 10,000 employees and partners.

COST SHARING

Question. Many APHIS programs ensure containment, reduction, and elimination of animal and plant pests and diseases that could do huge harm to production agriculture in the United States. Typically, these program resources reflect cost sharing between APHIS and program collaborators (generally States and tribes). However,

a consistent theme in this budget is the proposed reduction in Federal contributions to program costs, forcing States and tribes to assume larger burdens.

Mr. Secretary, does this decision reflect conversations and agreements you have reached with your partners?

Will your collaborators have adequate time to adjust their budgets to maintain needed levels of program performance?

In those States already facing severe budget shortfalls, will you provide this subcommittee assurance that needed levels of program services will continue?

Answer. While there may not have been agreement to the level of contributions for each pest and disease program, it is reasonable to expect all parties to contribute some level of resources towards these cooperative programs that, in most cases, have been in place for several years.

The Agency's budget request is presented more than 6 months in advance of when it will become effective, which allows time for program partners to develop their spending plans in the coming year. The Agency will continue to conduct the pest and disease programs based on the total available resources and on the highest priorities for the program.

USE OF ANTIBIOTICS

Question. There continues to be vocal debate on the non-therapeutic use of antibiotics in the livestock sector. Some contend that the practice places human health at risk due to a concern that the consumption of related food products results in antibiotic resistance to certain strains of bacteria. On the other hand, it is argued that the use of antibiotics in livestock is so minimal that there is no such effect.

What is the current science in regard to this issue?

Is there any evidence that the use of antibiotics for livestock has any influence on human health through food products from such animals?

Since there is obviously some effect in the use of antibiotics (or else the industry would not use them in the first place) is it not logical to assume that there is some residual effect in humans? If not, what is being done to educate consumers that the use of antibiotics poses no threat to human health?

Answer. Current science is largely assessing the effect of antimicrobial use and the antibiotic resistance, also known as antimicrobial resistance or drug resistance. APHIS and ARS, FDA, and CDC continue to work collaboratively on antimicrobial issues. The question of whether antibiotic use in animals has any effect on human health requires the consideration of the organism involved, the antibiotic in question, and various other mitigating factors in food production. The FDA continues to do risk assessments for various antibiotics used in animals and their potential to harm human health. In some cases the FDA has found that certain uses of antibiotics result in unacceptable increased risks to human health and have withdrawn approvals for specific antibiotic uses. In other cases the risk assessment has indicated that there is not an increased risk associated with the use of specific antibiotics in certain animals.

Antibiotics are used in animals for purposes of treatment of clinical disease, disease prevention and growth promotion. Concern for antibiotic resistance relative to use of antibiotics in animals is primarily related to the transmission of organisms from animals to people, especially through food. In some cases these organisms may harbor genes that make them resistant to the effects of certain antibiotics. When these resistance genes occur and people require treatment for that infection, they may not respond optimally to treatment.

APHIS' focus for the antibiotic use and resistance issue has been to survey livestock populations to estimate the types and levels of use for various commodities/animals and to evaluate the prevalence of resistance. APHIS reports on findings from the on-farm sampling through reports and in peer reviewed publications in the professional literature. The Web site address to access the reports is http://www.aphis.usda.gov/vs/ceah/ncahs/nahms/. These reports are also made available to the Food and Drug Administration (FDA), the agency responsible for the approval process of antibiotic use in animals. Information regarding the use of antibiotics in animals is available to the public on the following FDA Web site: http://www.fda.gov/AnimalVeterinary/SafetyHealth/AntimicrobialResistance

FARM LOANS

Question. Mr. Secretary, in the face of deteriorating credit conditions for rural farmers this Committee increased Farm Service Agency ownership and operating loan levels for fiscal year 2010. Now it appears even those increased levels will not be sufficient to meet fiscal year 2010 credit demand. Adequate credit is essential

to help rural areas recover from this deep recession. But, this budget cuts farm loan program levels for fiscal year 2011.

What evidence do you have that this request will be sufficient to meet the credit needs for agricultural producers?

Answer. At the time the fiscal year 2011 budget was being formulated, economic forecasts indicated that farm prices would rebound in fiscal year 2010 and agriculture would continue to be somewhat insulated from the credit crisis faced primarily by the non-agriculture sectors of our economy. Based on these assumptions—and given that 2009 funding was augmented by $173 million of stimulus funds and $810 million of supplemental funds provided adequate funding to satisfy a large increase in credit applications for fiscal year 2009—a determination was made that fiscal year 2009 obligation levels would be sufficient for fiscal year 2010 and subsequently for fiscal year 2011. We will continue to monitor the agricultural credit markets and, pursuant to the 2010 Conference Report, keep the Committee informed of the farm credit needs.

Question. What tools do you have to increase program levels during the year if your estimates for fiscal year 2011 turn out to be low?

Answer. The last several appropriations acts included language that allowed FSA to make adjustments to program levels by moving funds from program areas with less demand to those with greater demand, with Committee consent. This flexibility proved useful in the past when demand changed significantly from forecasts, which are made many months in advance. The Department also has authority to interchange up to 7 percent of funds provided to FSA for farm loans should the need arise.

CCE COMPUTER MODERNIZATION

Question. Mr. Secretary, the budget includes $35,000,000 under Conservation Operations for CCE computer modernization and upgrades. Will this activity require funding beyond fiscal year 2011? If so, what is the anticipated overall cost?

Answer. The Common Computing Environment (CCE) infrastructure was implemented in 2000 to provide a common information technology (IT) platform for the three Service Center Agencies (the Farm Service Agency, the Natural Resources Conservation Service, and Rural Development). Since 2000, the system has not undergone a system-wide refresh resulting in outdated equipment and processes and therefore, the 2011 budget includes funding to reduce vulnerabilities and improve system performance by initiating a refresh and right-sizing initiative. This initiative will be an on-going effort to ensure that system components are replaced and configuration changes are made to support current and future program delivery.

In addition to the funding requested under NRCS Conservation Operations, USDA is also requesting funding under FSA and RD. The details of this funding request are provided in the accompanying table. As this is an on-going initiative, its total overall cost will be driven by the length of time that USDA continues to operate the CCE. According to the business case developed for this investment, after 2011, total annual funding to maintain the investment and to support a regular refresh cycle according to industry standards will be approximately $62 million.

Agency	Fiscal year 2011
FSA	$36,000,000
NRCS	35,000,000
RD	12,000,000
Total	83,000,000

STRATEGIC WATERSHED ACTION TEAMS

Question. The budget includes $25,000,000 for the implementation of strategic watershed action teams. Please explain how you envision this new initiative to be carried out.

Answer. NRCS envisions deploying Strategic Watershed Action Teams (SWATs) consisting of five to seven people (approximately 35 teams or 175 FTEs), for a period of 3 to 5 years in a specified geographic location. These teams will include Soil Conservationists, technicians and specialists and will be identified based on the needed technical expertise in each watershed. The number of teams deployed for each watershed will depend on the analysis of natural resource and socioeconomic data of the region and will be decided based on a formula that NRCS will develop.

The development and deployment of SWATs will greatly improve the environmental cost effectiveness of NRCS technical and financial assistance programs. By

significant planning, education, and program implementation assistance, the technical assistance teams will enhance the Agency's capability to strategically invest in conservation and better target the Agency's financial and technical assistance programs.

The goal of deploying the SWATs will be to reach every eligible landowner in a targeted watershed and provide them with the technical assistance to assess their natural resource conditions and offer resource planning and program help. Emphasis in resource assessment and planning will be placed on those resource conditions that are of priority interest in the selected watershed.

The SWATs will help NRCS work more closely and effectively with the U.S. Forest Service (FS) in that Agency's efforts to also adopt a landscape-scale approach to natural resource management. This will leverage the strengths of each agency's technical skills and natural resource programs to conserve and restore forestland, grassland, and working farmland.

During fiscal years 2010 and 2011, NRCS will coordinate with FS and other stakeholders and partners to identify high-priority watersheds in order to enhance conservation on a landscape scale across land ownerships. Smaller critical watersheds within these high-priority watersheds would be identified for the deployment of SWAT, using natural resource and socioeconomic data.

WATER AND WASTEWATER DISPOSAL GRANTS FOR NATIVE ALASKAN VILLAGES

Question. This Committee has been concerned about the growing unobligated balances of grants to Native Alaskan Villages. The Secretary was directed to: obligate the funds; and develop a plan to streamline the grant process and reduce the paperwork burden on rural Alaskan communities and Native Alaskan Villages. That plan was due to the Committee 90 days after enactment of the fiscal year 2010 appropriations bill. Please explain why delivery of the plan has been delayed.

Answer. The selection of an independent third party contractor that is responsible for developing a final work plan to address processing delays was recently completed in January 2010. In the next few days, a preliminary plan for analyzing the use of all unobligated balances will be submitted to Congress.

Prior to fiscal year 2006, Water and Waste Disposal Program funding for Native Alaskan Villages was provided to an intermediary. Some technical disruptions in delivering the program occurred, requiring the agency to takeover review of grant applications and head coordinated efforts to aid Alaskan residents prepare applications is the largest single reason why a significant amount of the appropriated funds remain unobligated.

The preliminary report provides detailed background on the program and how the significant amount of unobligated balances was created, and the approach to resolve application processing delays. This report indicates that a final report will be submitted to Congress in August of 2010. Until then, discussions are ongoing.

Question. Please provide a status report including the obligations history, applications backlog, and estimated demand for fiscal year 2011.

Answer. This information will be included in the final report.

Question. What process improvements are you considering to enhance the efficiency and effectiveness of this program?

Answer. The final report will provide a thorough analysis of the application, approval, and tracking process; dialogue with other agencies regarding their roles in the process; stakeholder input; and third party contractor review.

Question. What is the expected timeframe for implementation of these changes?

Answer. This information will be included in the final report.

SINGLE FAMILY HOUSING GUARANTEED LOAN PROGRAM

Question. The Committee is aware that funding for the single family housing guaranteed loan program ($12 billion appropriated for fiscal year 2010 plus carryover funds from the Recovery Act) will be exhausted in April. It is taking time for private sector lenders to unwind from the current recession and begin providing normal levels of housing lending. In the meantime this program is one of only a few that is offering necessary credit for homebuyers.

When did you realize and formally notify this Committee that funds would be exhausted so early in the fiscal year?

Answer. The Department is still assessing, evaluating options, and preparing status report required by the 2010 Conference report.

Question. What actions are you taking to supplement this credit shortfall for the last 5 months of fiscal year 2010?

Answer. The administration is pleased that it will be able to fully obligate all Single Family Housing Guaranteed Loan Program funds that were appropriated for

this program in fiscal year 2010. We are currently evaluating various options to ensure assistance is provided to rural homeowners.

Question. This budget proposes several significant changes to the program including adding an annual fee and implementing a "direct endorsement" program. The annual fee will eliminate program costs to the government. Please explain why you are proposing an annual fee rather than increasing the up-front fee which could generate the same result.

Answer. Program costs to the government can be eliminated either by increasing the up-front fee or by instituting an annual fee. The annual fee was proposed to achieve consistency with FHA, and to maintain up-front costs at current levels.

Question. Please describe the effects on borrowers of an annual fee versus an up-front fee in which both alternatives generate zero subsidy cost.

Answer. The 2011 budget requests a loan level of $12 billion supported by establishing a fee structure that will eliminate the subsidy cost for all new purchases. The annual fee that USDA is proposing would eliminate the need for an annual appropriation to pay for the cost of loan subsidies. The up-front fee on new purchase loans will remain 2 percent, but an annual fee of 0.15 percent will be added to both new and refinanced loans. In addition, the up-front fee for refinanced loan guarantees will be increased to 1 percent. The annual fee would apply to all loans, regardless of the income of the borrower. This is the same as for the one-time fee that is assessed up-front, and can be incorporated in the loan amount. The annual fee would, instead, be applied directly to the borrower's monthly payment. The two fees, combined, would be lower than the fees charged by HUD and VA. Low-income borrowers constitute about 30 percent of USDA's single family guaranteed loan borrowers. The annual fee included in the 2011 budget proposal is estimated to be 1/15 of 1 percent. It is anticipated that it would have minimal impact on the ability of low income borrowers to qualify for loans.

The annual fee will be capped at 0.5 percent and in fiscal year 2011 is expected to be 0.15 percent of the guaranteed principal loan amount. On a $100,000 loan, the annual fee will be $150. This results in an additional monthly payment of $12.50. This is a nominal increase and should be affordable.

Question. Under a direct endorsement program the Agency's role in loan underwriting is minimized while the responsibilities for maintaining credit quality are shifted to the private sector guaranteed lenders. Please elaborate on the need for a direct endorsement program at this time.

Answer. Direct endorsement will streamline the loan making process and achieve a measure of consistency with the other Federal Housing programs. Some private sector lending partners have repeatedly requested direct endorsement capabilities. Also, this will make the Agency more efficient and allow the single family housing staff to focus more on single family housing direct loans.

Question. How do you reconcile this request with your proposal to reduce (by $6 million) resources to monitor guaranteed lender performance?

Answer. Significant Information Technology gains related to maintaining portfolio compliance, safety, and soundness are being made through investment of Recovery Act administrative funding in 2010. These gains will be applied to many of Rural Development's programs, including the section 502 guaranteed loan program. The projected $6 million reduction is supported through gains that will be realized in fiscal year 2010, reducing the need for these Information Technology investments in fiscal year 2011.

Along with these Information Technology gains, efforts and investment towards monitoring section 502 guaranteed lenders and portfolio performance and compliance will increase in 2011. This is necessary due to the growth of the program and the level of new lender participation. We are proactively working internally and with the Office of Inspector General to ensure that robust portfolio quality control procedures continue to evolve and be implemented to protect the safety and soundness of the program.

Question. What assurance can you provide that the current excellent portfolio credit quality and low default history will be maintained?

Answer. We expect the current excellent portfolio credit quality will be maintained. The intent is to limit direct endorsement to lenders that have demonstrated strong program knowledge and responsibility. Only well performing lenders would be given direct endorsement capabilities, and they would be closely monitored on a post closing basis. Lenders with direct endorsement would have to submit their loans through Rural Development's automated underwriting system. Loans receiving an "accept" from the automated underwriting system have demonstrated better performance than loans which are manually underwritten.

OUTREACH

Question. I know that you share our commitment to improving access to the child nutrition programs for families that have long suffered material hardships and those experiencing new difficulties as a result of the recession. Children are especially vulnerable to the effects of the recession. The SNAP program has an aggressive outreach component that is not matched in the school meals programs. Parents that are recently unemployed may not realize that their children are eligible for free or reduced price meals. Others may not realize that they can sign up at any point in the school year. What has USDA already done to make sure that eligible families are enrolled for free or reduced price school meals and what are your plans to engage schools in outreach campaigns for the upcoming school year?

Answer. The Department recognizes the importance of getting program information to families suffering from economic hardship, and we have taken several steps to ensure children have access to the healthy meals they need. In response to the recent economic problems, we have targeted outreach about the availability and importance of free and reduced price school meals to unemployment insurance applicants. We issued a policy memorandum on February 27, 2009 (SP 15–2009) describing ways to assist families during an economic downturn. This memo encouraged schools to reach out to families whose circumstances may change during the school year by reminding them that they may apply for free or reduced price meal benefits at any time.

On September 3, 2009, through coordination with the Department of Labor's Employment and Training Administration, we distributed two letters through the listserv of the National Association of State Workforce Agency Administrators. The first letter was directed to State Workforce Agency Administrators, and asked that they further distribute and/or post the second letter to Unemployment Insurance applicants, to make them aware of their potential eligibility for free school meals.

We have also issued a policy memorandum to all State agencies, Extending Categorical Eligibility to Additional Children in a Household, on August 27, 2009 (SP 38–2009, CACFP 08–2009, SFSP 07–2009). Under this memorandum, effective immediately, all children in a family are considered categorically eligible for free meals either through direct certification with SNAP, the Food Distribution Program on Indian Reservations (FDPIR) and the Temporary Assistance for Needy Families (TANF) program, or through free and reduced price applications with case numbers for these programs. This means that when school districts have information on a family's composition, either through the free and reduced price application or school enrollment records, they should certify all children in a family for free meals if there is a SNAP, FDPIR or TANF case number for at least one family member on an application, or if one family member is directly certified through SNAP, FDPIR or TANF. We will soon issue additional guidance to States on this eligibility extension.

We are also working to encourage more schools to conduct Direct Certification matches more frequently and to do it better. More effective direct certification is a vital tool to increase the number of children certified as eligible for free lunches and breakfasts. FNS published a report titled "Direct Certification in the National School Lunch Program: State Implementation Progress" in November 2009 to assess the effectiveness of State and local efforts to conduct direct certification of children for free school meals. The report found that the 2008–2009 median direct certification rates of SNAP-participant children were 72 percent. This shows that local educational agencies have increased their use of direct certification from a rate of 69 percent reported in the previous year.

DIRECT CERTIFICATION

Question. Automatically enrolling poor children for free school meals based on participation in other means-tested programs is an important component of improving access to the school meals programs and reducing the administrative burden of running them. I am concerned, however, that your recent report on State direct certification performance shows that as many as 3.5 million children who could have been directly certified were not, and a good portion of those children may have missed out on free meals. Congress has already taken steps to try to improve direct certification rates, most recently providing $22,000,000 in the fiscal year 2010 agriculture appropriations legislation for grants to improve direct certification. I would like to hear what USDA is doing to improve State performance. Specifically, what steps have you taken to distribute the grant funds? What improvement steps are you asking of these States? What support are you providing to share best practices and support improvement efforts?

Answer. The Department recognizes the importance of using direct certification to enroll eligible children to receive free school meals and is working aggressively

to develop a request for application (RFA)—describing qualification criteria, the application process, allowable uses of funds, etc.—so that States can begin applying for the grants as soon as possible. We are developing the RFA based not only on the best practices described in the report you referenced, but on input obtained directly from eligible States during conference calls that FNS is conducting specifically to discuss this grant opportunity. In addition, FNS will continue to publicize this grant opportunity during conference calls, webinars, and stakeholder meetings such as the School Nutrition Association meeting in July.

NATIONAL EXPORT INITIATIVE

Question. The budget request for the Foreign Agricultural Service includes an increase of over $53,000,000 for the National Export Initiative. This is quite a large increase for FAS. How will the initiative be carried out?

Answer. I have the honor of being appointed by President Obama as a member of the Export Promotion Cabinet, which has been charged with providing the President a comprehensive plan within 180 days to carry out the goals of the National Export Initiative (NEI). The plan will identify the resources and strategy for effective implementation of NEI.

The NEI includes a proposed increase of $53.5 million in discretionary funding for the Foreign Agricultural Service for 2011 to promote exports of U.S. food and agricultural products. This enhanced funding would stimulate increased agricultural exports through new trade promotion and marketing activities; expanded grants to improve market access for specialty crop exports; and expanded cost-share activities with agricultural market development groups.

The funding requested for FAS would be invested in three areas. First, $10 million is provided for enhanced export assistance by FAS. It would support expanded foreign market development activities at selected FAS overseas posts; strengthen trade facilitation services of FAS personnel in key countries; facilitate the participation of a greater number of small- and medium-sized enterprises (SMEs) at foreign and domestic trade shows; increase resources targeted at removing sanitary and phytosanitary (SPS) and technical barriers to trade; and strengthen outreach activities to a broader array of SMEs.

For the Technical Assistance for Specialty Crops (TASC) Program, funding would be increased by $9 million to double the overall size of the program. Grants under TASC aim at breaking down SPS and technical barriers to foreign markets that prohibit or impede the export of U.S. specialty crops. Examples of TASC projects include technical seminars, study tours, field surveys, pest and disease research, and pre-clearance programs. Increased funding would enable FAS to support a wider range of entities promoting U.S. exports of specialty crops and horticultural crop products.

Increased funding of $34.5 million would be provided for the Foreign Market Development (Cooperator) Program, which would double total funding for that program as well. Increased resources for the Cooperator Program would support an expansion in the range of agricultural products benefiting from the existing program and export marketing promotions to include, for example, new or non-traditional uses of U.S. agricultural commodities and new foreign markets.

Question. Do you foresee this requiring funding beyond fiscal year 2011?

Answer. The President has announced a plan to double total U.S. exports in 5 years. During that period, it is clear that promoting export growth and developing long-term trading relations will require an extended commitment for the President's goal to be accomplished.

CAPITAL SECURITY COST SHARING

Question. Over the past several years we have provided funding for Capital Security Cost Sharing. This budget does not include funds for that activity. Is the State Department no longer assessing FAS for capital security?

Answer. The State Department continues to assess Foreign Service agencies for contributions to the costs of building new, more secure diplomatic facilities, and funding of $9.9 million for that purpose is included in the 2011 FAS budget. However, no increase in funding is requested in 2011 because the amount of FAS' annual contribution has now leveled off. The original plan was for the Capital Security Cost Sharing program to be phased in gradually over a number of years, with annual funding increases requested during that phase-in period. The phase-in period is now completed with the 2010 budget. There may be periodic adjustments in the amount of annual agency contributions in future years based on changes in the number of personnel overseas and construction costs, but no adjustment is anticipated to be made during 2011.

AGRICULTURAL RECONSTRUCTION AND STABILIZATION

Question. The budget includes $14,600,000 to fund agricultural reconstruction and stabilization activities. Please explain how these funds will be used. What countries besides Afghanistan will benefit?

Answer. In Afghanistan these funds will be used by USDA to help support the implementation of the U.S. commitment to rebuilding that country by providing agricultural experts who serve as advisors to key ministries and work with rural farmers throughout the country. Additional funding to support these efforts will be provided by the Department of State.

These agricultural experts serve on civilian-military command units throughout the country. The experts' work is essential for stabilizing strategic areas of the country, building government capacity, and raising confidence in the government. They will help to ensure the successful management of assistance programs, to develop economic opportunities and jobs in agriculture, and address food insecurity. Consistent with these efforts, USDA has established a high priority performance goal of increasing the number of Afghan provinces designated as food secure from 10 to 14 provinces by the end of 2011. Other countries that will benefit include Iraq, Haiti, and Pakistan, although others may be added later.

VETERINARY MEDICAL LOAN REPAYMENT PROGRAM

Question. Over the last several years this subcommittee has provided a funding for USDA to implement the Veterinary Medical Loan Repayment Program. I am happy to see that progress is being made. Some concerns have been raised about the time line that State Animal Health Officials were given to apply for a "shortage designation".

Have you heard similar concerns? Is the Department doing anything to address this issue? How many State Animal Health Officials have submitted applications for the "shortage designation"?

Answer. On July 9, 2009, the National Institute of Food and Agriculture (NIFA) published an interim final rule and request for comments on this program.

The rule clearly stated the intent was to solicit nominations of shortage areas, and spelled out in detail the procedure to be followed. The rule also explicitly stated the agency's intention to solicit nominations for a period of 60 days. Insofar as this interim final rule was published approximately 6 months prior to actually calling for nominations, we believe that the 60 day response period is sufficient and reasonable. I will have NIFA provide additional details for the record.

[The information follows:]

The period for submitting shortage area nominations ended on March 8, and we received 249 nominations from 48 States and the Republic of Marshall Islands. We did not receive any complaints with respect to the time we allowed for nominations from any of the State Animal Health Officials (SAHO).

All States submitted nominations except Massachusetts and Hawaii (and DC). We contacted the SAHO of Massachusetts and Hawaii and both indicated that this was not a priority concern for them. Neither indicated that the compressed timeline was a factor.

There was considerable effort made to ensure eligible entities were informed and engaged. All Chief Animal Health Officials received information and reminders about the nomination process both leading up to and after release of the Federal Register notice soliciting nominations. The National Assembly of State Animal Health Officials (NASAHO) and the United States Animal Health Association (USAHA), both with memberships comprising the authorized respondents to this solicitation, were very helpful sending out notices and reminders to respond by the deadline.

Although the intention was to solicit nominations for a period of 60 days, we determined that a period of 45 days was necessary to allow for sufficient time to review and certify shortage areas prior to the opening of the VMLRP application period on April 30. Given that this was the first year of implementation, we were prepared to allow a grace period to those that needed extra time to submit their nominations.

LIMITATIONS ON FARM BILL PROGRAMS

Question. Section 726 would impose limitations on a number of 2008 farm bill programs in order to achieve savings to pay for increases in discretionary spending. Among these is language to not allow for the enrollment of more than 192,982 acres in the Wetlands Reserve Program in fiscal year 2011. According to USDA documents, this language would achieve discretionary savings of $116,386,000. However,

estimates of the Congressional Budget Office (CBO), which will control Congressional budget scorekeeping, often differ from those of OMB.

Given this potential discrepancy, does USDA intend for us to increase the acreage limitation to comport with CBO scorekeeping, if necessary, or will Congress receive a budget amendment to account for either the need for lower spending or additional savings in mandatory programs?

Answer. USDA believes the projected discretionary savings resulting from limiting enrollment for the Wetlands Reserve Program is an accurate estimate. Therefore, USDA does not anticipate submitting a budget amendment to Congress concerning this issue.

Question. Similarly, if intervening congressional action (such as the reauthorization of the Child Nutrition Act, or other actions requiring budgetary adjustments) further reduces the availability of mandatory funds in programs identified for savings in the 2011 appropriations bill, will the administration provide guidance on how the subcommittee should make adjustments through other reductions?

Answer. The 2011 budget represents a judicious allocation of conservation resources. It reflects a strategic targeting of high priority programs and current workforce and workload capacity, while including efforts to ensure financial integrity and cost effectiveness. At this time, USDA believes that the current budget proposal is the best allocation of resources and looks forward to working with the Committees on obtaining funding for these important programs.

Question. The budget proposes to eliminate language in the 2010 Act relating to activities of the Watershed and Flood Prevention Operations account. The reason provided for this termination is "in order to permit the Secretary the flexibility needed to carry out programs in the most efficient and effective manner". However, elsewhere in the President's budget, the entire Watershed and Flood Prevention Operations account is eliminated. How does the elimination of an entire program strengthen the Secretary's "flexibility" to carry it out?

Answer. With the elimination of the Watershed and Flood Prevention Operations (WFPO) Program, which has been heavily earmarked in recent years, the Secretary will have the ability to use merit-based criteria to prioritize projects in other programs within those watersheds without the pre-selection of watershed projects. The WFPO program benefits are highly localized and the Agency anticipates that those projects not yet completed will continue to receive local support from project sponsors.

CONTRACTING AND ACQUISITION WORKFORCE TRAINING

Question. Section 729 proposes an appropriation of $6,500,000 to support a Government-wide Contracting and Acquisition Workforce Training initiative. What efficiencies and what savings to the Department will result as a consequence of the appropriation?

Answer. Office of Management and Budget (OMB) Memorandum M–09–25, Improving Government Acquisition, dated July, 29, 2009 promotes "building the skills of the acquisition workforce and recruiting new talent so as to negotiate more favorably priced contracts and manage contract costs more effectively".

In order to meet these objectives, USDA proposes to (1) improve training and development for new hires through an acquisition workforce intern program; (2) enhance skills and training for current acquisition workforce regardless of level; and (3) implement knowledge management initiatives to increase contracting efficiencies throughout USDA.

USDA has at least one acquisition workforce employee in virtually every county in the United States. Provision of mandatory training requires a substantial amount of logistical and training funds. Many of the existing acquisition employees are insufficiently trained due to a lack of funding. Effective training will address critical proficiency gaps and enhance the quality of contract award/management which often translates to cost savings.

An effective knowledge management program will increase efficiency in understanding best practices; more effectively define customers and business partners; and ultimately provide the right information to the right individual(s) at the right time. An effective knowledge management program will reduce the risk of time and money spent unsuccessfully obtaining information.

An intern program at USDA would help develop the acquisition workforce, as well as facilitate improvements in attracting and retaining talented, proficient employees. An intern program will counteract USDA's high retirement rate and increase the percentage of agency 1102's with bachelor's degrees. The USDA intern program will include several key components as follows:

—Training will allow USDA to enhance the knowledge of its acquisition workforce to award and administer higher quality and more economical contracts. Soft skills training such as communication, leadership, and interpersonal skills will improve workforce effectiveness.
—Rotational assignments will support intern development and maximize the fit of the right intern with the right agency.
—FAC–C certification will validate understanding of specific competencies and expedite workforce ability to obtain warrant levels, and expand the pool of contracting officers with the knowledge and warrant to award procurements.
—Promotions will provide interns with a structured promotion schedule to maintain morale and productivity and bolster retention, thereby minimizing cost and inefficiencies due to employee attrition.

Question. Since this is a government-wide initiative, what consequences will result if less than the fully requested amount is provided?

Answer. The inability to fully fund the initiative to improve USDA's acquisition workforce would have a detrimental impact on USDA's acquisition workforce. In recent years unsettling trends gained momentum and these trends could continue if insufficient funding is provided for training and improvement programs. Consequences would involve the widening of the human capital gap with mass retirement of an aging workforce and high turnover rate of employees within USDA. Acquisition workforce employees frequently transfer from one Federal agency to another. Employees may also be lost to private industry, who may offer better salaries and benefits. Knowledge gaps will widen leading to more costly and less effective contracts.

GREENBOOK CHARGES AND MISCELLANEOUS AGENCY ASSESSMENTS

Question. Mr. Secretary, we continue to hear concerns from research centers, universities, and other parties who work with USDA on a cooperative basis that assessments charged by USDA are harming their ability to continue research and other activities as envisioned in the original cooperative agreements. For example, certain research centers who engage with ARS under specific cooperative agreements are discovering that the funding levels described in Congressional acts and reports for those locations are reduced far below the customary 10 percent reduction for net-to-location adjustments. In addition, the Governmental Accountability Office (GAO) reported in October, 2009, that Greenbook charges have increased from $5,400,000 in 1999 to $61,200,000 in 2009, with a peak of $76,000,000 in 2007.

Can you please provide a listing of USDA programs, projects, or activities involving non-Federal cooperators that are reduced through assessments not related to the purposes described by the Congress, including the amounts (in the aggregate by program) and purposes of such assessments?

Answer. Programs are affected for a variety of reasons. In addition to the traditional assessments that pay for services provided by the Department, programs can be reduced based on statutory direction as is the case with the Small Business Innovation Research Program and the Biotechnology Risk Assessment Programs. In addition, there are statutory authorities that make assessments permissive such as the case with NIFA programs where statutory authority allows up to 4 percent of program funding to be assessed to pay agency costs for program management and oversight. In addition, there could be assessments to fund Department-wide costs, such as e-Government charges, or agency specific assessments to support program management and oversight.

The following table provides a summary of agency programs involving non-Federal cooperators that are reduced for these types of program costs.

The information is submitted for the record.

[The information follows:]

LIST OF PROGRAMS, PROJECTS OR ACTIVITIES INVOLVING NON-FEDERAL COOPERATORS THAT ARE REDUCED THROUGH ASSESSMENTS FISCAL YEAR 2009

[Dollars in thousands]

Agency/program	2009 enacted	Assessments	Total available
Agricultural Research Service: [1]			
Salaries and Expenses	$3,323	$332	$2,991
Animal and Plant Health Inspection Service:			
Salaries and Expenses	4,963	852	4,111
Food Safety and Inspection Service: [2]			
Salaries and Expenses	59,170	1,773	57,397

LIST OF PROGRAMS, PROJECTS OR ACTIVITIES INVOLVING NON-FEDERAL COOPERATORS THAT ARE REDUCED THROUGH ASSESSMENTS FISCAL YEAR 2009—Continued

[Dollars in thousands]

Agency/program	2009 enacted	Assessments	Total available
National Institute of Food and Agriculture: [3]			
Research and Education Activities	691,524	54,919	636,605
Extension Activities	474,250	20,786	453,464
Integrated Activities	56,864	2,842	54,022
Natural Resources Conservation Service: [4]			
Conservation Operations	11,693	1,437	10,256
Watershed Operations	5,276	465	4,811

[1] ARS has a long-standing policy of applying a 10 percent indirect cost assessment on increases in appropriated program funds to finance administrative and program management costs associated with conducting nationwide research programs. This policy is documented in REE Policies & Procedures 329.5 entitled, Assessment of Indirect Program Support Costs and Indirect Research Costs.

[2] Agency met States for Cooperative Agreements up to 50 percent of State Meat and Poultry Inspection costs as authorized by the Federal Meat and Poultry Act, as amended (21 U.S.C. 601 et seq.), specifically section 301 of the FMIA (21 U.S.C. 661) and the Poultry Products Inspection Act, as amended (21 U.S.C. 451 et seq.), specifically section 5 of the PPIA (21 U.S.C. 454) Agency redirected funding for FERN Cooperative Agreements to mission critical needs, including salary and benefits, frontline travel and Cooperative Agreements with State MPI programs.

[3] Set-aside for Agency administration costs. Unless otherwise stipulated in law, most NIFA programs are assessed up to 4 percent to pay agency administrative costs. This includes costs for the grants review and approval process, documentation and management, funds disbursements, and post-award grants monitoring, including site visits and final close-out activities. Section 1469 of the National Research, Teaching and Policy Act of 1977, as amended, provides specific statutory authority to pay for administrative costs set-aside for the Current Research Information System (CRIS). Funds are set aside from the Hatch Act and Evans-Allen formula programs for partial support of CRIS. The amount set aside is based on the approved multi-State Hatch project that supports operational costs each year set-aside for Peer Panel Costs. NIFA has statutory authority for setting aside funds for the costs associated with convening peer panels for the purpose of reviewing and evaluating proposals submitted to competitively awarded programs. Section 1469 of the National Research, Teaching and Policy Act of 1977, as amended, provides this authority.

[4] Adjustments include about $2 million for Technical Assistance costs. The program authorizations for carrying out these programs are under: Soil Conservation and Domestic Allotment Act of 1935, Public Law 74–46 (16 U.S.C. 590a–590f) and the Soil and Water Resources Conservation Act of 1977 and Watershed Protection and Flood Prevention Act (16 U.S.C. 1001–1005 and 1007–1009).

Question. If agencies which are funded through a general salaries and expenses appropriation require funds to be set aside for various administrative purposes, why does the budget not specifically identify those items and provide for them by a specific appropriations amount, thereby making assessments against actual research or other activities unnecessary?

Answer. As you know, some agencies in the Department have separate program, and salaries and expenses appropriations, while others have one appropriation. Having separate appropriations for program activities and salaries and expenses is one approach that has merit. However, due to certain statutory requirements, some assessments against programs, projects or activities may occur even within agencies that have a separate salaries and expenses account. These statutory set-asides include a requirement to set aside 2.5 percent of extramural research and development funds to be used for the Small Business Innovation Research Program (Small Business Research and Development Enhancement Act of 1992, Public Law 102–564, as amended). In addition, all biotechnology research projects are required to set aside 2.0 percent of funds to support the Biotechnology Risk Assessment program (section 1668 of the Food, Agriculture, Conservation, and Trade Act of 1990, Public Law 101–624, as amended).

Question. Please describe any adverse consequences that would result from a prohibition against further agency assessments and, instead, provide a specific appropriation to cover the items for which those charges are currently being assessed.

Answer. It is difficult to assess the impacts of your proposal without the specifics of what the prohibition would entail. However, in general eliminating the ability to charge assessments would limit agencies' flexibility to respond to unforeseen events or other changes that occur during the fiscal year. In addition, it would be difficult to accurately identify needed administrative costs a year and a half in advance. Finally, historically salaries and expenses accounts have not kept pace with needed program delivery costs, leading to the possibility that the appropriate management and oversight of program delivery would be at risk.

FARM SERVICE AGENCY (FSA) AUTOMATED SYSTEMS

Question. Mr. Secretary, the precarious status of FSA's automated systems has been evident for several years. In the face of systems outages, the Agency has had to take the unprecedented step of rationing access by FSA employees. These automated systems support commodity programs, credit and farm loans, farm operations, conservation, and agriculture disaster relief, and systems instability is untenable.

In fiscal year 2010, this Committee provided funding to begin a multi-year information technology stabilization and modernization initiative. This budget requests continuation of that initiative, seeking $38,300,000 for the continued implementation of the MIDAS system, $20,000,000 for conversion of FSA software from obsolete legacy systems, and $36,000,000 to replace outdated hardware components in local offices.

Mr. Secretary, what progress has been made toward stabilizing and modernizing FSA's automated systems?

Answer. As of the end of fiscal year 2010, FSA will have completed the Stabilization activities that secure Web-based platform systems and adapted "best practices" and technology to the current environment to significantly lower the risk of future stoppages. These Stabilization activities enable FSA to improve the existing network by acquiring and using monitoring and management tools, methodologies and processes that promote optimal and efficient system performance. The result is a significant step towards achieving success in all future modernization efforts. Additional progress has also been made in the Modernize and Innovate the Delivery of Agricultural Systems (MIDAS) initiative. For example, FSA used ARRA funding to release the major acquisition solicitation that was essential to start system implementation work, continue program management and governance support, and continue business process streamlining activities that leverage industry "best practices" to reduce process errors and ongoing costs.

The fiscal year 2011 budget proposal includes the necessary resources to move ahead on schedule with IT modernization for FSA. It will support the continuation of the MIDAS project as planned along with necessary conversion of software for supporting activities to facilitate transition of FSA IT from the obsolete legacy system. In addition, the budget provides for a needed refreshment and upgrade of the Common Computing Environment to support the continued modernization process for FSA and the other service center agencies.

Question. Is this budget request sufficient to ensure against catastrophic system collapse, and to maintain adequate service levels through fiscal year 2011?

Answer. Yes, FSA has a plan in place to continue transforming and modernizing its IT environment and program delivery processes for 2011 and beyond. The 2011 budget requests $95.3 million for FSA IT Systems. This includes $38.3 million for the second installment of a multi-year request for MIDAS, $20 million for the continued conversion of legacy system processes to Web-based applications, $36 million to "refresh" the hardware on FSA's portion of the Common Computing Environment (CCE), and $1 million for IT staffing.

Question. Will you please provide a detailed schedule and funding needs estimate to complete the task?

Answer. FSA efforts to modernize aging IT systems, when completed, will work in concert with all of FSA's modernization initiatives to successfully operate and maintain daily our IT infrastructure while ensuring the viability of our payment processes moving forward. FSA will use the Web to provide information which employees need to deliver farm programs and provide a modernized, Web-based public face to their customers in support of open government.

The Stabilization initiative began in fiscal year 2007. As of the end of fiscal year 2010, FSA will have completed the Stabilization activities that secure Web-based platform systems and adapted "best practices" and technology to the current environment to significantly lower the risk of future stoppages. These Stabilization activities enable FSA to improve the existing network by acquiring and using monitoring and management tools, methodologies and processes that promote optimal and efficient system performance.

For Stabilization, no additional cost above our base requirements is needed. The original fiscal year 2007 Stabilization Project estimate did not include requirements for operational costs in fiscal year 2010 through fiscal year 2012. In our fiscal year 2010 budget request, FSA included requirements and received funding for operational costs in fiscal year 2010. These operational costs for Stabilization are considered base requirements and are included in our fiscal year 2011 President's budget totaling $20.4 million.

The cost breakout and task schedule for Stabilization are provided in the tables below.

STABILIZATION PROJECT AND OPERATIONAL EXPENSES

Funding source	Actual fiscal year 2006	Actual fiscal year 2007	Actual fiscal year 2008	Actual fiscal year 2009	Fiscal year 2010	Fiscal year 2011
S&E Base				[1] $5,189,210	[2] $27,232	$20,400,000

STABILIZATION PROJECT AND OPERATIONAL EXPENSES—Continued

Funding source	Actual fiscal year 2006	Actual fiscal year 2007	Actual fiscal year 2008	Actual fiscal year 2009	Fiscal year 2010	Fiscal year 2011
S&E Increase	.....	.....	.....	.....	20,400,000	.....
Base Carryover	.....	.....	.....	.....	.....	.....
Common Computing Environment (CCE)	.....	$24,585,000	.....	.....	.....	.....
Emergency Supplemental	.....	.....	$37,500,000	.....	.....	.....
Recovery Act (ARRA)	.....	.....	.....	9,126,345	21,873,655	.....
Total	.....	24,585,000	37,500,000	14,315,555	42,300,887	20,400,000

Note: Stabilization Operational Expenses for fiscal year 2011 and beyond will be covered from within the S&E base.

Total Stabilization Project Costs (fiscal years 2007–2010): $118,701,442.

[1] The $5,189,210 in the S&E base for Stabilization was provided for fiscal year 2009 only to expedite contracting until ARRA funds were available. The only funds designated for Stabilization in fiscal year 2009 were ARRA funds.

[2] In fiscal year 2010, FSA made a conscious decision to use $5,161,978 from the fiscal year 2009 S&E base to cover other critical infrastructure operational needs, which left $27,232 in the base for Stabilization expenses.

STABILIZATION TASK SCHEDULE FISCAL YEAR 2007 THROUGH FISCAL YEAR 2012

Initiative/Task	Fiscal year 2007	Fiscal year 2008	Fiscal year 2009	Fiscal year 2010	Fiscal year 2011	Fiscal year 2012
Stabilization Investment Tasks:						
eAUTH Performance Enhancements	Start	End				
Site B Disaster Recovery Management Study	Start	End				
Data Base Performance training		Start & End				
ITS Independent Verification and Validation (IV&V) Management Study.	Start	End				
Application Performance Monitoring	Start		End			
Network Server Management	Start	End				
Certification & Accreditation Management	Start	End				
Technical Performance Training	Start	End				
IV&V Gartner Management Study		Start & End				
Project Closeout and Migration Management			Start & End			
Security Performance Training		Start & End				
Security Operations Monitoring Enhancements		Start	End			
Application Build and Test Performance Management.		Start	End			
Application Availability and Performance Lab	Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations	Migrated To Operations
Application Performance Testing	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Data Base Management	Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations	Migrated To Operations
Application Process Flow Management	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Application Middleware Performance Upgrade		Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Enterprise Data Management		Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Enterprise Reporting Performance Capability		Start		End	Migrated To Operations	Migrated To Operations
Application Process Flow Management Repository.		Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations
IT Infrastructure Architecture Management	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
End to End User Performance Monitor	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Hosting and Network Management	Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations	Migrated To Operations
Hardware/Software & Telecom Performance Enhancements.	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
System Center & Service Oriented Monitoring	Start		End	Migrated To Operations	Migrated To Operations	Migrated To Operations
Problem Detection Performance Monitoring		Start	End	Migrated To Operations	Migrated To Operations	Migrated To Operations

The Modernize and Innovate the Delivery of Agricultural Systems (MIDAS) program is designed to transform the FSA delivery of farm program benefits, on behalf of the Commodity Credit Corporation (CCC), into a 21st century business model. MIDAS will streamline FSA business processes and develop a modernized long-term IT system and architecture to meet the needs of our customers, USDA, and other stakeholders.

The total implementation cost for MIDAS is estimated to be $304.7 million. In fiscal year 2006, fiscal year 2007 and fiscal year 2008, FSA utilized $2,716,000 of Salary and Expense funds for pre-planning and project office set up. These pre-planning costs were not part of the $304.7 million estimate.

This amount has not changed and is consistent with previous reports submitted to Congress. MIDAS is currently on track. With enactment of the current fiscal year 2011 request, a total of $159.9 million will have been provided for this project to date (see table below). Therefore $144.8 million is needed to fund the remaining costs of MIDAS.

See the cost table below for MIDAS funding.

MIDAS

Funding source	Actual fiscal year 2006	Actual fiscal year 2007	Actual fiscal year 2008	Actual fiscal year 2009	Fiscal year 2010	Fiscal year 2011
S&E Base	$40,000	$40,000	$676,000	$1,000,000	$2,600,000	$49,500,000
S&E Increase	.....	636,000	1,324,000	.....	46,900,000	39,300,000
Base Carryover	.....	.....	.....	.....	1,600,000	.....
Recovery Act (ARRA)	.....	.....	.....	5,600,000	13,400,000	.....
Total	40,000	676,000	2,000,000	6,600,000	64,500,000	88,800,000
Total MIDAS Project Costs	304,700,000					

The table below identifies MIDAS's schedule until fiscal year 2014.

MIDAS

Initiative/Task	Fiscal year 2006	Fiscal year 2007	Fiscal year 2008	Fiscal year 2009	Fiscal year 2010	Fiscal year 2011	Fiscal year 2012	Fiscal year 2013	Fiscal year 2014
MIDAS INVESTMENT TASKS:									
Pre-planning and project office set up	Start		End						
Acquisition and Planning—Software and SI acquisition.				Start & End					
Task Order 1—Planning					Start & End				
Task Order 2—Proof of Concept and System Design Complete.					Start	End			
Task Order 3—Initial Deployment						Start		End	
Task Order 4—Full Deployment							Start		End

Stabilization and MIDAS are just pieces of a larger FSA Modernization picture. Stabilization served as a necessary first piece to transform the IT environment to support the various initiatives of FSA's modernization plan. MIDAS is a significant piece that modernizes FSA's Farm programs; however, it is intertwined with several other modernization efforts. Currently, FSA is identifying funding needs and developing funding estimates for fiscal year 2012 to continue the journey to fulfill FSA Modernization. These efforts include

—Enterprise wide modernization either by assuming a lead role or partnering with USDA/agencies across the Federal Government including Budget and Performance Management Systems (BPMS), Web Based Supply Chain Management (WEBSCM) and Financial Management Modernization Initiative (FMMI); and,

—Acquisition and management of geo-spatial data and imagery in a way that maximizes efficient collection and manipulation of information while enhancing agricultural benefits administration and program monitoring. FSA intends to enhance such program capabilities as assembly, storage, transfer, manipulation, and display of geo-spatial data.

—Full modernization of all FSA program delivery including Farm Loans, and also Commodity Operations, not just Farm Programs.

All these efforts are required to move FSA's IT environment from one reliant on old/unsupported technology, isolated business processes using paper and manual operations, and limited online service and functionality to an open and portable 21st century environment that provides IT services, support, delivery and operations for the delivery of essential farm business management information and program benefits to farmers and ranchers. FSA will also transform the IT environment and infrastructure to deliver quick response solutions, such as farm bill requirements, when asked.

SECTION 719 OF THE PROPOSED 2011 ACT/FARM BILL IMPLEMENTATION

Question. Section 719 would permit the use of CCC funds provided in the 2008 farm bill for various program benefits to also be used for salaries and related expenses to carry out those programs. Please provide information on a program by program basis indicating the amounts of funding that would be transferred for this purpose.

Answer. The Recovery Act provides authority for USDA to use funds provided for certain farm bill programs for administrative expenses associated with implementing the programs. This authority expires at the end of September 2010. The 2011 budget requests similar authority to allow USDA to continue implementing these farm bill programs. The information provided below reflects the amounts apportioned for program implementation in fiscal year 2010. Actual obligations may be less.

[The information follows:]

ADMINISTRATIVE EXPENSES TAKEN FROM PROGRAM LEVELS AUTHORIZED IN THE 2008 FARM BILL

Program	Administrative expense estimates
Market Access Program	$4,980,000
Foreign Market Development Cooperator Program	1,530,000
Technical Assistance for Specialty Crops Program	1,000,000
Emerging Markets Program	1,350,000
Quality Samples Program	330,000
Local and Regional Purchase Pilot Program	1,550,000
Food for Progress	3,300,000
Marketing Loss Assistance Asparagus	96,000
Voluntary Public Access Program	175,000
Farmers Market Protection Program	682,000
Specialty Crop Block Grants	637,000
Plant Pest and Disease Management	10,000,000
National Clean Plant Network	485,000
SUBTOTAL	26,115,000
Additional CCC Spending[1]:	
Feedstock Flexibility	50,000

ADMINISTRATIVE EXPENSES TAKEN FROM PROGRAM LEVELS AUTHORIZED IN THE 2008 FARM BILL—Continued

Program	Administrative expense estimates
Biomass Crop Assistance Program	3,000,000
SUBTOTAL	3,050,000
TOTAL	29,165,000
Recap by Agency:	
Farm Service Agency	3,321,000
Foreign Agricultural Service	14,040,000
Agricultural Marketing Service	1,319,000
Animal and Plant Health Inspection Service	10,485,000
TOTAL	29,165,000

[1] Mandatory funding is provided ''as such sums as are necessary''.

QUESTIONS SUBMITTED BY SENATOR TOM HARKIN

WOMEN, INFANTS AND CHILDREN (WIC) PROGRAM

Question. WIC is a sound investment, not only because of the extraordinary benefits for participants, but also because it is one of the most cost-efficient benefit programs. One of the reasons that WIC continues to be able to serve all eligible applicants is because Congress and the Department of Agriculture have taken seriously the responsibility to control the program's costs.

USDA just released a report that found that WIC is paying $127 million more annually for infant formula under the contracts that are currently in place than under previous contracts, after adjusting for inflation. The Economic Research Service at USDA attributed nearly three quarters of the increase to increases in the inflation-adjusted price of infant formula (the remainder reflect lower rebate bids). The report concluded that the increase in infant formula price is largely explained by the introduction into formulas of two long-chain polyunsaturated fatty acids, which were followed by wholesale price increases of some 7 to 30 percent above the prices of what had previously been standard formulas.

Please explain whether the Department agrees with the details of the ERS report regarding the principal causes of price increases for infant formula in recent years (above the rate of inflation). Is the increased cost of infant formula in the WIC program a concern to you, and if so, what will be the response of the Department?

Answer. While I have not personally reviewed the conclusions of the ERS report you mention, I am confident that their analysis is rigorous and sound.

The Department is always concerned about costs which impact the WIC Program's ability to serve the greatest number of eligible persons within the funds made available to it. FNS continually monitors program costs, market trends, and developments in an effort to ensure WIC pays competitive prices for all eligible foods and infant formula in particular. FNS also reviews State agency rebate solicitations to ensure the solicitations comply with Federal requirements established to maintain an even playing field for formula manufacturers, thereby fostering competition.

NRCS OIG AUDIT REPORT

Question. Please detail all actions taken to respond to the Office of Inspector General audit report of November 13, 2008. Do you believe the actions taken thus far will adequately address the issues raised in the OIG report? Why or why not?

Answer. NRCS has taken numerous actions since the OIG audit report was issued in 2008 to improve the condition of financial information. While many actions have been completed, they have not yet been sufficient in scope to produce a clean audit opinion. Some of the actions planned but not yet completed will take more time and require more dedicated resources to complete. Information on actions completed to date is provided below for the record.

[The information follows:]

Training:

—Ensured all employees who prepare agency financial statements attend mandatory training presented by the U.S. Department of Treasury.
—Provided 2-day training which included a checklist reference guide to State personnel on evaluating and reviewing the validity of open obligations.
—Developed and delivered training on the review and proper recording of accruals, the accounting for reimbursable agreements, and the review of cardholder transactions.
—Ensured all employees completed required OCIO Information Technology Services User Authorization Access Training Program.

Policy and Procedures:

—Reviewed, updated and issued interim policy and procedures to ensure balances were valid, delivered orders were accrued in accordance with policy, and obligations were properly recorded on a timely basis.
—Issued draft policy for reimbursable agreements and unfilled customer orders.
—Instituted a process effective December 22, 2008, to ensure general ledger account relationship tests over Fund Balance with Treasury are performed on a routine basis.
—Reviewed and updated current change control policy and procedures related to testing and approving application changes prior to migration to production.
—Reinforced the need for supervisors to adhere to policy and procedures over reviewing purchase cardholder transactions.
—Instituted procedures for management review of the monthly statements for fleet card purchases. In addition to monitoring activities, periodically sampled fleet card purchases during OMB Circular A–123 testing cycle to ensure proper use and the reasonability of the amount charged.
—Reaffirmed guidance regarding the transfer of USDA Officer of the Chief Information Office (OCIO) information technology equipment at the State offices to the OCIO inventory listing and monitored for compliance.
—Developed and deployed a Web-based tool to assist State and Headquarters personnel in a 100 percent review of open obligations. On-going monitoring is conducted to ensure compliance with policy and procedures. In fiscal year 2009, this activity was performed quarterly. In fiscal year 2010, NRCS plans to perform this activity three times.

Reviews:

—Conducted reviews of 20 States in fiscal year 2009 to ensure compliance with the open obligation review.
—Reviewed and ensured appropriate segregation of duties and established guidelines and procedures for reviewing Co-Lab project roles are performed on a periodic basis (Co-lab is a collaboration system that NRCS uses to support software development and maintenance).
—Completed a review of the property systems to ensure bulk purchases are properly classified.

Accountability:

—Developed a standardized certification statement that all allowance holders are required to certify each quarter.
—Developed an inventory of all leases. Received and classified all leases prior to signing in order to ensure proper accounting treatment. This inventory is compared to the information in the USDA Corporate Property and Information System to ensure completeness.
—Instituted a management review process and approval of agency financial statements.

Security:

—Modified the security tables in the USDA Foundation Financial Information System (FFIS) to ensure appropriate segregation of duties.
—Revised the WebTCAS (Agency time reporting system) Risk Assessment to account for all NIST SP 800–30 (Risk Management Guide for Information Technology Systems) control areas and revised the WebTCAS System Security Plan to account for all NIST SP 800–18 (Guide for Developing Security Plans for Federal Information Systems) control areas.

Despite the actions that NRCS has taken thus far, there are still challenges we are working to overcome. These include the following:

—Turnover in key financial management positions.
—Insufficient documentation of policy and procedures for financial management activities that reflect the large number of accounting standards and requirements promulgated in the past decade.
—Inadequate numbers of staff with appropriate skill level in financial and administrative organizations at both Headquarters and State organizations. Shortages are most acute in accounting and involve developing policy, procedures and

processes in accounting operations at headquarters and State offices, controls over financial reporting through OMB Circular A–123, Appendix A, and support for the annual financial statement audit.
—Lack or inadequacy of Agency program systems to correctly capture financial information without labor-intensive work-arounds.

NRCS has recently taken steps with regard to each of these barriers as follows:
—Recruited for a new CFO; selection process is underway.
—The Accounting Officer position was recently vacated and will be advertised soon.
—The Agency is currently recruiting qualified individuals for lateral reassignment to perform high-risk functions described in the audit report.
—NRCS leadership has procured the support of a firm to evaluate and recommend an appropriate organization for financial and administrative functions.
—Training has been developed and delivered to employees with responsibilities in financial and administrative functions.
—The Agency is investing in a strategic initiative to streamline the program, administrative and financial components of the financial assistance programs (including mandatory funds). This initiative will streamline and automate business processes using role-based technology to most efficiently capture financial transactions with the necessary internal controls.
—The Agency is considering the centralization of certain administrative/financial functions to ensure standardization, accuracy and completeness of financial reporting.
—The Agency has procured support for audit remediation support that will begin in April 2010. The audit remediation contract will focus on the weakness/risk that were initiatives in the audit. The contractor will work with States on an individual basis to focus the efforts under this contract including the hands-on training of personnel and clean-up of the Agency's financial records with regard to all the weaknesses and deficiencies noted in the audit report.

Question. If you believe the Department is not now capable of carrying out the conservation programs at the mandatory funding levels provided in the Food, Conservation and Energy Act of 2008, what further changes in management will be necessary for the Department to take to properly carry the programs out as required by law, and by what date would you expect to have made all necessary management changes?

Answer. NRCS is currently working diligently to address management and financial concerns raised by its most recent stand-alone audit.

The Agency has experienced expanded programmatic and administrative responsibilities with expanded and new programs in the recent farm bills. However, the workforce needed to effectively carry out the expanded responsibilities has not increased at a comparable level.

To improve the efficiency and business management of the Agency, the following actions are taking place:
—Implementing a conservation streamlining process that includes more effective and efficient automated processes for managing financial assistance programs. NRCS estimates this initiative will reduce the administrative and clerical burdens on field staff by over 80 percent once fully implemented. The 2011 budget includes a $5 million in to accelerate this process;
—Improving internal controls in program databases;
—Updating program policies to reflect current statues and regulations;
—Developing a managerial cost account methodology that clearly defines and aligns the Agency's funding with performance; and
—Conducting a workforce planning assessment to identify staffing needs (i.e. positions and locations) and to better allocate human resources.

In addition to the actions listed above the 2011 budget includes the following initiatives for the Agency:
—$25 million for the implementation of Strategic Watershed Action Teams (SWATs) that will be deployed to high-priority watersheds and landscapes to focus program assistance to more effectively address resources concerns. The development and deployment of SWATs will greatly improve the environmental cost effectiveness of the Agency's programs. By significant planning, education, and program implementation assistance, the technical assistance teams will enhance the Agency's capability to strategically invest in conservation and better target the Agency's financial and technical assistance programs.
—$35 million for the agency's share of the modernization and upgrade to the Common Computer Environment (CCE) for the Service Center Agencies (NRCS, Farm Services Agency (FSA) and Rural Development (RD). The funding will be used to replace outdated components of the CCE (reducing system

vulnerabilities and improving performance and effectiveness of the infrastructure and allow for the first system-wide refresh since the system was implemented in 2000).

It is anticipated that it will take 3 to 5 years to complete these actions.

QUESTIONS SUBMITTED BY SENATOR BYRON L. DORGAN

MANDAN ARS

Question. Secretary Vilsack, I was disappointed that the President's fiscal year 2011 budget proposed a $543,000 cut in biofeedstock research at the Northern Great Plains Research Laboratory in Mandan, North Dakota. Bioenergy feedstock research is a priority for your Department and for the Congress. In fiscal year 2010 for example, Congress redirected money to this area and in your fiscal year 2011 budget, you requested a $10 million increase for biofuels feedstock research. Can you explain why you cut the bioenergy feedstock funding at the Mandan ARS when it matches USDA's high priority research mission?

Answer. The ARS fiscal year 2011 budget proposed to terminate all congressionally earmarked projects appropriated in fiscal year 2010, including the $543,000 earmarked for the Northern Great Plains Research Laboratory in Mandan, North Dakota. The proposed elimination of ARS earmarks and the redirection of these funds will offset the cost for new and expanded research initiatives, including the establishment of five Regional Biofuels Feedstocks Research and Development Centers.

SMITH-LEVER

Question. Congress established the Cooperative Extension Service through the Smith-Lever Act of 1914. North Dakota has extension offices in 52 counties and on Fort Berthold Indian Reservation. Smith Lever funding is critical to our State in providing educational assistance and technical support to North Dakota rural communities. These funds are necessary in order to serve long term, short term and emergency needs in rural America. What steps are being taken by USDA to increase Smith Lever funding?

Answer. The fiscal year 2011 President's budget request sustains support for the Smith-Lever 3(b) and (c) formula at the fiscal year 2010 appropriated level. However, increased funding for AFRI will substantially support extension activities through growth in both extension focused awards and integrated research and education awards. The budget also seeks a funding increase for the Sustainable Agriculture Research and Education program, which is a critical element of extension delivery at the regional, State, and local levels. In addition, the 2008 farm bill provides funding for the Beginning Farmers and Ranchers Program, Organic Agriculture Research and Extension Initiative, and Specialty Crop Research Initiative which will support extension activities.

TRIBAL COLLEGE AND UNIVERSITY COMMUNITY FACILITY PROGRAM

Question. Congress established the Tribal Colleges and Universities Essential Community Facilities Program to help our Nation's tribal colleges and universities (TCU) address long overdue and high-priority infrastructure and facilities needs. The USDA's fiscal year 2011 budget proposes to eliminate entirely this vitally needed program for American Indians. Can you explain your reasoning for eliminating this program? I understand that USDA offers some competitive programs that could also offer a potential source of funding for TCUs. If the Department sees this as a viable alternative for these institutions, please provide an analysis of the success that TCU's have had in competing for general USDA programs and for land-grant programs.

Answer. The reason the program is proposed for elimination in the 2011 budget is that the tribal colleges and universities can compete for community facility funding without a specific set-aside. From 2001 through 2009, TCUs received about $38 million in grants under the set-aside, compared to about $229 million in grants, direct loans and loan guarantees that all tribal entities received under the community facility program, which shows that the TCU set-aside is only a modest portion of the assistance USDA is providing to meet the needs of American Indians. Further, tribes are eligible for several other USDA Rural Development programs, such as the business and industry guaranteed loan program and the rural business enterprise grant program.

RURAL UTILITIES SERVICE LOAN AND GRANT PROGRAMS

Question. What is the Rural Utilities Service doing to ensure that the Broadband Initiatives Program promotes broadband deployment in unserved or underserved areas?

Answer. With over 60 years of successful telecommunication financing experience, RUS will continue to strive to ensure that it provides loan and/or grant resources to eligible projects. Under our Broadband Initiatives Program (BIP), RUS has established an objective scoring process which incents applicants to bring the most robust service to the most rural and unserved areas. In fact, RUS gives priority to unserved and highly rural areas. RUS will rely heavily upon the information submitted by the applicant to prove the need for broadband service. To further validate this information, RUS will post all proposed service territory maps on broadbandusa.gov and allow incumbent providers to comment on whether these areas are unserved or underserved through Public Notice Responses (PNRs) received during a 30-day comment period. RUS will rely upon these comments, along State broadband maps (where available), and both RUS and Rural Development Field Staff to validate the information when necessary.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

FOOD SAFETY

Question. I have been encouraged to see this administration's commitment to improving the safety of our food supply, and I commend you and Secretary Sebelius for forming the Food Safety Working Group. I know that you share my belief that there is much room for improvement in this area, and I would encourage you to examine these important issues with a very critical eye.

Specifically, I am concerned about the chemical intensive production practices that are used to clean and prepare our meat, and I am concerned about the persistent presence of pathogens even after these chemical and antimicrobial processes have been applied.

According to FSIS Directive 7120.1, industrial strength chemicals such as chlorine and ammonia, as well as carbon monoxide, and other complex chemical compounds can be used in the production and processing of meat products. What is even more shocking is that there is no requirement to label most of the additives on this list.

Why doesn't the USDA require that all processes and processing agents be labeled on the packaging of meat products so that consumers will know exactly what they are consuming? Have you conducted any research that concludes that consumers do not want to know that these processing aids have been used on their meat products?

Answer. Under a Memorandum of Understanding between the agencies, the U.S. Department of Health and Human Services' Food and Drug Administration (FDA) is responsible for determining whether or not substances are safe for use in meat and poultry products, and USDA's Food Safety and Inspection Service (FSIS) is responsible for determining the suitability of their intended use.

FSIS strives to have consistent labeling policies with FDA. For example, FDA does not require processing aids to be declared on the label. Processing aids are ingredients that are present in a meat or poultry product in an insignificant amount and that have no functional or technical effects in the finished meat or poultry product.

We have not conducted consumer research on processing aids. We do continually review our labeling policies and strive to ensure that consumers are not misled by information either on or missing from food packages.

Question. Have you started any reviews, or taken any other steps to begin reevaluating the safety of all products that are currently listed as Generally Recognized As Safe (GRAS) using modern scientific standards?

Answer. To conduct a review of GRAS substances would be very expensive, and we are not aware of any evidence that unsafe ingredients have been allowed for use in food by FDA or FSIS. The FDA is responsible for determining whether or not substances are safe for use in meat and poultry products, and issues GRAS notices regarding these substances. GRAS determinations are based on scientific data showing that, under the proposed conditions of use by industry, the substance is safe. Based on these findings, FSIS determines whether the proposed conditions of use by industry are suitable.

Question. While the Food Safety Inspection Service is testing meat products for the presence of the deadly E. coli O157:h7, what other pathogens are inspectors looking for? Why are the tolerance levels for these other pathogens, such as Salmonella which also has the potential to cause debilitating illnesses significantly

higher than the tolerance levels for E. coli O157? When is the agency going to develop pathogen reduction activities and set performance goals for non-O157:H7 Shiga toxin producing escherichia coli (STEC)?

Answer. The Department is continuing its intensive efforts targeted at reducing the incidence of foodborne illness and the prevalence of foodborne pathogens in the meat, poultry and processed egg supply. Inspection program personnel sample for a variety of foodborne pathogens, including Salmonella, E. coli O157:H7, Listeria monocytogenes, and they will soon sample for Campylobacter.

Reducing the prevalence of Salmonella is a priority of the President's Food Safety Working Group (FSWG) as part of its first core principle of preventing harm to consumers. As part of the FSWG recommendations, we are in the process of finalizing revised performance standards for use in reducing the prevalence of Salmonella in turkeys and young chickens. Our goal, as part of FSWG, is that 90 percent of all poultry establishments meet the new standards by the end of 2010. Performance standards assess the plant's process control by testing for the presence of the pathogen in product. By revising current performance standards, we will have a means to measure whether food safety improvements are occurring in the products it regulates.

Currently FSIS is collaborating with USDA's Agricultural Research Service to develop a laboratory test for non-O157 Shiga toxin-producing E. coli (STEC).

CITRUS

Question. I remain very concerned about the citrus industry in California. The Asian Citrus Psyllid has now been found in five counties and the pest is quickly approaching the major citrus producing regions of my State. Although no cases of citrus greening have yet been reported, producers believe that unless a resistant citrus strain is identified or dramatic action is taken to stop the spread of the psyllid that it is only a matter of time before this catastrophic disease infects our citrus trees.

In your effort to stop the spread of the Asian Citrus Psyllid, how are you engaging the Mexican government, and what efforts are you taking to help prevent or slow the pest's movement north across the border? Have you engaged the Government of Belize in similar efforts? To what extent do you believe these efforts will help citrus growers in California?

What research is being done to help identify resistant citrus varieties and how soon do you expect these varieties to be made available for commercial use?

The Asian Citrus Psyllid infestation has been particularly hard on citrus nurseries because of the extended latency period of the Huanglongbing disease. What resources are you dedicating to help protect the existing citrus nursery stock in California, and have you been able to identify any ways to provide an earlier diagnosis of the Citrus Greening disease?

Answer. Protecting agriculture from pest and diseases remains a priority for the Department. Like you, we are also very concerned about the potential for citrus greening (CG) to spread to additional citrus producing States like California. To protect California and other States, the Animal and Plant Health Inspection Service (APHIS) is conducting survey and regulatory activities for both the Asian citrus psyllid (ACP) and CG. In addition, APHIS is working with State and industry cooperators to implement control measures aimed at suppressing ACP populations and preventing or slowing the spread of CG. APHIS is working closely with the Mexican government to delimit and suppress ACP populations along the United States-Mexico border. APHIS spent $800,000 in fiscal year 2009, and is spending $1.7 million in fiscal year 2010, to assist the Mexican government with these activities along the border.

While APHIS is not conducting suppression activities in Belize, the Agency is coordinating efforts with its government as well. APHIS, Mexico, and Belize recently developed a tri-national strategic and operational plan to address citrus diseases. This plan established harmonized protocols that each country will use for survey, regulatory, and control activities and will help enhance coordination of protection, response, and recovery from ACP and CG.

APHIS is coordinating research efforts on ACP and CG with the Agricultural Research Service, the National Institute of Food and Agriculture, universities, and industry stakeholders. The areas being investigated include survey and detection methods, diagnostic tools, control tools (biological and chemical), as well as the development of citrus varieties resistant to CG. Research and development of resistant varieties started more than a year ago, and APHIS, along with its stakeholders and partners, recognizes the importance that such varieties could play in successfully mitigating the effects of ACP and CG on U.S. citrus production. However, we are

not able to specify a timeframe for when the varieties may be available for commercial use.

APHIS also recognizes the concerns of the nursery industry about the impact the detection of CG in California could have on the State's ability to move its products. APHIS' current quarantine restrictions on areas with CG prevent any host plants from being moved out of the quarantine area. To protect California (and other States), APHIS is working to improve strategies for early detection of citrus diseases. Current efforts include protocols that intensify sampling for CG as soon as ACP is detected in an area. APHIS also is working to prevent or slow the spread of ACP from the areas currently affected in California, which do not include citrus or nursery stock producing areas at this time.

Additionally, the California Department of Food and Agriculture is conducting ACP suppression efforts. APHIS is spending $14.5 million on Citrus Health Response Program activities in California and continues to review the current regulatory response to ACP and CG while research into new detection and treatment methods continues.

ORGANIC

Question. I have been encouraged to see that the administration is committed to improving the organic industry in our country, and the inclusion of $10.1 million for the National Organic Program in the President's budget was an important step to ensure the integrity of USDA's organic label. However, I am concerned that the President's fiscal year 2011 budget cuts funding for competitive organic research programs by $5 million. With these cuts, funding for organic research amounts to only 1.3 percent of the total budget for the National Institute of Food and Agriculture.

This proposed reduction in dedicated organic research funding appears to be at odds with the administration's commitment to support the growth and development of organic agriculture.

Can you please explain this decision to reduce the level of organic research funding in your fiscal year 2011 proposed budget?

Answer. In efforts to streamline program delivery, the National Institute of Food and Agriculture proposes to eliminate funding of $5 million for the Organic Transition Program (OTP). In fiscal year 2011, $20 million in mandatory funding through the Organic Agriculture Research and Extension Initiative is available for research on organics. Programs such as the Specialty Crop Research Initiative, Agriculture and Food Research Initiative, and Sustainable Agriculture Research and Education Programs also support organic activities. These competitive programs as well as State and local governments, and private sources, could be used to support aspects of OTP deemed to be of priority at State and/or local levels.

Question. I am also concerned that some producers are taking advantage of the USDA Organic label, and that the current standards, oversight and enforcement options at the National Organic Program are not strong enough. What reassurances can you give me that the National Organic Program is actively seeking out producers that are cheating the system and penalizing them for their actions? With the additional funding in the fiscal year 2011 budget, how do you intend to improve enforcement of NOP standards in the coming year?

Answer. The National Organic Program continues to actively work to enforce NOP regulations in the United States and internationally. The NOP is working closely with accredited certifying agents to verify and enforce organic standards. We are conducting market surveillance of organic labels and the organic market to ensure proper labeling. NOP has begun taking steps to resolve compliance and enforcement cases more quickly by increasing staff, establishing standard operating procedures, and enhancing use of tracking and monitoring systems. In addition, NOP is planning to develop an administrative sanctions policy to specify when civil penalties or other sanctions are warranted; implement a more efficient system for tracking and resolving complaints; strengthen oversight of certifying agents and operations; publish a program manual to serve as a guide for certifying agents on NOP regulations; and develop a quality manual to comply with international accreditation norms.

Internationally the National Organic Program has conducted extensive audits of certifiers and certified operations in Europe (United Kingdom, Italy, Spain, Germany, Netherlands, Austria, and Switzerland) South and Central America (Bolivia, Brazil, Argentina, Chile, Costa Rica, and Peru), Australia, and Canada through the course of accreditation audits of certifiers based in those countries. Protocols for auditing large international certifying agents now include site reviews of certified operations outside of the certifiers' home country of operations.

With the funding increase in fiscal year 2011 the National Organic Program will continue to improve compliance with program regulations and will enhance the integrity of the organic label. Of the $3.111 million funding increase requested for fiscal year 2011, $2.11 million will provide the resources needed to accelerate the review and amendment, as required, of the program standards and regulations to reflect industry and consumer expectations through a transparent and participatory process; improve the consistency in certifier application of the standards, explore statutory authority to strengthen compliance, ensure label integrity, and respond to requests for international equivalency agreements.

PESTICIDES

Question. Environmental, public health, and farming groups have all contacted me to express concerns about the EPA's review of pesticide use. I understand that there are concerns about pesticide drift and the impact of these pesticides on endangered species. It is my hope that you will be engaging with the EPA on this matter to ensure that the concerns of all parties can be addressed.

What is USDA doing to ensure that pesticides can be used by farmers in a safe way?

Answer. The Agricultural Research Service (ARS) conducts research on technologies to minimize spray drift by investigation of spray-drift management, maximizing field deposition and targeted spraying to minimize spray drift. Technologies and application guidelines are developed to ensure that the right amount of pesticide is applied to the right location at the best time. More precision of application ensures reduced losses to the atmosphere and waterways, thus reducing economic losses to the farmer, fostering more sustainable production and ensuring that the demands of a growing population for food, fiber, feed and fuel can be met while improving environmental quality. ARS and the Forest Service are actively supporting EPA's efforts to advance Drift Reduction Technology.

In addition to ARS, the National Institute of Food and Agriculture (NIFA) engages in promoting the safe application of pesticides through numerous activities. After the passage of the Food Quality and Protection Act (FQPA) in 1996, a number of Integrated Pest Management (IPM) programs were developed by the Cooperative State Research, Education and Extension Service (now the National Institute of Food and Agriculture or NIFA), with an emphasis on the development and implementation of safer alternative pest management practices and strategies. These programs include the Regional IPM Centers, the Extension IPM Coordination and Support Program, the Pest Management Alternatives Program, the Regional IPM Program, the Crops at Risk Program, the Risk Avoidance and Mitigation Program, and the Methyl Bromide Transitions Program. All of these programs encourage the use of IPM strategies, which provide a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. In addition, the Pesticide Safety Education Program, managed jointly by the U.S. Environmental Protection Agency (EPA) and NIFA, supports educational programs for pesticide applicators in the proper use of pest management technologies.

Because these programs encourage and support the use of IPM and best management practices, and the judicious use of more selective and carefully timed pesticides, the risks from pesticide drift to natural enemies, pollinators, endangered species, wildlife and human health are minimized. Projects supported by many of these programs have documented significant reductions in pesticide use.

I will have ARS and NIFA provide additional information for the record.

[The information follows:]

DepositScan, a portable scanning system that was developed at Wooster, Ohio, to enable farmers to optimize equipment settings, techniques, and practices; train applicators to accurately apply chemicals on targets; and accelerate manufacturers' processes for new pesticide formulations and pesticide spraying equipment. The software for DepositScan is available to the public without charge, and can be downloaded from the Web site: http://ars.usda.gov/mwa/wooster/atru/depositscan.

Assessments of methods that can be used to test potential drift reduction technologies (DRTs).—In cooperation with the U.S. EPA Office of Pesticide Programs, this work at College Station, Texas, included testing protocols for ground and aerial DRTs, and assessments of various spray nozzles and the droplet sizes produced. This is critical in providing the aerial application industry with scientifically sound information, protocols, and new technology to assure ongoing compliance with evolving regulatory requirements.

New spray nozzles improve herbicide application efficiency.—New spray technologies developed at College Station, Texas, allow herbicide applicators to optimize

the efficiency of sprays so that effective weed control can be achieved with a minimum amount of glyphosate. The work clearly showed that rotary atomizer and electrostatic nozzles provide superior herbicide efficacy and permit reduced amounts of liquid spray applications, thus reducing application costs and environmental impacts.

Optimizing pesticide application rate technology for nursery production.—Various adjustments of air-assisted sprayers developed by ARS scientists at Wooster, Ohio, resulted in one-half the usage of pesticides for pest and disease controls in nursery shade tree plants. By using the half-rate technology, growers safeguarded the environment due to pesticide applications and reported savings of over $200–$500 per acre.

Developing ways to prevent devastating soybean disease.—Small droplet applications designed at Wooster, Ohio, to improve coverage can effectively treat the target area if air-assistance is used to help provide extra energy to penetrate down to the plants' lower leaves, where the potentially devastating Asian soybean rust fungus can hide. Applicators will know the importance of matching the application equipment parameters with the pesticide choice to provide the most efficacious applications.

Increased efficiency and safety through drip applications.—Researchers at Bushland, Texas, and Parlier, California, have developed surface and subsurface drip and microdrip irrigation technologies that minimize weeds in cropping systems. Drip irrigation minimizes water that would support weed growth, eliminates the need for aerial sprays, lessens runoff, reduces worker exposure, and cuts the use of herbicides and tillage otherwise needed for weed control.

Artificial wetlands that capture pesticides.—Researchers at Oxford, Mississippi, and Tifton, Georgia, have developed constructed, artificial wetland systems to capture agricultural drainage waters and reduce nutrient levels and allow time for the dissipation and decay of pesticides. This research helps to determine the fate and transport of nutrients and pesticides and helps to establish design parameters for wetlands. This information is also valuable in predicting how climate, soils and management affect the cycling of these contaminants.

Sensor for smart application of pesticides.—Researchers at Lincoln, Nebraska, and Bushland, Texas, have developed active light reflectance sensor technologies for use in precision agriculture on sprinkler systems. The sensors are designed to detect the health or stress of growing crops and when connected to control systems, can direct on-the-go variable rate herbicide, fungicide, pesticide or plant growth regulator applications; or can map specific crop attributes or conditions while crop scouting. Active sensor use for management of crop inputs such as pesticides and nutrients can improve efficiency and profitability, while enhancing environmental quality.

Contributions to interagency technical and financial assistance to growers and U.S. EPA.—ARS' Office of Pest Management Policy works with the four regional Integrated Pest Management Centers (funded by the USDA National Institute of Food and Agriculture) and grower representatives to provide information to EPA on how pesticides are used and to help determine how they can be used safely for workers and the environment. The Pest Management Centers' Crop Profiles and Pest Management Strategic Plans, produced in cooperation with the EPA, support pesticide Registration Review efforts and identify pesticide alternatives. The Natural Resources Conservation Service provides information on the use of conservation practice standards and Integrated Pest Management (IPM) techniques in the local Field Office Technical Guide (FOTG). The Window Pesticide Screening Tool (WIN–PST) is used to assist with site specific management of pesticide use at the farmer level. Financial assistance is provided by the Environmental Incentive Program (EQIP) and Conservation Security Program (CSP) which encourages farmers to use conservation practices and IPM techniques that reduce the risk of degrading natural resources and follow label instructions. The Animal and Plant Health Inspection Service (APHIS) implements procedures to ensure that staff applying pesticides have taken appropriate training and certification classes specific to their State requirements and any special pesticide requirements.

NIFA and other USDA agencies are currently involved in discussions with EPA concerning their review of pesticide use and the forthcoming draft National Pollution Discharge Elimination System Program (NPDES) general permit. EPA has encouraged Federal agency comment on the draft permit. We are encouraged that the use of IPM strategies is anticipated to be among the requirements for obtaining an NPDES general permit.

The Regional IPM Centers promote the development and implementation of IPM strategies by facilitating collaboration across States, disciplines, and purposes. They serve as focal points for regional pest management information networks, collaborative team building, and broad-based stakeholder participation. The end result is

increased coordination of IPM research, education and extension efforts and enhanced responsiveness to critical pest management challenges. The four Regional IPM Centers serve the needs of the north central, northeastern, southern and western regions of the United States.

The Extension IPM Coordination and Support Program supports regional, State, and local efforts in advancing the goals of the National Roadmap for IPM by addressing priority needs associated with the coordination, design, development, implementation, and evaluation of Extension IPM programs. The program helps agricultural producers and other pest managers adopt alternative pest management practices through training, demonstration, and evaluation of methods and strategies.

The Pesticide Safety Education Program, managed jointly by EPA and NIFA, supports educational programs for pesticide applicators in the proper use of pest management technologies. Extension programs at land grant institutions, in conjunction with State regulatory agencies that certify and license applicators, provide these education programs.

The Pest Management Alternatives Program supports the development and implementation of pest management alternatives when regulatory action, voluntary action by the registrant, or other circumstances results in the unavailability of certain pesticides or pesticide uses. Through these grants, new pest management tools and techniques are developed to address critical pest problems identified by pest managers and other stakeholders. This program works with the Regional IPM Centers to identify and address regional priorities established by stakeholders.

The Regional IPM Program is managed by the Regional IPM Centers and supports the development and implementation of new and modified IPM tactics and systems, their validation in production systems, and the delivery of educational programs to pest managers, advisors, and producers. The program builds stakeholder partnerships to address critical pest management needs in each region.

DAIRY

Question. I understand that USDA is nearing the completion of the Dairy Economic Loss Assistance Program that was authorized and funded by this subcommittee last year to assist dairy producers who have struggled as a result of last year's record low prices.

Since the implementation of this program, what steps has the Department taken to address the long term problems in the dairy industry and avoid similar collapses in the coming years? Do you believe that any of the supply management proposals will be able to stabilize the dairy market, or does the Department believe that other alternatives would be more appropriate?

When will the Department endorse a specific plan to stabilize the volatile dairy market?

Answer. Since payments were initiated under the Dairy Economic Loss Assistance Program, USDA continues to operate the Milk Income Loss Contract (MILC), the Dairy Export Incentive and the Dairy Product Price Support programs as authorized under the 2008 farm bill. Dairy producers may elect to enroll in the Risk Management Agency's Livestock Gross Margin for Dairy Cattle Insurance Policy to provide protection against volatility in milk prices and feed costs. The Department continues to reduce its inventory of surplus nonfat dry milk through barter and other arrangements in order to provide nutritious and wholesome foods to low-income families and bring dairy product markets into better balance.

In addition, we have taken steps to move forward with the USDA Dairy Industry Advisory Committee, which will have its first formal meeting April 13–15, 2010. We will be looking to this diverse group of 17 individuals to provide insights regarding the issues of farm milk price volatility and dairy farmer profitability. As you suggest, supply management likely will be a topic that this subcommittee addresses. USDA eagerly awaits the recommendations of the Dairy Industry Advisory Committee and their insights regarding measures to reduce volatility in dairy markets.

WOMEN, INFANTS AND CHILDREN (WIC) PROGRAM

Question. The WIC program purchases infant formula at a substantial discount to provide to low-income mothers and children. Under the program, a competitive bidding process is used in which manufacturers offer discounts (rebates) to a State WIC program in exchange for being the sole formula provider in that State.

USDA recently released a report that found that the WIC program is paying $127 million more annually for infant formula under the contracts that are currently in place than under previous contracts.

Considering that the program now spends about $800 million each year on infant formula, that is a significant increase. The report says that the main reason for the increase is that WIC is providing more expensive formulas with certain fatty acids. Can you please explain this trend?

Answer. During 2002 and 2003, manufacturers introduced an infant formula that was supplemented with the fatty acids docosahexaenoic acid (DHA) and arachidonic acid (ARA). Manufacturers' advertisements claim the additional nutrients support the mental development and visual acuity of infants. The wholesale price of the formula was more than the non-enhanced formulas. Since the introduction of the DHA/ARA-enhanced infant formula, manufacturers have mostly phased out the production of non-enhanced formulas. In addition, manufacturers have submitted bids for infant formula rebate contracts using the DHA/ARA-enhanced infant formula. As a result of formula availability and contract requirements, WIC State agencies are issuing the enhanced infant formulas on a regular basis.

Question. Does USDA have any authority that would prevent WIC from having to pay more if new, even more costly, formulas are introduced?

Answer. USDA does not have authority that prevents WIC from having to pay more for new and more costly formula. The State agencies contract with infant formula manufacturers and accept the bid that provides the lowest net cost for the formula the manufacturer has determined meets contract requirements. If the infant formula manufacturer adds a new, more costly formula after the contract has been awarded, State agencies have the discretion to deny its inclusion to the State agency's allowable food list and thus not pay for the more costly formula during the life of the contract, which is typically 3–5 years.

The Department is always concerned about costs which impact the WIC Program's ability to serve the greatest number of eligible persons within the funds made available to it. USDA continually monitors program costs, market trends, and developments in an effort to ensure WIC pays competitive prices for all eligible foods and infant formula in particular. We review State agency rebate solicitations to ensure the solicitations comply with Federal requirements established to maintain an even playing field for formula manufacturers, thereby fostering competition.

It is worth noting that it is FDA that determines the regulatory requirements for infant formulas and determines if a product may be marketed in the United States. Due to the array of infant formulas that are produced and in order to ensure infant formula rebate solicitations remain competitive, WIC Program regulations require State agencies to issue rebate solicitations for an infant formula that is suitable for routine issuance to the majority of generally healthy, full-term infants. The infant formula manufacturer determines the formula that best meets this requirement. The lowest bidder is awarded the contract, and the formula that the manufacturer bid is considered the Primary Contract Brand infant formula. The Primary Contract Brand formula is considered the formula of first choice and all other infant formulas are considered alternative formulas.

QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

MARKET ACCESS PROGRAM

Question. The administration recently announced its intent to increase U.S. exports through a National Export Initiative. But while the administration's fiscal year 2011 budget invests in a number of programs aimed at export promotion, it proposes a 20 percent reduction in funding for the Market Access Program (MAP). MAP has played an important role in making our products competitive overseas. The program effectively leverages public and private resources to establish and build export markets abroad and increase farmer profitability. Overseas markets are critical for agricultural producers in Illinois and across the country. I am pleased that this administration is committed to eliminating trade barriers and boosting U.S. agricultural exports, and believe MAP, a program with a proven track record, can contribute to that goal. Are there specific concerns with MAP's effectiveness to date that led to the proposal to scale back even while renewing the commitment to expand exports of U.S. products?

Answer. The fiscal year 2011 budget proposes a series of adjustments in the funding levels for USDA's market development programs to provide a better balance among them and to reflect the changing nature of agricultural trade competition. While the requested 2011 MAP funding is reduced from $200 million in 2010, to $160 million, that level provides program funding nearly 80 percent above 2001.

At the same time, the proposed budget includes increases in 2011 to double annual funding for the Foreign Market Development (Cooperator) Program and Tech-

nical Assistance for Specialty Crops (TASC) Program to address long-term barriers to export growth. The budget also includes an increase of $10 million for the Foreign Agricultural Service to expand its exporter assistance efforts, trade missions, in-country promotions, and trade enforcement activities to remove non-tariff trade barriers, such as unwarranted sanitary and phytosanitary standards. Annual funding for the Cooperator program has remained relatively stagnant since the early 1980s, which has tended to discourage new organizations from participating and new types of activities from being undertaken. The proposed increase in TASC program funding reflects the growing importance of specialty crops for U.S. agricultural trade growth and the contribution the program has made in resolving numerous trade barriers.

MC GOVERN-DOLE PROGRAM

Question. The McGovern-Dole International Food for Education and Child Nutrition Program reduces child hunger and promotes education by providing meals to vulnerable children at schools in the world's poorest countries. The Program was developed to expand and improve upon a $300 million pilot program known as the Global Food for Education Initiative, which was created by President Clinton in 2000. Although the McGovern-Dole Program was authorized by Congress in the 2002 farm bill and reauthorized in 2008, it has never received the level of funding provided for the GFEI pilot program. I was pleased the administration's fiscal year 2010 budget provided a significant boost in funding to the McGovern-Dole Program. I understand the budget constraints that may have influenced the decision to flat fund the program in fiscal year 2011. What plans does the Department have to ensure the future growth of this very important program?

Answer. USDA believes the McGovern-Dole International Food for Education Program is a crucial tool for improving education, nutrition, health, and the general food security of women and children worldwide and requested a doubling of the budget in 2010. We continue to improve the program through increased monitoring and evaluation, improved indicators, and increased collaboration with host country governments.

CONSERVATION PARTNERSHIPS

Question. The administration's budget directs NRCS dollars to programs that "focus on addressing the needs of priority landscapes in the most need of protection, and emphasize partnering with local constituents to efficiently implement programs and initiatives." I'd like to highlight a great conservation partnership that has developed in Illinois. The Illinois Department of Natural Resources has been working with organizations that specialize in landscape and habitat restoration to help private landowners restore vital watersheds throughout central and southern Illinois. What is the Department doing to encourage more of these partnerships, particularly those that serve to multiply benefits by using the technical assistance and expertise of State agencies and qualified private organizations?

Answer. The Cooperative Conservation Partnership Initiative (CCPI), established in section 2707 of the Food, Conservation, and Energy Act of 2008, gives the NRCS legal authority to enter into partnership agreements with eligible entities, including State agencies and qualified private organizations, to enhance conservation outcomes on agricultural and nonindustrial private forest lands. In 2010 NRCS will offer CCPI through the Mississippi River Basin Healthy Watershed Initiative (MRBI) and the Chesapeake Bay Watershed Initiative (CBWI). Through these initiatives, NRCS and its partners will provide technical assistance to help landowners and operators voluntarily implement conservation systems to address resource concerns in priority watersheds.

Federal, State, and Local partners are critical to the implementation of the CBWI and have been engaged through State Technical and partner meetings. In many cases, partners, especially Conservation Districts, are able to provide both technical and or financial assistance that complements the goals of the CBWI. For 2010, three locations in the Chesapeake Bay Watershed have been chosen as Showcase Watersheds (Conowago PA, Upper Chester MD, and Smith Creek VA). The objective of the Showcase projects is to reduce nutrient loading into waterways while demonstrating and documenting the effective voluntary implementation of priority conservation practices and "Cooperative Conservation Partnerships". These watersheds will be the locations for increased outreach activities (with potential interaction with every farmer in the watershed). In addition, the U.S. Geological Survey and other scientific partners will provide water quality monitoring services to watch for potential in-stream responses from the increased conservation efforts.

In 2010, Environmental Protection Agency received $475 million for the interagency Great Lakes Restoration Initiative (GLRI) to address regional issues that affect the Great Lakes, such as invasive species, habitat and wildlife protection and restoration, non-point source pollution, and contaminated sediment. As a Federal partner in the GLRI, NRCS will receive $34 million in fiscal year 2010, to purchase conservation easements and implement conservation systems in priority watersheds in the Great Lakes. Through GLRI, NRCS will also partner with the Great Lakes Commission to support the Great Lakes Basin Program for Soil Erosion and Sediment Control. The Great Lakes Basin Program will provide financial assistance, information and education, and technical assistance to partner agencies, landowners, and operators to protect and improve water quality in the Great Lakes Basin by reducing soil erosion and improving sediment control.

The Agricultural Water Enhancement Program (AWEP) also provides an excellent opportunity for partnership with State and local entities. Under AWEP, NRCS enters into partnership agreements with eligible entities that want to promote ground and surface water conservation or improve water quality on agricultural lands. After the NRCS Chief has announced approved AWEP project areas, eligible producers submit applications for financial and technical assistance to implement water enhancement activities. AWEP will be offered in 2010.

On March 12, 2010, USDA announced the Sage-Grouse Initiative. Sixteen million dollars in Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentive Program (WHIP) funds will be used to assist private landowners with implementing conservation practices that address the many threats to sage-grouse habitat. This funding will be available in all 11 States that have sage grouse populations: California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. By providing a focused effort across multiple States, NRCS can ensure funds are prioritized consistently to provide the highest potential of improving the quality of sage-grouse habitat. There will be close collaboration of many stakeholders, including the State fish and wildlife agencies, in this effort to ensure that NRCS activities complement efforts already underway.

FOOD SAFETY

Question. The National School Lunch program provides a valuable service to our Nation, by ensuring that over 32 million children each day are well fed and ready to learn. With so many of our Nation's youngsters relying on this program, we must take necessary steps to ensure that the food they are consuming is safe. While USDA and FDA both work hard to ensure the safety of our food supply, in the past some school kids have been served—and even sickened by—products that should never have been consumed because they were recalled. In a report on this issue, GAO recommended that changes to Federal agencies' procedures could reduce the risk of school children consuming recalled food. I understand that USDA and FDA are finalizing a Memorandum of Understanding that will provide for specific notification to the USDA's Food and Nutrition Service, Agricultural Marketing Service, and Farm Service Agency during FDA investigations that may involve commodities intended for school meal programs. Can you give me an update on the status of the MOU?

Answer. The health and safety of the children we serve each day in our school nutrition programs is of the utmost importance to us. The Food and Nutrition Service (FNS), Agricultural Marketing Service (AMS), and Farm Service Agency (FSA) work closely with the regulatory agencies, Food and Drug Administration (FDA) and the Food Safety and Inspection Service (FSIS) to provide interlocking rings of protection against foodborne illness. FNS, AMS, and FSA are strengthening the bonds with FDA by drafting an MOU on communications during food safety investigations and recalls. USDA is working closely with FDA to create an MOU that meets the needs of all agencies involved. A final MOU is expected by the end of the fiscal year.

FNS closely monitors data from the Centers for Disease Control and Prevention (CDC), the FDA, and other sources to ensure we are reducing the impact of foodborne illness in schools to the greatest extent possible. Illnesses linked to recalled foods in schools are very rare, and there is no evidence of any cases of foodborne illness being attributed to recalled USDA commodity food that was served at schools in the last 10 years. The primary cause of foodborne illness in schools is norovirus, which recently was characterized and published by FNS in the Journal of Environmental Health. That article described the analysis of CDC foodborne illness outbreak data and showed that norovirus was confirmed as being responsible for over 60 percent of outbreaks in schools (Venuto et al., Journal of Environmental Health, 2010. Available at http://www.fns.usda.gov/fns/safety/pdf/JEH_2010.pdf). Food is generally contaminated with norovirus by infected food handlers, and FNS

has launched an educational campaign to address this issue with food service workers in the National School Lunch Program.

FNS and FDA are working together on other fronts as well. We have a joint research project to address improper cooling of foods in schools, another frequently cited cause of foodborne illness outbreaks.

IMPORTS OF DOGS

Question. I worked to include language in the 2008 farm bill to prevent the import of underage, unhealthy dogs destined for resale in the United States. The final bill, signed into law in June 2008, provides USDA APHIS with new enforcement authority and requires that dogs imported to the United States for resale be at least 6 months of age, properly vaccinated, and in good health. Please provide an update on the status of USDA's regulations for enforcement of the farm bill's puppy import restrictions.

Answer. As mandated by the 2008 farm bill, APHIS is coordinating with the Department of Health and Human Services' Centers for Disease Control and Prevention, the Department of Commerce's Chief Counsel for Regulations, and the Department of Homeland Security's Customs and Border Protection to develop appropriate dog import regulations and enforcement strategies. APHIS anticipates that the proposed rule will be published in the Federal Register and available for comment by the summer of 2010.

QUESTIONS SUBMITTED BY SENATOR TIM JOHNSON

ANIMAL DISEASE TRACEABILTY

Question. Many farmers and ranchers in South Dakota were very pleased to hear that USDA recently scrapped the proposed National Animal Identification System, as it was seen to be invasive and burdensome. We've heard USDA estimates that a new animal disease traceability system would take roughly 18 months to complete—how will you involve farmers and ranchers in the program's development and ensure transparency?

Answer. We are committed to ensuring transparency and openly working with States, tribes, and producers in the new approach for animal disease traceability. In keeping with the spirit of the listening sessions we held last year, we are holding a forum March 18–19, 2010, in Kansas City, Missouri, with States and tribes to discuss the new approach and to discuss their ideas for achieving a workable animal disease traceability framework.

APHIS also established a working group to develop regulations related to animal disease traceability. The working group consists of Federal, State, and tribal animal health officials who assess options for the animal disease traceability framework, provide input to the Agency, and review feedback received from stakeholders, such as ranchers and farmers. Input and feedback can be provided through local animal health officials, and by contacting the USDA area veterinarian in charge, State veterinarian, or tribal animal health officials. Contact information for State veterinarians is available on USDA's animal disease traceability Web site at: http://www.aphis.usda.gov/traceability.

USDA will also establish a Secretary's Advisory Committee on Animal Health to provide feedback to the Department. Membership on this Advisory Committee will be completed in a transparent manner, with a call for nominations that will be published in the Federal Register. In addition, if States, tribes, and industry need species working groups, USDA will establish these groups under the Advisory Committee on Animal Health. Upon publication of the proposed rule, APHIS will offer a comment period of 90 days for comments and feedback from farmers, ranchers, and other interested parties. APHIS will also ensure timely updates to the Agency's traceability Web site to honor our commitment to transparency.

COUNTRY OF ORIGIN LABELING

Question. Thank you for your work in implementing Country of Origin Labeling. As you know, this has been a substantial priority for me since 1992. USDA conducted a survey to ascertain how COOL was being implemented in accordance with Congressional intent. When will the results of that survey be released?

Answer. Since the COOL Final Rule went into effect, USDA has been carrying out compliance activities through conducting in-store retail reviews. In calendar Year 2009, COOL compliance reviews were performed in 3,871 retail stores where approximately 1.16 million item types (e.g., U.S. Choice Strip Steak, company

branded strip steak, bin of tomatoes, package of carrots, Tilapia fillet, etc.) were evaluated. By this summer, we plan to have completed a total of 12,700 reviews.

We are currently in preparations to post information related to our compliance-related activities on the USDA Web site late this spring. We will ensure this information is provided to you at that time.

"ACTIVELY ENGAGED" FARMER

Question. I am disappointed to see that USDA's rules on farm program payment limits do not include a stronger interpretation of what it means to be an "actively engaged" farmer. Will USDA revisit this definition?

Answer. For more than 20 years, Congress and USDA have worked to ensure that farm program benefits only go to farmers who are actively engaged in farming. For 2009–12, new requirements were placed on the contributions of active personal labor and/or active personal management by the partners, stockholders, and members of some types of legal entities in the determination of actively engaged in farming. These changes include:

—Each of the partners, stockholders, or members must make a contribution of active personal labor and/or active personal management to the farming operation that must be performed on a regular basis, be identifiable and documentable, and separate and be distinct from the contributions of any other partner, stockholder, or member of the farming operation;

—The contribution of the partners, stockholders and members must be significant and commensurate; the legal entity will make contributions to the farming operation that are at risk for a loss, with the level of risk being commensurate with the claimed share of the farming operation; and

—The failure of any partner, stockholder, or member to meet this requirement will result in a reduction of payments to the payment entity commensurate with the ownership share held by that interest holder.

On an on-going basis, USDA examines the definitions and parameters we use for a wide variety of programs. Likewise, staff continually reviews our actively engaged regulations to determine whether changes in those regulations are needed to prevent farm program payments going to non-farmers. Given the changing structure of agriculture—including how operations are run and their financial and ownership structures—we are evaluating options to best ensure that our programs are equitable and efficient to all, while at the same time taking into account a wide variety of viewpoints.

VETERINARY MEDICAL LOAN REPAYMENT PROGRAM

Question. I am glad to see USDA has implemented the Veterinary Medical Loan Repayment Program. I am concerned, however, that the timeline to turn in shortage area nominations has been too compressed. What outreach has USDA undertaken to ensure that every State has ample opportunity to participate in this program, and has USDA received complaints from State Animal Health Officials about the timeline?

Answer. On July 9, 2009, the National Institute of Food and Agriculture (NIFA) published an interim final rule and request for comments on this program.

The rule clearly stated the intent of was to solicit nominations of shortage areas, and spelled out in detail the procedure to be followed. The rule also explicitly stated the Agency's intention to solicit nominations for a period of 60 days. Insofar as this interim final rule was published approximately 6 months prior to actually calling for nominations, we believe that the 60 day response period is sufficient and reasonable. I will have NIFA provide additional information for the record.

[The information follows:]

The period for submitting shortage area nominations ended on March 8, and we received 249 nominations from 48 States and the Republic of Marshall Islands. We did not receive any complaints with respect to the time we allowed for nominations from any of the State Animal Health Officials (SAHO).

All States submitted nominations except Massachusetts and Hawaii and the District of Columbia). We contacted the SAHO of Massachusetts and Hawaii and both indicated that this was not a priority concern for them. Neither indicated that the compressed timeline was a factor.

There was considerable effort made to ensure eligible entities were informed and engaged. All Chief Animal Health Officials received information and reminders about the nomination process both leading up to and after release of the Federal Register notice soliciting nominations. The National Assembly of State Animal Health Officials (NASAHO) and the United States Animal Health Association (USAHA), both with memberships comprising the authorized respondents to this so-

licitation, were very helpful sending out notices and reminders to respond by the deadline.

Although the intention was to solicit nominations for a period of 60 days, we determined that a period of 45 days was necessary to allow for sufficient time to review and certify shortage areas prior to the opening of the VMLRP application period on April 30. Given that this was the first year of implementation, we were prepared to allow a grace period to those that needed extra time to submit their nominations.

CONSERVATION TECHNICAL ASSISTANCE

Question. I've heard many times from conservation groups that a crucial piece of conservation program implementation is an adequate focus and dedication to technical assistance to ensure producers are in compliance with program requirements. What are your thoughts on technical assistance, and will you place additional emphasis on this?

Answer. The successful delivery of conservation technical assistance is inherently a field-based activity. Since 2002, increased administrative workload associated with increased financial assistance programs has reduced the amount of time field staff can spend in the field during the planning process. At the same time the financial assistance funding has increased, the number of NRCS FTE's has remained relatively stable. To streamline the business processes required to support conservation planning and contract development, NRCS is designing a mobile conservation planning tool that will be a critical part of our delivery model in the future. NRCS envisions having field staff in the field, working with clients 65 to 80 percent of the time. Web-based applications will integrate Geographic Information System services and mobile computing so that planning and contract development will occur simultaneously as the planner is working in the field.

The streamlining effort and next generation tools will: (1) make participation in USDA's conservation programs easier for customers and the delivery of programs less complex for employees; (2) increase efficiencies by streamlining and integrating processes across business lines, and (3) ensure the continued science-based delivery of technically sound conservation products and services.

NRCS envisions deploying Strategic Watershed Action Teams (SWATs) consisting of five to seven people (approximately 35 teams or 175 FTEs), for a period of 3 to 5 years in a specified geographic location. These teams will include Soil Conservationists, technicians and specialists and will be identified based on the needed technical expertise in each watershed. The number of teams deployed for each watershed will depend on the analysis of natural resource and socioeconomic data of the region and will be decided based on a formula that NRCS will develop.

The development and deployment of SWATs will greatly improve the environmental cost effectiveness of NRCS technical and financial assistance programs. By significant planning, education, and program implementation assistance, the technical assistance teams will enhance the Agency's capability to strategically invest in conservation and better target the Agency's financial and technical assistance programs.

The goal of deploying the SWATs will be to reach every eligible landowner in a targeted watershed and provide them with the technical assistance to assess their natural resource conditions and offer resource planning and program help. Emphasis in resource assessment and planning will be placed on those resource conditions that are of priority interest in the selected watershed.

QUESTIONS SUBMITTED BY SENATOR BEN NELSON

RURAL MICROENTERPRISE ASSISTANCE PROGRAM

Question. I worked to get the Rural Microenterprise Assistance Program (RMAP) into the 2008 farm bill (The Food, Conservation, and Energy Act, Public Law 110–246), which was signed into law on in June of 2008. Unfortunately 20 months later we are still waiting for USDA to roll out this new initiative.

With small business making up 90 percent of all rural businesses and over one-million rural businesses containing 20 or fewer employees; Congress supported the creation of RMAP, and provided mandatory funding for the initiative. Because we wanted to address the financing needs of small rural businesses, particularly the small firms with less than 10 employees that have always had a difficult time securing affordable and flexible financing.

The current economic slowdown has made it even more difficult for these businesses. The reasons: banks are no longer willing to provide capital for expansion,

for working capital or for equipment. The situation is even more dire for start-up businesses that do not have a track record and must depend on "character lending." The start-ups and micro businesses are on the chopping block for private credit even with a good business plan and/or record of success. While the Department published a proposed rule on RMAP last fall, we have seen nothing since. When can we expect the program to be implemented?

Answer. We anticipate that an interim rule will be published in April 2010 and that the Notice of Funds Availability (NOFA) will follow shortly thereafter.

Question. Can you provide a timetable for issuing a publication of a final rule, Notice of Fund Availability, application deadlines and loan and grant awards?

Answer. We anticipate publication of the Interim Rule in April, 2010 and that a NOFA will follow very shortly thereafter. Applications could be accepted as early as May with the first awards being made in August.

Question. The budget proposes a reduction of $1.65 million in microenterprise assistance grants. A number of Members expressed concern in a letter to the Department November 23, 2009 that the proposed rule did not adequately address need to ensure that the government's investment in this program was protected through technical assistance to borrowers nor did the rule seem to fully grasp the importance of helping those entities and organizations with community need but without the capacity to implement a program authorized under RMAP right this second. What is the view of the Department on technical assistance activities authorized under RMAP?

Answer. The Department fully realizes the importance of technical assistance to micro-borrowers and potential micro-borrowers. We also recognize the subcommittee's position regarding the expansion of the microenterprise development industry into areas without immediate capacity. Upon receipt of the November 23rd letter the Department internally addressed each of the subcommittee's concerns in developing the interim rule. The rule is currently under review.

In that same letter, we also commented on the proposed rule regarding loan rates and loan loss reserves. In our view the statute is clear in mandating 1 percent loans to intermediaries. The rule proposed a different and in our view more confusing approach. The proposed rule also required borrowers to fund from their own resources the loan loss reserve. This requirement will serve to limit participation of organizations with limited resources. Our suggestion was to fund that out of the Federal loan.

Question. What is the Department's view on these issues?

Answer. We agree that the rate structure in the proposed rule was not straightforward. This issue has been addressed in the interim rule. We believe that the interim rule is much simpler.

Regarding the Loan Loss Reserve Fund (LLRF), we fully understand the subcommittee's position regarding lowering the cost of program participation by funding the LLRF with Federal funding.

RESEARCH

Question. The scarcity of food and the disappearance of fuel have the potential to be major crises that could develop across the world. Certainly research in Agriculture has the potential to mitigate the impact of these possible shortages.

While we have seen significant sums of research funding through the National Science Foundation, National Institutes of Health, DOE's Office of Science, we have not had the same investment in agricultural research. The proposed $1.35 billion in discretionary spending for the National Institute of Food and Agriculture (NIFA) is the same level as last year.

Recognizing agricultural research can address these challenges and find solutions—by addressing water quality and quantity issues; adapting to climate change and the effect it has on agriculture and forestry; increasing food production for a raising population with reduced inputs; and promoting renewable fuels to replace dependence on foreign fossil fuels—how do you anticipate utilizing the fund that are available to promote these activities?

What can be done in the future to get Agricultural research the recognition it deserves to grab a greater share of the overall Federal budget?

Answer. We have taken a critical step toward giving agricultural science the recognition it deserves by substantially increasing funding for the Agriculture and Food Research Initiative competitive grant program which is focused on high priority issues where science and education can solve real problems in agriculture—improving food safety, reducing childhood obesity, adapting and mitigating climate change, expanding biofuels, and addressing world hunger. NIFA will focus resources on larger, longer programs to create substantial impacts in addressing critical issues facing

the long-term viability of agriculture. By working with the best and brightest scientist across the Nation, and continuing to foster collaborations with other science agencies, we hope to reposition agricultural research within the Federal science enterprise.

INTERNATIONAL FOOD SECURITY

Question. Continuing on the importance of food scarcity and security, could you elaborate on your plans for international food security?

Answer. USDA is participating in a "whole-of-government" approach to a global food security initiative called "Feed the Future." The U.S. strategy will:

—Address the underlying causes of hunger with a comprehensive approach by focusing on agricultural productivity, linking farmers to markets, and reducing under-nutrition;
—Invest in country-led plans and tailoring assistance to the needs of individual countries through country-led consultations and investment plans;
—Improve strategic coordination through participation of all stakeholders to ensure efficiency, effectiveness, and accountability;
—Leverage the strengths of multilateral institutions to deliver resources effectively, increase resources, and promote inclusive policy dialog; and
—Make long-term, sustained and accountable investments and use benchmarks and targets to measure progress toward meeting the initiative's goals.

USDA's role will be to leverage the wealth of knowledge and expertise it possesses to support the U.S. initiative in areas of (1) basic agricultural research, (2) adaptive research that takes scientific innovation and output to farmers and processors, and (3) capacity building to ensure sustained country ability to build and maintain agricultural statistics systems; enhance capabilities with Ministries of Agriculture; link farmers to markets; conduct policy and market analysis; and create and oversee modern food safety standards and regulations. USDA will not have the lead for the U.S. Government for agricultural development activities.

INTERNATIONAL FOOD SECURITY

Question. Many of our universities have long worked on agricultural production around the world. What do you see as the partnership role between these universities and USDA in addressing the issues of international food security?

Answer. Global food security is one of USDA's Research, Education, and Economics agencies' Challenge Areas and it is addressed in part through the NIFA's partnership with land grant and other public universities. USDA international activities and outreach often involve and rely upon expertise and experience of academic personnel from our universities. For instance, because of their experience and expertise in Haitian soils and agriculture, researchers from Auburn University (Alabama), the University of Florida, and Virginia Tech University were in the group that was there to set up soil fertility evaluations and recommendations when recent earthquake there occurred. NIFA's 2010 Agriculture and Food Research Initiative (AFRI) will have a request for application on Global Food Security and will award grants for research, extension, and education in this area to universities and other research institutions. Also, it is anticipated that much of USDA's research, education, and outreach commitment to the Global Research Alliance for Agricultural Greenhouse Gases will be accomplished through grants to U.S. universities. In addition to reducing greenhouse gases from agriculture, this research will improve international food security. It is further anticipated that leading scientists from universities will participate in the research groups of the Alliance and provide input and expertise for many of the Alliance's activities. NIFA's International Programs section also administers funds awarded to U.S. universities in the area of international agricultural production and food security. For instance, in 2008, 23 institutions received grants to enhance capabilities of U.S. universities to conduct international collaborative research, extension, and teaching through the competitively awarded International Science and Education Grants program. The projects will enhance the international content of curricula, provide faculty with the opportunity to work outside the United States to bring lessons learned back to the classroom, promote international research partnerships, enhance the use and application of foreign technologies in the United States and strengthen the role that colleges and universities play in maintaining U.S. competitiveness.

Question. While DOE has made huge investments in biofuels, their investments in renewable it is towards non-grain cellulosic ethanol. These priorities ignore the years of success made by grain ethanol and the efficiency gains made by the industry that will continue to drastically reduce greenhouse gas emissions and improve the profitability in the first generation of biofuels. What steps is USDA taking to

ensure the continued success of grain based biofuels and the expansion of cellulosic biofuels in order for farmers and ranchers to be a part of their expansion and rural communities can benefit from their development?

Answer. Much of the interest in non-grain cellulosic ethanol, including USDA's guaranteeing of a loan to Range Fuels under the Biorefinery Assistance Program is driven by the realization that grain ethanol alone cannot met the Nation's renewable energy standard of 36 billions of renewable fuel by 2022—four times the 2008 level—without significant impacts on U.S. exports of grain, land usage, a food prices. Cellulosic ethanol production currently limited to small pilot projects. Although there are several commercial sized plants under development, grain ethanol production is expected to remain viable into the foreseeable future, at least for as long as it continues to receive the Government's subsidy through tax credits. USDA fully appreciates the benefits that grain ethanol has provided to many rural communities, and will continue to conduct research to increase yields to keep abreast of the market potential for both grain ethanol and bio-diesel. USDA also understands that there are potential benefits for cellulosic ethanol and other renewable fuels that also need to be tapped through its research. In addition, USDA administers a number of 2008 farm bill programs that support the commercialization of advanced fuels.

NATIONAL DROUGHT MITIGATION CENTER

Question. With USDA reorganizing its research priorities the National Drought Mitigation Center (NDMC) was not included in the Department's fiscal year 2011 budget. Based at the University of Nebraska—Lincoln, NDMC helps people and institutions develop and implement measures to reduce societal vulnerability to drought. By stressing preparation and risk management over crisis management, the Center provides valuable research that is utilized by all levels government and the agriculture sector to lessen the impact of drought.

While we will work to provide funding for the Center through our work in Congress, what can be done to protect the valuable work of the NDMC and ensure its funding for years to come?

Answer. Mitigation and adaptation to climate change will be one of the focus areas of the Requests for Applications in the Agriculture and Food Research Initiative competitive grants program in 2010 and anticipated in 2011, where the NDMC should be well positioned to compete.

TRADE

Question. The U.S. Department of Agriculture has again targeted the Market Access Program for a 20 percent reduction. While the budget proposes an additional $53.5 million for Department of Agriculture export promotion activities, of which $34.5 million is for the Foreign Market Development program, I am concerned about any reduction in funding for programs that assist farmers and ranchers to gain access in foreign markets and help their products overcome the inherent biases and barriers that can block access to the market.

I would like to hear more about the Department's efforts in helping agriculture keep up with the fluctuations in the market. What steps is it taking to help overcome new regulations and barriers that our international partners are putting up to our agricultural products?

Answer. As tariff barriers declined with the emergence of the World Trade Organization (WTO), there has been a dramatic increase in non-tariff barriers to trade such as unnecessarily restrictive and scientifically unjustified regulations to protect human, animal and plant health, and technical barriers to trade (TBTs). In spite of the WTO Sanitary and Phytosanitary (SPS) and TBT Agreements, countries have increasingly erected SPS and technical barriers as a means to protect domestic industries in the face of quickly growing global trade.

High priority SPS and TBT issues for USDA include restoring the Russian market for poultry, the Turkish market for biotech cotton and soybeans, the Japanese beef market, and harmonizing international standards for maximum residue levels for pesticides and veterinary drugs.

Within the Department, FAS provides overall leadership on trade issues. In Washington, FAS assesses the trade implications of foreign regulations, and coordinates strategies to address priority trade barriers. Overseas, FAS and the Animal and Plant Health Inspection Service (APHIS) address border-entry problems affecting U.S. exporters, and provide valuable information on foreign regulations. APHIS negotiates international standards related to plant and animal health—the most effective way to prevent new trade barriers in those sectors. The U.S. Office for Codex Alimentarius, housed in the Food Safety mission area, promotes science-based regu-

lations and standards around the world, while the Food Safety and Inspection Service technical programs ensure that foreign governments recognize the U.S. food safety systems for meat, poultry, and egg products. Agricultural Marketing Service verification programs provide the ability to certify to many foreign government trade requirements. USDA capacity building programs, conducted by several agencies, train foreign governments in science-based regulatory decisionmaking to prevent new barriers to trade.

RURAL UTILITIES SERVICE

Question. The President's fiscal year 2011 Budget has proposed to cut the Rural Utility Service (RUS) Electric Loan program by $2.5 billion and prevent RUS lending for peaking natural gas plants, as well as environmental upgrades to existing power plants.

While the shape of future energy legislation is a bit uncertain; what is for sure, is our Nation's utilities will need to begin to move towards cleaner and more efficient means for energy. My concern is by cutting this loan program and placing restrictions on lending, we are hindering our small rural utilities from securing the funds necessary to help them to make the transition to cleaner burning fuels and renewable wind power, to help them mitigate the potential costs of any future energy legislation.

At this time of energy transition, why does the Department feel it is necessary to lessen the capabilities of the Electric Loan Program; especially if it actually saves the government money by bringing loan repayments into the treasury and reduces ratepayers energy costs by spurring the development of efficiencies and renewable.

Answer. The budget request for the RUS Electric Program reflects the level that will be needed to finance borrower requests since the agency is not currently financing base load generation projects. The budget request also reflects the President's commitment not to provide subsidies for fossil fuels. Restricting the use of RUS electric loans to non-fossil fuel projects will increase the emphasis on moving towards cleaner and more efficient means of energy and spurring technological development.

QUESTIONS SUBMITTED BY SENATOR JACK REED

SNAP

Question. Mr. Secretary, thank you for your work and commitment to ensure that all Americans have access to safe, nutritious foods and particularly for your support of the Supplemental Nutrition Assistance Program (SNAP). The increase in participation over the last year is clearly a sign of the tough economic times we face, but it is also a result of USDA's and your efforts to encourage eligible individuals to apply for benefits. In addition, the temporary benefit increase provided under the Recovery Act has helped participants and has provided an economic lift, since each dollar in benefits increases GDP by $1.73, according to economist Mark Zandi.

In Rhode Island, where unemployment is just under 13 percent, SNAP benefits have been a life-line for thousands of families who have been out of work for months. Nonetheless, it has at times been difficult for individuals to get enrolled in the program, particularly in States like mine, where State resources have been stretched to the breaking point. Indeed the State of Rhode Island was sued and entered into a settlement agreement last year over its failure to process applications within the statutory time lines. As you know, the Recovery Act, as well as the fiscal year 2010 Defense Appropriations Act, provided administrative funding to help States with SNAP enrollments.

Can you comment on how the States have used these funds? Are they investing in personnel, in equipment? Have they been effective in using these resources to expedite the enrollment process? How are you evaluating their performance and how is USDA encouraging them to use their additional administrative funding wisely?

Answer. States are required to report on how they spend ARRA funds to administer SNAP. ARRA reporting is done in a manner that is similar to how States report spending regular SNAP administrative funds. According to those reports, it is clear that States are overwhelmingly spending ARRA funds on staffing to address the increased workload resulting from the rising SNAP caseloads. In fact, our reports show that in 2009, over 80 percent of the ARRA funding was used to hire and maintain staff. Early reports for 2010 indicate a similar trend. We also know that many States have taken this opportunity to use ARRA funding to update work environments to better handle the increase in demand for this critical nutrition program.

Rhode Island received $471,124 as a result of ARRA in fiscal year 2009 and an additional $476,014 in fiscal year 2010. In addition, Rhode Island received $1,501,575 from the Department of Defense (DOD) appropriations in fiscal year 2010. Rhode Island reported that they used their fiscal year 2009 ARRA funds for staff overtime to clear application backlogs and to purchase new telephone systems to lay the groundwork for a statewide call center model to improve customer service and increase efficiency. Finally, they also developed automated noticing and recertification packages to alleviate staff of administrative tasks so that their time could be spent on other certification related activities. The State plans to use fiscal year 2010 funds to further support a call center model. Early indications are that Rhode Island intends to use their DOD money to hire additional staff.

USDA works with State partners to ensure that they understand the purpose of both ARRA and Department of Defense appropriations funding. In addition to both the ARRA and regular administrative cost reporting requirements, USDA evaluates State performance through multiple mechanisms including participation rates, management evaluations, quality control error rates, timeliness measures and continuous monitoring and oversight by the regional office.

We recognize the workload pressures faced by States. USDA offers technical assistance to encourage States to wisely spend ARRA funds in ways that maximize quality customer service for SNAP applicants and participants. Additional guidance was issued to State agencies on March 15, 2010, to help ensure that States are using the ARRA administrative funds for their intended purposes. Over 7 million more people have been enrolled in SNAP over the past year. We believe that the ARRA funding has been instrumental in enabling State agencies to respond to this increased need.

RURAL DEVELOPMENT—RURAL DEFINITION

Question. Mr. Secretary, although some may not consider Rhode Island to be a rural or agricultural State, it does have rural communities and agriculture. As a result, it has benefited (and done good things) with rural development funding through USDA. Regrettably, as the result of new statutory requirements and institutional bias, States like Rhode Island have found it difficult to access funding that had traditionally been available to them. If this trend continues, I am concerned that my constituents will view USDA Rural Development in the same way they view the Bureau of Reclamation: an agency that their tax dollars support but which provides them with no direct benefit.

I appreciate your efforts, as well as those of Chairman Kohl, last year to restore the eligibility of several communities in my State, as well as Massachusetts and Connecticut, which had been deemed ineligible for rural development grants and loans under an administrative ruling, even though these communities had long histories of participating in these programs. Under the 2008 farm bill, USDA is charged with developing an equitable definition of rural communities.

Can you provide an update on that process and the steps that you are taking to ensure equity for communities in States like mine?

Answer. The confusion that has existed in the Northeast relates to the fact that there are many villages and boroughs in the Northeast and these terms are not defined in either the 2008 farm bill or prior legislation. The long standing policy of allowing villages and boroughs to be considered eligible on the same basis as a town has been restored through an Administrative Notice sent to Rural Development field staff. This policy appears to be the best approach to providing equity for Northeastern States.

As for the changes in the definitions of rural and rural areas that were included in the 2008 farm bill, they involve a considerable amount of area mapping that has yet to be done. Further, regulations will need to be developed with regard to the discretionary authority given to the Under Secretary for Rural Development to make a determination on whether certain areas are "rural in character." This work is not likely to be completed before next year. In the interim, the Under Secretary of Rural Development will accept, as provided by law, the petition of a unit of government in areas described in the farm bill language for such a determination and will act accordingly.

QUESTIONS SUBMITTED BY SENATOR MARK PRYOR

ADMINISTRATION'S FUNDING OF CATFISH INSPECTIONS

Question. The President's budget recommends $5 million for catfish inspection needs in 2011. This is a decrease of $10.3 million from 2010 levels. The budget cited

the "investment to date and the need for considerable stakeholder engagement and regulatory development before the adoption and implementation of a catfish inspection program" as justification for the decrease. This Congress approved the last farm bill in June of 2008 and provided 180 days for the administration to complete its rulemaking process and implement the rule for catfish import inspections. Can you tell the subcommittee where we are in the rulemaking process, which is now over a year and a half overdue, and explain why the administration is seeking fewer resources for implementation?

Answer. We believe that the $5 million requested for catfish inspection is adequate to meet essential program needs in fiscal year 2011. The draft proposed rule is currently under review. In the meantime, we are working diligently in order to develop the foundation needed to assume catfish inspection responsibilities upon implementation of a final rule.

POULTRY IMPORTS (CHINESE CHICKEN)

Question. Last year, with the help of USDA, Congresswoman DeLauro, and members of the Appropriations Committee, we included food safety language in the fiscal year 2010 Agriculture Appropriations bill to provide additional safety measures for certain imported poultry products from China. This language was important for food safety, trade relations, and import quality assurances. Since passage last fall, the administration has been corresponding with the Chinese government to implement the measures provided by Congress.

Can you please bring the Committee up to speed on how things are progressing with the implementation of section 743 of the fiscal year 2010 Appropriations bill? Is the Chinese government participating in discussions with USDA and USTR?

Answer. The Department has moved forward on implementation of section 743 of the fiscal year 2010 Agriculture Appropriations Act. A report on the actions taken was submitted to the Committee on February 22, 2010. We have provided China with clear instructions to complete the equivalence process, and will work with them to get the necessary information in order to act on their application.

ADMINISTRATION'S PROPOSED CUTS TO FARM BILL SAFETY NET

Question. Budget proposed making significant cuts to the safety net provisions of the 2008 farm bill. The 2008 farm bill was essentially a contract between the Federal Government and domestic agriculture producers. During the farm bill debate, significant concessions were made by farmers and significant constraints on support programs were placed on farmers. For example, there was the elimination of the three-entity rule for direct attribution, income restrictions, payment limits, and cuts to direct payments. Now, the administration wants to go several steps further in their budget proposal by adding additional income restrictions, payment limits, and payment reductions.

Do you view the 2008 farm bill as a contract between the Government and Agriculture producers? Why does the administration propose such drastic changes to policies negotiated by Congress that are currently the law through the life of the 2008 farm bill?

Answer. I agree that the 2008 farm bill contains an implicit "contract" set by the scope of programs in the farm bill. Rather than viewing the President's budget proposals as a drastic change in this underlying "contract," however, I see this as the next step in a series of changes that have occurred over time. Specifically, we are recommending that the Direct Payment limit and the Adjusted Gross Income (AGI) payment eligibility criteria be reduced beginning with the 2011 program (crop) year. More specifically:

—The Direct Payment limit would be reduced to $30,000 per program year for individuals and applicable entities, down from the current limit of $40,000, and

—The non-farm and farm AGI criteria would each be reduced by $250,000 over a 3-year period—with the non-farm AGI declining to $250,000 and the farm AGI declining to $500,000.

The Department provides a strong set of financial safety net programs to ensure the continued economic viability and productivity of production agriculture, including farm income and commodity support programs, crop insurance and disaster assistance, as well as other programs. The farm safety net is critically important and provides the foundation for economic prosperity in rural America. For 2011, USDA estimates that roughly $17 billion in total direct support will be provided to farm producers and landowners through a variety of programs.

Recognizing the need to reduce the deficit, the budget proposes to better target direct payments to those who need and can benefit from them most as well as cap total payments paid to larger operations. The savings from these proposals will im-

pact approximately 30,000 program participants, which is about 2 percent of the 1.3 million total program participants, and will over time comprise less than 2 percent of the total direct support the Department expects to provide annually to farm producers and landowners.

USDA estimates that these changes would save the government roughly $2.3 billion over 10 years. By focusing farm program payments to those most in need, and working to reduce the additional $12 trillion in debt that has accumulated since the beginning of the decade, we are working to ensure that Federal funds are being spent wisely.

ADMINISTRATION'S PROPOSED CUTS TO DELTA REGIONAL AUTHORITY

Question. Budget proposed to eliminate 100 percent of funding ($2.97 million) for the DRA to administer Rural Community Advancement Program (RCAP) funds for the region. Why did the administration decide to cut (RCAP) funding to the Delta region in their 2011 Budget?

Answer. This funding has been provided in recent appropriation acts as a grant to the Delta Regional Authority (DRA) for purposes that can be funded under RCAP, with no more than 5 percent used for administration. No other regional authority or entity receives such a grant from USDA. While the administration supports regional planning and coordination, it proposes to do so under a competitive process. DRA can compete for USDA funding as can other eligible entities within the Delta region.

Question. How is the administration committed to improving the economic condition of the Delta Region?

Answer. The President's 2011 budget supports $24 billion in loans, grants and technical assistance to be provided through USDA's Rural Development programs. The Delta region is expected to receive a fair share of this assistance, much of which will be allocated among the States based on established formulas. USDA's programs have historically reached deep in to the Delta to serve this purpose. USDA is committed to having a strong presence in the Delta region and will continue to commit resources to worthy projects and infrastructure there.

OUACHITA NATIONAL FOREST TRAIL MANAGEMENT PLAN (ATVS)

Question. In late January, the Ouachita National Forest announced a new trail management plan to go into effect in the coming weeks. This plan, which apparently changed dramatically after the last comment period, has agitated constituents in the region (Mena/Polk County) that have built economic engines off the National Forest through recreation opportunities provided by the Forest Service. Now the Forest Service is proposing dramatic cuts to the status quo, and these cuts will undoubtedly cause economic harm to the region, which is already struggling tremendously due to the declining demand for forest products. I've sent you a couple of letters recently with some of my colleagues expressing some concern over the plans, and I hope you will commit to working with me to minimize economic harm to these communities.

Are you aware of the recent letters that I've sent you regarding the Ouachita National Forest? Will you commit to working with me on this issue?

Answer. I am aware of recent letters from you and your colleagues regarding the Ouachita National Forest. As we continue to put the Nation back on the path of economic recovery, job creation remains one of my top priorities. Plans for Ouachita National Forest Trail Management are currently under review by a regional team that will address all administrative appeals. And in the meantime, the Chief of the Forest Service plans to visit the sites to understand the impacts first hand in late March. We look forward to working with you on this issue.

RURAL BROADBAND—RURAL UTILITIES SERVICE (RUS)

Question. When Congress appropriated funds for broadband in the American Recovery and Reinvestment Act, priority was placed on unserved and underserved areas. Ensuring that tax payers funds are not going towards projects with sufficient broadband service is a priority for me. However, I have heard reports of projects awarded that overbuild private investment. So far, RUS has awarded projects in 18 States, with at least 3 States (Iowa, Alaska, and North Dakota) receiving multiple project awards.

What measures has RUS taken to ensure that grants and loans are going to truly unserved and underserved areas?

Answer. The Rural Utilities Service is responsible to ensure that projects funded under the Broadband Initiatives Program (BIP) meet the requirements of Recovery Act. To do so, RUS has established an objective scoring process which incents appli-

cants to bring the most robust broadband service to the most rural and unserved areas. In fact, RUS gives priority to unserved and highly rural areas. RUS will rely heavily upon the information submitted by the applicant to prove the need for broadband service. To further validate this information, RUS will post all proposed service territory maps on broadbandusa.gov and allow incumbent providers to comments on whether these areas are unserved or underserved through Public Notice Responses (PNRs) received during a 30-day comment period. RUS will rely upon these comments, along with State broadband maps (where available), and both RUS and Rural Development Field Staff to validate the information when necessary.

Question. Does RUS need additional resources in order to conduct diligent and vigorous oversight of the BIP program and its award grantees?

Answer. At the current time, RUS has sufficient resources in its headquarters and field staff to provide oversight of the BIP program and its award grantees.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

APPALACHIAN FARMING SYSTEMS RESEARCH CENTER

Question. I am deeply concerned by the Administration's decision to eliminate funding for the operation of the Appalachian Farming Systems Research Center (AFSRC) in Beaver, West Virginia. The AFSRC supports 55 full time equivalents and 6 part-time positions in Raleigh County, West Virginia, a historically low-income, high-unemployment area of the country. As I am sure you are aware, the AFSRC has operated in West Virginia for more than 30 years and is dedicated to designing management practices that sustain productivity and profitability for small scale farmers and to delivering improved soil, water, and air quality. Further, the AFSRC infuses millions into the economy of southern West Virginia, an economically disadvantaged area.

Mr. Secretary, you personally outlined five goals for the U.S. Department of Agriculture (USDA), one of which is to create wealth in rural communities so that they are self-sustaining, repopulating, and thriving economically.

Why has the administration proposed to eliminate the AFSRC when its primary mission is to support small scale farmers in rural communities across the country?

Answer. As do all of ARS' 106 locations, the Agricultural Research Service (ARS) Appalachian Farming Systems Research Center (AFSRC) contributes to a wide range of research topics, including work that is relevant to the five goals recently outlined for USDA. However, despite some degree of relevance to assorted topics, the work of the Center could be done more effectively at other ARS locations where a larger concentration of researchers would be more conducive to achieving the various research missions.

The work pertinent to USDA constituents will continue at other ARS locations with similar focus on small farms research. The proposed closure of the AFSCR will offset the cost of higher priority programs and projects in service of USDA constituents.

Question. The Agriculture Research Service has identified five research priorities, one of which is Global Food Security. The AFSRC is working to develop management strategies for cattle, sheep, and goat production on terrain not suitable for cultivated row crops, as a way to diversify and support local food production. It has been shown that locally produced livestock contributes significantly to food availability for the United States and the world populations. In addition, locally produced livestock provides alternative resources for meat should concentrated livestock production systems in the United States become compromised.

Do you believe that the AFSRC contributes to the agency's Global Food Security mission?

Answer. The AFSRC has conducted collaborative research on pasture based animal production systems. ARS recognizes the regional contribution of this research but considers the largest impact to be gained from conducting research on grass fed cattle to be complete.

Question. How does eliminating the AFSRC align with your personal goal of having America lead the world in sustainable crop production and biotech crop exports?

Answer. The ARS fiscal year 2011 budget proposes an increase of $61.5 million for high priority program initiatives, including $9 million for expanded research on crop breeding and protection to enhance sustainable production. This high priority research directly supports the USDA goal of having America lead the world in sustainable crop production by focusing research on providing a continuous supply of improved plant varieties with protection from emerging diseases, insects, and damaging environmental conditions. The proposed funding increases are offset by the

termination of $53.3 million in Congressionally earmarked projects and other lower priority programs and projects, including the $8.2 million for the Appalachian Farming Systems Research Center at Beaver, West Virginia.

Question. Food Safety is a second research priority for the Agriculture Research Service. The AFSRC is working to discover pasture plant materials that can help maintain sheep and goat health, thus decreasing the need to administer pharmaceutical products. These efforts will produce safer meat products for consumers and reduce pharmaceutical residues entering soil and water resources. Meeting livestock nutritional needs, while preventing chemical and biological contamination of water resource, provides a significant contribution toward food safety.

Mr. Secretary, do you believe that the AFSRC contributes to the agency's Food Safety mission?

Answer. Food Safety is a research priority for the Agricultural Research Service. However, the research conducted at the AFSRC is only peripherally related to USDA Food Safety goals. Medicinal plant research to produce safer meat products for consumers and reduce pharmaceutical residues entering soil and water resources is not considered a food safety priority. No significant amount of the location's appropriation is used for such research, and the location's scientists are not among those with primary responsibility to lead or conduct work under ARS' multi-location food safety National Program.

Question. How does eliminating the AFSRC align with your personal goal of having America's children and the world's children have access to safe, nutritious and balanced meals?

Answer. The ARS fiscal year 2011 budget proposes an increase of $61.5 million for high priority program initiatives, including crop production, food safety, and human nutrition. These critical investments will focus on the availability of high quality, safe, nutritious food for children and adults. New and expanded research in these high priority initiatives will be financed by the termination of $53.3 million in congressionally earmarked projects and other lower priority programs and projects, including the $8.2 million for the Appalachian Farming Systems Research Center at Beaver, West Virginia.

Question. Climate Change is a third research priority for the Agriculture Research Service. The AFSRC develops systems that improve small-acreage farm productivity and sustainability within the Appalachian region. This technology is applicable to hill-land environments world-wide. However, these production systems are already resilient to climatic variability. The grazing systems designed for small-acreage farms accommodate soil, plant, and animal resources are already capable of adapting to varied weather patterns.

Further, the AFSRC has developed the technology to apply biochar (produced from charring poultry litter or plant residues from the biofuels industry) to improve the production capability of soil and increase carbon sequestration. The results are improvements to the chemical and physical attributes of soil, including sequestering chemical and biological contaminants of ground water and improving plant productivity through hospitable rooting environments.

Mr. Secretary, do you believe that the AFSRC contributes to the agency's Climate Change mission?

Answer. Much ARS research across the Nation has relevance to climate change, in terms of research on soil and tillage management, soil carbon, or breeding crops or livestock for tolerance to weather extremes and variability. The AFSRC's mission is not directed to climate change research. No significant amount of the location's appropriation is used for such research, and the location's scientists are not among those with primary responsibility to lead or conduct work under ARS' multi-location climate change National Program. Although the Center conducts limited work on the application of biochar to soil as a way to modify soil condition and sequester carbon, it is not central to the overall research on land management for small farms and is not a leading site for this topic nationally.

Question. How does eliminating the AFSRC align with your personal goal of ensuring that private working lands are conserved, restored and made more resilient to climate change and are managed to enhance water resources?

Answer. Although much of ARS' nationally coordinated research on livestock production has implications for water resources, and water quality is mentioned in the Center's mission statement in the small farms context, the AFSRC is not among the ARS locations that have a research project contributing significantly to the ARS National Program on water resources.

Question. The administration and Congress are working every day on ways to create and preserve jobs in communities across the country. Eliminating the AFSRC will not only result in a direct loss of nearly 60 jobs in Raleigh County, West Virginia, but countless others across the country, as important assistance to small acre-

age farmers, independent family farm operators, and sheep and goat producers is no longer available.

Mr. Secretary, do you believe that eliminating the AFSRC will contribute to the efforts of the Congress and the administration to create and sustain jobs in the United States?

Answer. The fiscal year 2011 USDA budget continues to make critical investments in long-term sustainable job creation and economic growth, while maintaining discretionary spending at the fiscal year 2010 level. The fiscal year 2011 budget proposes significant investments to: (1) increase access to broadband and continue business creation; (2) facilitate sustainable renewable energy development; (3) develop regional food systems; (4) capitalize on climate change opportunities; and (5) generate and retain jobs through recreation and natural resource restoration, conservation, and management. These critical investments are being financed by the reduction or elimination of congressionally earmarked projects and other lower priority programs.

Question. How does eliminating the AFSRC align with your personal goal of enabling the USDA's constituents to understand and appreciate what the agency can do for them every day in every way because USDA employees are engaged, valued, and productively serving the people of America and the world?

Mr. Secretary, in summary, I am greatly disturbed that the administration is seeking to eliminate a deeply rooted Federal operation that clearly meets many of your stated goals for the USDA, particularly when the overall USDA budget proposes a $20 million increase for Salaries and Expenses. I want you to know that restoring funding for the operation of the AFSRC will be among my highest priorities for fiscal year 2011. It is my hope that between now and the formulation of the fiscal year 2012 President's budget request that you will avail yourself the opportunity to visit the AFSRC. I have no doubt that you would find that this outstanding facility clearly aligns with the research priorities of Agriculture Research Service and your personal vision for the agency. I look forward to hearing from you after your visit to the AFSRC and our future discussions in this regard.

Answer. The work pertinent to USDA constituents will continue at other ARS locations with similar focus on small farms research. The proposed closure of the Appalachian Farming Systems Research Center will offset the cost of higher priority programs and projects in service of USDA constituents.

QUESTIONS SUBMITTED BY SENATOR SAM BROWNBACK

INTERNATIONAL FOOD AID

Question. As you may know, the GAO reports that 65 percent of food aid funding goes to administration and transportation of food aid commodities. Section 737 of the 201 agriculture appropriations bill requires a consensus report from the Secretaries of Agriculture, State, and Transportation on changes that could be made to the food aid programs. Specifically, we asked that you and your colleagues look at the potential savings and efficiencies for long-term commodity procurement contracts, increased use of pre-positioning, longer term shipping contracts, and adoption of more commercial standards in contracting. What is the status of this report? Have you engaged the Departments of State and Transportation on this?

Answer. Representatives from the U.S. Department of Agriculture, the U.S. Department of Transportation (DOT), and the U.S. Agency for International Development (USAID) have met three times to collect the information outlined in section 737 of the fiscal year 2010 agriculture appropriations act. USDA, DOT, and USAID are preparing a draft response that should be ready for submission to Congress in May 2010.

FOOD AID PILOT PROJECTS

Question. Last year, I held numerous meetings with food aid experts and asked them to tell me what changes they would make to the existing food aid programs. Expert after expert told me that micronutrient fortification was the single greatest improvement we could make. So in fiscal year 2010, we included $10 million to develop new micronutrient fortified food aid products for use in the McGovern-Dole Food for Education Program. What is the status of this pilot program? Can you provide the Subcommittee with information on how USDA envisions this will be carried out?

Answer. FAS plans to announce the opening of solicitations for proposals for this pilot project in March 2010. FAS will consider a range of products in various locations that meet the micronutrient needs of a variety of program beneficiaries and

that ship well and have a good shelf life. The $10 million in funding will be used to develop, monitor, and evaluate the new products. Their purchase and shipping will be covered by McGovern-Dole program appropriations. FAS hopes to identify new products that can become a regular part of the McGovern-Dole program through this pilot program.

FOOD AID QUALITY

Question. Over the past few years there have been some issues with the quality of the commodities provided by the United States for international food aid programs. These issues have been highlighted in GAO oversight investigations. In response to this the USDA entered into a contract with SUSTAIN, a nonprofit organization whose mission is to improve nutrition in developing countries through innovative applications of food science and technology. In 2008, SUSTAIN published a food aid quality study for the Department that developed new product specifications for food aid to meet U.S. commercial food industry quality standards.

—Please address the following question in GAO's September 2009 report: "How have U.S. Agencies implemented SUSTAIN's recommendations on updating specifications and improving nutritional standards of U.S. food aid?"

—New authority and obligations were included in the 2008 farm bill for USDA to utilize Title II funds to address and resolve food aid quality issues. Directives on implementation of food aid quality reforms were reiterated and reaffirmed in fiscal year 2010 agriculture appropriations act. Please address whether the Department believes there are any limitations in law that are preventing them from moving forward with implementation of food aid quality reforms.

—In communications to committee staff in September 2009, USDA stated it was working to complete an "Independent Government Estimate" for the statement of work of the implementation of SUSTAIN's recommendations. Please provide a schedule for when the award will be issued and implementation of the statement of work completed.

Answer. USDA's Farm Service Agency contracted with Sharing Science and Technology to Aid in the Improvement of Nutrition (SUSTAIN) in October, 2007 to develop methods that would standardize and harmonize, in a consistent format, the specification language used in USDA foreign food assistance commodity acquisitions. The components of this contract included:

—A review of existing department commodity specifications used to obtain food aid commodities;

—Recommendations to achieve maximum standardization and harmonization among the specifications; and

—Recommendation of a post-production commodity sampling and testing regime based upon sound scientific standards and similar to commercial practices exercised by food suppliers.

SUSTAIN completed all requirements of this contract in June 2008. Most of SUSTAIN's recommendations have been incorporated into FSA commodity purchase announcements, as appropriate. SUSTAIN's recommended post-production commodity sampling and testing regime (a minimum of 5 samples per lot to a maximum of 20 samples per lot) was not adopted as the additional value to be achieved was not deemed to justify the considerably higher procurement cost that would result. FSA, partnering with the Grain Inspection, Packers and Stockyards Administration, ensures that contractors perform sampling and testing protocols and institute tests necessary to substantiate that the supplies or services furnished under the contract conform to established requirements. In addition, contract provisions currently specify that the contractor shall have in place a quality control system consistent with the standards and specifications of the contract.

Presently, FSA does not believe there are any statutory restrictions that would prevent the Department from moving forward with implementation of food aid quality reforms. Because FSA has implemented most of SUSTAIN's recommendations, FAS and FSA at this time do not believe that a statement of work for the implementation of SUSTAIN's recommendations is needed. Therefore, there is no schedule for completion of a statement of work and no award for an additional contract will be issued.

AGRICULTURAL DEVELOPMENT

Question. Spending on agriculture development as a percentage of the United States total official development assistance has dropped from 20 percent in 1980 to around 5 percent today. Interestingly, most of this assistance comes from USAID and not USDA. What has the experience in Afghanistan and Iraq taught you about USDA's capabilities to assist with agricultural development?

Answer. Since 2003, USDA has effectively deployed over 120 agricultural experts to Iraq and Afghanistan. These experts have been recognized by the Department of State and Department of Defense for the skills and professional expertise provided to both countries to help reconstruct the physical and institutional infrastructure of the agricultural sectors. USDA has responded to requests for technical assistance from the Governments of Iraq and Afghanistan by reaching out to all USDA agencies which have a wealth of expertise in the areas of strategic planning, extension and education, land and water resources management, and animal inspection and food safety. In addition, USDA has drawn from U.S. land grant universities to support capacity building efforts in Iraq and Afghanistan.

Question. Beyond your work in Afghanistan and Iraq, how does USDA tap its vast pool of expertise and its relationships with the land grant universities to assist in agricultural development globally?

Answer. USDA collaborates with land-grant institutions to provide technical assistance around the world to help other nations address economic transitions, natural disasters, minimal resources, and decades of neglect and mismanagement. The partnership between USDA and U.S. land grant universities has been instrumental in helping countries around the world acquire the agricultural knowledge they need to achieve food security. Through a comprehensive, multidisciplinary approach that integrates research, teaching, and extension, USDA and its university partners have improved the quality of life for millions of people at home and abroad.

Question. What do you believe the role of USDA should be in international agricultural development?

Answer. Although USDA does not have the lead in the U.S. Government for agricultural development activities, USDA agencies contribute to global agricultural development by providing agricultural capacity building and technical assistance in an array of areas such as natural resource management and conservation, plant and animal health, and farming techniques. USDA can support technical assistance activities within developing countries through the short and long-term assignments of personnel from USDA agencies, State departments of agriculture, and land grant universities.

USDA has a longstanding role in framing U.S. Government policy on global food security with the Department of State and the U.S. Agency for International Development. USDA also has a long tradition of technical assistance and capacity building to help other countries develop a productive agriculture sector in cooperation with host governments, producers, and markets. USDA's expertise and institutional resources, which serve as a reference for other countries and are among the most sophisticated in the world, have been deployed to help countries strengthen food security since the United States first engaged in foreign assistance. USDA's institutional ties with agribusiness, land grant universities, extension services, and agricultural research centers are fully utilized in providing international technical assistance for agricultural and rural development. USDA's market development programs leverage additional private-sector engagement in addressing food security.

WHEAT STEM RUST

Question. I am very concerned about the impact that cereal rust, especially Ug99, will have on world hunger. Since 1999, Ug99 stem rust has moved throughout East Africa to Yemen, and in 2007, was found in Iran. The African stem rust—Ug99—has defeated nearly all major genes for resistance currently deployed in the United States and around the world. The wheat growers tell me that over 75 percent of wheat acreage in India, Pakistan and Afghanistan, representing 20 percent of world production, is planted to susceptible varieties; areas that all of us on this subcommittee are concerned about.

First, how have you used the $1.5 million the subcommittee provided to ARS in last year's appropriation bill?

Answer. The goals of the USDA Ug99 Action Plan for the United States are:

—Cereal Stem Rust Assessment and Pathology;
—Detection and Identification;
—Monitoring and Reporting;
—Germplasm Enhancement, Gene Discovery, and Development of Molecular Markers;
—Regional Variety Development, Evaluation, and Implementation;
—Disease Management;
—Communication and Outreach.

Details on how Appropriations were used are provided for the record.

[The information follows:]

Congress appropriated $1.5 million in fiscal year 2009 for Wheat Stem Rust (Ug99). The focus was on Action Plan goals 1–5. Funding was distributed as follows:

ARS Cereal Disease Laboratory, St. Paul, Minnesota—ARS cereal rust disease experts at the laboratory are the world experts on characterizing stem rust pathogens and are the only authorized laboratory in the United States to work with Ug99. The Cereal Disease Laboratory was provided $666,700. A portion of the new funds is being used to handle expanded demands to identify resistant wheat and barley germplasm and characterize unknown rust pathogens. New funding has been used to identify and verify emerging rust biotypes, culture and conserve live rust pathogens from foreign sources, and accurately identify host-plant resistance in seedlings, and adult plant resistance genes in collaborative research with U.S. wheat and barley breeders. A specific cooperative agreement has been established to partner with the University of Minnesota in pathogen screening and resistance breeding in wheat and barley.

ARS Manhattan, Kansas, was provided $166,700 to combine three or more highly effective Ug99 resistance genes into hard winter wheat elite lines and deliver those to regional breeders and to identify resistance genes in wild relatives of wheat and move those genes into regional germplasm. A cooperative agreement was established with the wheat genetics program at Kansas State University. The ARS Manhattan location serves the Southern Great Plains Region that produces winter wheat, which is prone to stem rust overwintering and can serve as a source of stem rust spores for the central and northern Great Plains.

ARS Raleigh, North Carolina, was provided $333,300 to accelerate breeding of Ug99 resistant winter wheat varieties in the Southeast, genotype parent lines for regional breeders for adult plant resistance to Ug99 and develop breeder-friendly DNA markers, partner with the international centers CIMMYT and ICARDA in screening international nurseries for Ug99 resistance, and coordinate screening of wheat lines for U.S. breeders in Eastern Africa. The ARS Raleigh location serves the Gulf Coast and Southeastern Region, another winter wheat region (principally soft red winter wheat) which is prone to stem rust overwintering, and can serve as a source of stem rust spores for the Mississippi River Valley, the Upper Midwest, and the East Coast.

The ARS Small Grains and Potato Germplasm Research Unit, Aberdeen, Idaho, was provided $194,400 to identify Ug99 resistance genes in land races of the National Small Grains Collection and to support East African screening, to expand molecular marker analysis of the collection for rust resistance, and to enhance capacity of the repository to ensure that resistant accessions are readily available for U.S. wheat and barley breeders. The ARS Aberdeen location serves the Western Region that produces western white wheat and barley.

The ARS Wheat Genetics Unit, Pullman, Washington, was provided $138,900 to expand germplasm evaluation for western white wheat and barley for stem and stripe rust resistance, expand genotyping for wheat and barley breeders in the West and for the National Small Grains Repository for stem rust resistance introgression, and to establish a specific cooperative agreement with Washington State University for barley resistance gene mapping.

An additional $1.0 million was appropriated in fiscal year 2010 for Wheat Steam Rust (Ug99). The focus is on Action Plan goals 4–5. This is in keeping with Congressional intent that the new funds be used for development of stem rust resistant varieties, and for the overriding need to get disease resistant varieties developed and deployed in the most vulnerable regions of the United States. Emphasis has been placed on U.S. regions that are most prone to stem rust development and overwintering. In addition, we are emphasizing the protection of the majority wheat market in the United States, that is, winter wheat (70 percent of all wheat grown in the United States). Ug99 protection of barley is also targeted because Ug99 also attacks barley and can overwinter on barley. Fiscal year 2010 funding was distributed as follows:

The Southern Great Plains Region

ARS Manhattan, Kansas, was provided $270,000 to strengthen identification of new sources of Ug99 genetic resistance for deployment into hard red and white winter wheat. A combination of controlled conditions and field research is focused on incorporating adult-plant resistance into adapted genotypes in partnership with regional wheat breeders. Portions of the funding are being used for specific cooperative agreements with wheat breeding programs at Texas A&M University, Oklahoma State University, Kansas State University, and Colorado State University, to support development of new Ug99-resistant wheat varieties.

ARS Lincoln, Nebraska, was provided $88,000 to develop Ug99-resistant winter wheat and barley for the Great Plains. A portion of the funds is being used for a

specific cooperative agreement with the University of Nebraska wheat breeding program.

The Gulf Coast and Southeastern Region

ARS Raleigh, North Carolina, was provided $259,000 to expand identification, genotyping, and incorporation of adult-plant resistance in soft red winter wheat and winter barley, including field locations in Louisiana, Georgia, North Carolina, and Virginia. A portion of the funding will support specific cooperative agreements with wheat and barley breeding programs at Louisiana State University, University of Georgia, North Carolina State University, and Virginia Tech University.

The Northern Plains Region, which produces principally hard red spring wheat and some barley, would be the primary "recipient" of stem rust spores produced from the more southern States:

ARS Fargo, North Dakota, was provided $250,000 to identify and breed Ug99 resistant genes from the wild relatives of wheat into commercial wheat varieties, enhance genotyping for developing barley germplasm with resistance to Ug99 for all U.S. barley breeding programs, and to deploy Ug99 resistant genes into wheat and barley, particularly for the Northern Plains. A portion of the funds will be used for a specific cooperative agreement with the barley and wheat breeding programs at North Dakota State University.

The Western Region

ARS Small Grains and Potato Germplasm Research Unit, Aberdeen, Idaho, was provided $133,000 to accelerate efforts to develop Ug99-resistant wheat and barley. This includes strengthening support for the National Small Grains Collection to conserve accessions with cereal rust resistance and to introgress stem rust resistance into western barley germplasm.

Question. If Ug99 continues to spread, what will its impact be on world food supplies?

Answer. The United Nations Food and Agricultural Organization (FAO) estimates that 29 countries in East and North Africa, the Near East, and Central and South Asia—which account for 37 percent of global wheat production—have been affected by Ug99 or are at immediate risk. ARS research in collaboration with the international wheat research centers, CIMMYT and ICARDA, indicates that over 80 percent of the world's wheat production is vulnerable to Ug99. Pakistan consumes 22 million tons of wheat annually and 35 percent of its citizens live below the poverty line. Wheat varieties grown in Pakistan and Afghanistan are completely vulnerable to Ug99 as are many varieties grown in India. Ug99 losses have already caused at least a 30 percent decrease in yield in Kenya. Small farmers who cannot afford fungicide treatments especially suffer from Ug99 losses. Further spread of Ug99 would significantly reduce world grain supplies and could lead to grain speculation and higher grain prices.

Question. How much will wheat production around the world suffer and what will be its impact on world hunger needs?

Answer. Wheat represents approximately 30 percent of the world's production of grain crops, and the impact of Ug99 losses will be especially severe where wheat or barley is a major food staple. On average, each person in the world consumes 68.2 kilograms of wheat each year, about 630 calories per day per person, or one-half to one-third of the minimal energy requirements of most adults. In North Africa and in West and Central Asia, wheat provides more calories than all other grains combined. Nearly one-half of the world's wheat production this year will be harvested in developing countries. Currently, Middle Eastern and North African countries consume over 150 percent of their own wheat production and are heavily dependent on imports. In Sub-Saharan Africa wheat is the number one urban food staple.

TRADITIONAL PRODUCTION AGRICULTURE

Question. There is a growing perception among traditional agriculture that USDA is willing to disparage conventionally produced food to promote local production—creating a good food, bad food distinction and distorting the perceptions of consumers across the country.

How is the agency prepared to defend traditional production?

Is there any effort to include traditional production in the Know Your Farmer, Know Your Food initiative? If not, why not?

Answer. USDA supports agriculture through every agency in our Department in a myriad of ways. USDA does not support nor does it maintain any "good food/bad food" distinction. USDA continues to defend U.S. farmers and agricultural products domestically and overseas, while working to provide valuable safety net assistance

to farmers, sustain current markets, and promote new markets. USDA utilizes its authorities to help keep our farmers on the farm and sustain our rural communities, while helping them provide Americans and persons around the world with a safe, affordable, and abundant food supply. Two recent efforts will serve to highlight USDA's work on behalf of traditional production agriculture. First, since February 2009, USDA expedited implementation of 2008 farm bill programs that had not been implemented by the last administration, including the Livestock Indemnity Program (LIP), Livestock Forage Disaster Program (LFP), Supplemental Revenue Assistance Payments (SURE) Program, and Emergency Assistance for Livestock Honey Bees, and Farm-Raised Fish (ELAP). To date, more than $480 million has been disbursed to farmers and ranchers under these major disaster programs. Notably, USDA implemented the Dairy Economic Loss Assistance Program (DELAP) in only 60 days and has efficiently disbursed more than $270 million in assistance to dairy farmers in dire need. Second, USDA is actively working to support President Obama's National Export Initiative to help rebuild the economy by increasing export opportunities. This year alone, despite the sharp global economic downturn, USDA estimates that agricultural exports will reach $100 billion. Production agriculture will not only benefit from the National Export Initiative, it will also benefit from a more informed and engaged consumer population.

The Know Your Farmer, Know Your Food initiative is designed to benefit all of American agriculture by facilitating a much-needed national conversation about food, food production, and all that farmers do to provide our food supply. One of the main goals of the initiative is to better link consumers to the farmers they rely on for every meal. An informed consumer that understands the capital investments and the weather and other risks associated with farming is more likely to support—or even act as an advocate for—traditional agriculture, compared to a consumer who has lost touch with agriculture. The initiative also seeks to foster new opportunities for all types of farmers by supporting new markets created by the demand for local and regional products. This will benefit rural communities as USDA strengthens the link between rural economies and agriculture and helps rural areas become economically sound, vibrant places to live. Examples of existing operations that serve as a model for the Know Your Farmer, Know Your Food effort include Illinois corn producers selling to a tortilla company in Chicago and a group of Pacific Northwest wheat farmers who have tripled their sales in the past 3 years by cooperating under a brand label to produce flour that constitutes a personalized product which can be easily traced back to its producers. We are taking an inclusive approach to the Know Your Farmer, Know Your Food effort, and look for successful examples and insights from all over agriculture.

CROP INSURANCE

Question. You're in the middle of the renegotiation of the Standard Reinsurance Agreement (SRA) on crop insurance. As you know, the latest draft proposes significant additional reductions from the industry creating what most believe will be a significant deterioration of the quality of products available to producers and potentially the number of companies willing to offer crop insurance tools. How does USDA see the system functioning as a part of the farm safety net if companies cannot continue to offer crop insurance products to producers?

Answer. Under the new SRA, insurance companies can expect to earn a reasonable rate of return, receive more stable payments, and have more protection in bad years. Although some consolidation has occurred in the Property and Casualty insurance industry generally, crop insurance companies have fared proportionately better—a trend that is expected to continue under the new SRA. In fact, in early March 2010 we expect to welcome Occidental Fire and Casualty Company of North Carolina as the newest participating company to sign the SRA. I believe the imminent signing of Occidental, and the continued interest of additional insurance companies, shows that this agreement is still a very attractive business proposition that will serve the crop insurance industry well for many years to come.

The changes that USDA has proposed in the most recent draft of the SRA are justified for a variety of reasons. Administrative & Operating (A&O) subsidy payments for 2006 were $959 million, a level that motivated Congress to reduce the subsidy rate in the 2008 farm bill and to direct USDA to seek further reductions through the renegotiation of the SRA for 2011. Since 2006, there has been a 65 percent increase in A&O subsidy payments to the insurance companies with no commensurate increase in the number of policies sold.

Managing risk is critical for all producers and every farmer and rancher deserves access to this important national program. However, geographical differences in loss patterns have resulted in dramatic differences in the concentration of companies

and agents in the Corn Belt States compared with most other parts of the country. The draft SRA contains a number of features that are designed to expand the availability of crop insurance to places where there are currently few companies and agents selling policies, while ensuring that a high level of service will be maintained for those who have come to depend on it.

The draft SRA rebalances the program's underwriting performance to level the playing field across the United States. In addition, it seeks to expand the availability of crop insurance by providing insurance companies with additional financial incentives to service those areas, producers, and operations that lack the product availability and quality service that many of the Corn Belt States currently enjoy. The draft agreement will provide the non-Corn Belt States with higher reference prices which will lead to higher A&O subsidies for these lesser-served States. Additionally, the draft SRA contains a provision to give back a portion of the Net Book Quota Share to those insurance companies that sell and service the lesser-served States. Together, these provisions will provide financial incentives for companies to foster enhanced service in lesser-served areas.

HEALTHY FOOD FINANCING INITIATIVE

Question. As a part of the First Lady's "Let's Move!" campaign to address childhood obesity, the President's budget includes a $400 million government-wide request for the Healthy Food Financing Initiative. USDA's part of this initiative is $50 million in direct appropriations that will support more than $150 million in loans, grants, and market promotion programs. I agree that far too many of our youth lead sedentary lifestyles and live in areas where less nutritious food is the first choice for a snack because fruits and vegetables are not easily found.

Would you provide additional information on the overall initiative and USDA's specific role?

Answer. The Healthy Food Financing Initiative will promote a range of interventions that expand access to nutritious foods, including developing and equipping grocery stores and other small businesses and retailers selling healthy food in communities that currently lack these options. Residents of these communities, which are sometimes called "food deserts" and are often found in economically distressed areas, are typically served by fast food restaurants and convenience stores that offer little or no fresh produce. Lack of healthy, affordable food options can lead to higher levels of obesity and other diet-related diseases, such as diabetes, heart disease, and cancer.

Through the new multi-year Healthy Food Financing Initiative and by engaging with the private sector, the administration will work to eliminate food deserts across the country within 7 years. With the first year of funding, the administration's initiative will leverage enough investments to begin expanding healthy food options into as many as one-fifth of the Nation's food deserts and create thousands of jobs in urban and rural communities across the Nation.

USDA's proposed 2011 budget includes a funding level of $50 million that will support more than $150 million in public and private investments in the form of loans, grants, and promotion, and other programs designed to create healthy food options in food deserts across the country. Of that:

—$35 million in fiscal year 2011 discretionary funding is to remain available until September 30, 2012 for the Secretary to use for financial and technical assistance.

—$15 million in funds shall be made available for technical or financial assistance and shall come from a set aside of up to 10 percent of the funds made available through programs outlined in the budget request.

Of the $50 million requested for USDA's component of the Healthy Food Financing Initiative, $15 million would be made available for technical or financial assistance and would come from a list of relevant programs outlined in the budget request. These funds would remain in the respective agencies and within the designated programs and would not be transferred to any other account. The program dollars set aside for the HFFI would be used to support strategies for addressing the healthy food needs.

HFFI projects may require a combination of grants, loans and/or technical assistance, so this effort will require close coordination among USDA agencies to ensure that dollars are leveraged and used wisely. Coordination will occur throughout the process of announcing and selecting projects and where appropriate may include the use of consolidated solicitation and application processes to ensure the most worthy projects are identified and funded.

The Agricultural Marketing Service, Rural Development, and the Office of the Secretary will work together to ensure that expertise within USDA is appropriately

leveraged. AMS has considerable knowledge and expertise enhancing food access for low income populations and improving retail market access for small and mid-sized producers. Rural Development has significant expertise funding and supporting infrastructure development for purposes of economic development.

Together, the two agencies, working in concert with the Office of the Secretary, will make funding available to provide:

—technical assistance to grantees to help them with facility design, and distribution logistics, and food marketing;

—grants, loans, and loan guarantees in support of business and infrastructure development and investment; and

—administrative support of HFFI and project evaluation.

Question. I understand that the Department of Treasury and the Department of Health and Human Services are also involved in this initiative, can you speak briefly to their role and how their programs are expected to complement USDA's efforts?

Answer. Through the joint initiative, which was included in the President's budget for 2011, Treasury, USDA, and HHS would make available more than $400 million in financial and technical assistance to community development financial institutions, other nonprofits, and businesses with sound strategies for addressing the healthy food needs of communities. The initiative will make available a mix of Federal tax credits, below-market rate loans, loan guarantees, and grants to attract private sector capital that will more than double the total investment. Federal funds will support projects ranging from the construction or expansion of a grocery store to smaller-scale interventions such as placing refrigerated units stocked with fresh produce in convenience stores.

Each of the three agencies brings a particular expertise and set of resources to the Healthy Food Financing Initiative. Specifically:

—The Department of Agriculture specializes in improving access to healthy foods through nutrition assistance programs, creating business opportunities for America's farmers, and promoting economic development in rural areas. USDA's proposed funding level of $50 million will support more than $150 million in public and private investments in the form of loans, grants, promotion, and other programs that can provide financial and technical assistance to enhance access to healthy foods in underserved communities, expand demand and retail outlets for farm products, and increase the availability of locally and regionally produced foods. USDA has a solid track record of supporting successful farmers markets, and has also invested in grocery stores and creating agricultural supply chains for them, such as in the People's Grocery project in Oakland, CA.

—The Treasury Department will support private sector financing of healthy foods options in distressed urban and rural communities. Through the New Markets Tax Credit (NMTC) and financial assistance to Treasury-certified community development financial institutions (CDFIs), Treasury has a proven track record in expanding access to nutritious foods by catalyzing private sector investment. The Healthy Food Financing Initiative builds on that track record, with $250 million in authority for the NMTC and $25 million for financial assistance to CDFIs devoted to helping finance healthy food options.

—The Department of Health and Human Services (HHS) specializes in community-based efforts to improve the economic and physical health of people in distressed areas. HHS will dedicate up to $20 million in Community Economic Development program funds to the Healthy Food Financing Initiative. Through the CED program, HHS will award competitive grants to Community Development Corporations to support projects that finance grocery stores, farmers markets, and other sources of fresh nutritious food. These projects will serve the dual purposes of facilitating access to healthy food options while creating job and business development opportunities in low-income communities, particularly since grocery stores often serve as anchor institutions in commercial centers.

Question. I am concerned that the budget request asks the Committee to eliminate any legal requirements regarding "eligibility, area served, and size of loan" when funding this program without a clear explanation of why this is necessary.

Answer. Food deserts exist in both rural and urban areas. Successfully addressing the multi-faceted problem of food deserts will take a concerted effort by all sectors of society and requires the unique combination of financial and technical assistance proposed in the Healthy Food Financing Initiative. The statutory requirements of several of the programs included in the initiative include several provisions that would impede the initiative, for example, limitations to rural areas, or areas less than a certain level, and loan limits below those necessary to serve large projects in urban areas. Rather than asking for a broad repeal of these limitations, USDA is asking for the discretionary authority to eliminate them only for the HFFI.

Question. Would you explain the intent of this request and provide examples of how USDA's current authority prohibits full implementation of the Healthy Food Financing Initiative as envisioned?

Answer. The community facility programs are limited rural communities and towns of less than 20,000 population and the business and industry loan program is limited to rural areas of less than 50,000. The statutory limit on the loans to intermediaries under the Intermediary Relending Program is $2 million, regardless of the number of ultimate recipients they serve, and the statutory limit on loans to rural microentrepreneurs under the Rural Microentrepreneur Assistance Programs is $50,000. While these limits may be adequate to serving projects in rural areas, they would preclude reaching out to urban areas that can best be served by larger projects, such as the recently constructed grocery store that is now serving the Anacostia area of Washington, DC.

Question. Under what circumstances would the Department overlook eligibility requirements when making grants and loans?

Answer. Projects under the HFFI would be expected to meet other statutory and regulatory requirements for the programs used to provide financing. In short, they would need to show that they are competitive with other applications for these programs, except for those requirements that would be waived.

SINGLE FAMILY HOUSING LOANS

Question. Because traditional home loans are increasingly difficult to secure, USDA's single family housing guaranteed loan program has become an attractive alternative for those seeking to purchase a home in rural America. I understand USDA has been guaranteeing around $2 billion worth of loans per month—a staggering amount. The fiscal year 2010 appropriations bill provided funding to guarantee $12 billion in single family housing loans.

Would you provide an update on this program? Is current funding sufficient to meet demand in fiscal year 2010?

Answer. Like all of the Rural Development programs, funding is not determined by demand. These are discretionary programs with a set level of funding as provided by Congress. In 2010, RD will obligate the full funding level provided by Congress in the 2010 appropriations. We should note that there is frequently a greater demand than available funding for below market financing. Just as there can be a backlog in the Water and Wastewater program, so can there be a backlog in any of the RD programs, including 502 Guarantees.

Fiscal year 2010 has had some specific challenges that have aggravated demand lately. Due to this strong demand arising from the housing and economic crisis, and the success of our program across the country, the private sector remains reluctant to make home loans absent Government backing. Also, in some areas the Rural Development SFH guaranteed program is the only financing available. Until the crisis, the guaranteed loan program historically obligated about $3 billion each fiscal year. The crisis pushed obligations to a record $6.9 billion in fiscal year 2008 and to another record $16.2 billion during fiscal year 2009. The $16.2 billion obligated in fiscal year 2009 included substantial funding from the American Recovery and Reinvestment Act of 2009 (ARRA) which provided about $10 billion for the program.

The guaranteed loan program received almost $12 billion in program level from the fiscal year 2010 appropriations bill. In addition, ARRA funding in the amount of $1.1 billion carried over from fiscal year 2009. We are continuing to monitor the level of demand for the program and will keep the committees informed of the status.

Question. To help ease the burden on the program and give the Department authority to guarantee more loans, the budget request includes a proposal to charge an annual 0.5 percent fee to lenders, which is consistent with the operation of HUD's FHA loan program. This fee will make the single family housing program essentially a "no cost" program allowing the Department to guarantee loans without appropriated funds supporting the loan level.

Do you expect lenders to pass this fee on to borrowers? If so, do you have an estimate for how much the monthly payment for borrowers will increase?

Answer. We expect lenders to pass the annual fee on to borrowers, the same way as is done for FHA loans. The annual fee will be capped at 0.5 percent and in fiscal year 2011 is expected to be 0.15 percent of the guaranteed principal loan amount. On a $100,000 loan, the annual fee will be $150. This results in an additional monthly payment of $12.50. This is a nominal increase and should be affordable.

Question. In addition to the fee proposal, the budget also includes language that will allow lenders to directly issue loan guarantees on behalf of USDA. This pro-

posal is consistent with FHA and VA loan programs. Why are you seeking this change now?

Answer. Direct endorsement will streamline the loan making process and achieve a measure of consistency with the Federal housing programs. Some private sector lending partners have repeatedly requested direct endorsement capabilities. Also, this will make the agency more efficient and allow the single family housing staff to focus more on single family housing direct loans.

Question. USDA's loan portfolio is much stronger and has a lower default percentage than traditional loans and loans guaranteed by other government agencies. We would like to maintain the Department's outstanding record. Does giving a 3rd party authority to issue these loans put USDA's portfolio at risk? What does USDA plan to do to make sure this change does not put the portfolio at risk?

Answer. We expect the current excellent portfolio credit quality will be maintained. The intent is to limit direct endorsement to lenders that have demonstrated strong program knowledge and responsibility. Only well performing lenders would be given direct endorsement capabilities, and they would be closely monitored on a post closing basis. Lenders with direct endorsement would have to submit their loans through Rural Development's automated underwriting system. Loans receiving an "accept" from the automated underwriting system have demonstrated better performance than loans which are manually underwritten.

REGIONAL INNOVATION INITIATIVE

Question. The budget request unveils a new program called the Regional Innovation Initiative. Funding for this program comes from a 5 percent tap to existing rural development, Agricultural Marketing Service, Natural Resources Conservation Service, and forestry programs which are not under the jurisdiction of this subcommittee. Through these taps the Department expects to generate $280 million in loans and grants for this initiative. The goal of the initiative is to "promote economic opportunity and job creation in rural communities through increased regional planning among Federal, State, local and private entities."

While I recognize that regional planning can be beneficial, I am concerned that the budget and your testimony lacks sufficient details describing how this program will be implemented, especially since the budget proposes to redirect 5 percent of programs that are either generally oversubscribed or not under the jurisdiction of this subcommittee. Does USDA currently have sufficient authority to allow the inclusion of these regional innovation grants and loans in the programs you propose to tap?

Answer. USDA has a series of programs that are already oriented toward regional economic development. These programs include broadband loans administered by the Rural Utilities Service, the Community Food System Program administered by NIFA, and the Rural Business Opportunity Grant (RBOG) program. USDA has expertise with regional economic development, but we believe our overall economic development activities can be better targeted toward the goals of this initiative.

RBOG is one example of an oversubscribed regional economic development program. Created in the 1996 farm bill, this program provides grants to nonprofit organizations, public bodies, and tribes for strategic technical assistance, training, and planning activities that promote "best practices" in sustainable rural economic development. The 2009 RBOG program yielded dozens of regional applications, including 21 multi-State applications. Because of our funding level, Rural Development simply couldn't fund most of these applications. We believe that this program holds great promise for the early steps in regional economic development of planning and collaboration.

RBOG grantees will be just one of a variety of regional organizations that USDA has supported through the Rural Development Mission Area. Others include Empowerment Zones, Enterprise Communities, and Champion Communities; Rural Economic Area Partnership, or REAP, zones; the Delta Regional Authority, and the Appalachian Regional Commission; and organizations with cooperative agreements with Rural Development around certain priority areas, such as food systems or economic diversification in regions dominated by a National Forest. Rural Development will focus additional outreach and technical assistance on these groups, as well as monitoring for results under the Department's commitments to OMB's High Priority Performance Goals process.

In addition, Rural Development already has undertaken two significant efforts toward the Department's larger regional strategy. First, a team has been assembled in headquarters to begin reviewing all Rural Development programs, starting with those identified for inclusion in the regional provisions of the President's 2011 budget, to ensure that agency regulations and application evaluation criteria do not dis-

advantage applicants seeking financing of a regional project. Where necessary, the Administrators of Rural Housing Service, Rural Utilities Service, and Rural Business—Cooperative Service will propose regulatory modifications.

Second, Rural Development's 47 State directors have been tasked with developing more active working relationships with other Federal and State partners to assist in recruiting regional projects, beginning with the food system arena, where an existing statutory set-aside of 5 percent of budget authority in the Business and Industry Loan Guarantee program offers priority to projects that benefit rural, tribal, or urban food deserts. The Rural Development State Director might defer to a HUD financing strategy for a grocery store in an urban food desert, but still finance a produce distribution facility or meat processing facility in a rural area that would help supply the new urban grocery store as well as other surrounding retail outlets. With most other Federal agencies appointing multi-State regional representatives, Rural Development also has grouped its State directors into four regions coinciding with those of the Regional Rural Development Centers under the National Institute of Food and Agriculture.

To the extent that authority already exists, the initiative is designed to utilize the statutory authorities for on-going programs. In the case of grants for regional planning activities, the Rural Business Opportunity Grant (RBOG) program would be utilized because the statutory authority for that program to grant to conduct "regional, community, and local economic development planning and coordination, and leadership development."

Question. For loan and grant purposes, how do you intend to define areas that are "engaged in regional innovation"?

Answer. The areas are to be self-defined based on the documentation of an applicant's participation in regional planning activities.

Question. How do you plan to measure success for this program?

Answer. The work will be done by the Community and Economic Development staff in Rural Development, initially as part of the OMB High Priority Performance Goal process, with additional staff support from other USDA agencies and eventually other Departments with programs offering regional opportunities. The 2011 budget proposal provides this work will be done by the Office of Regional Innovation, which would be housed within Rural Development.

Rural Development will apply the existing standards and scoring criteria of the RBOG regulation to applicants in 2010. The process for selecting grant recipients will be competitive and transparent. In addition, the Notice of Funds Availability (NOFA) asks all applicants to demonstrate: clear regional leadership; evidence of broad participation, including demographic diversity within the region; and evidence of broad collaboration among Federal, State, and local government agencies, private for-profit and non-profit firms, universities, and philanthropic organizations, including both their participation in and financial support of the project. The NOFA recruits applications focused on economic opportunities in rural America: addressing end users in regional broadband projects; regional food system projects; regional renewable energy projects; projects demonstrating innovative use of natural resources to expand business opportunities; and projects designed to attract new equity capital into rural areas.

There are program performance measures already established for each of the programs included in the initiative, for example, the number of jobs created or saved. It is anticipated that these measures will show high program performance in areas with regional innovation than those without such activities. Other measures may also be developed and program participants will be required to participate in the monitoring of performance.

SNAP

Question. Currently, 38 million people participate in the Supplemental Nutrition Assistance Program (SNAP), a record high level of participation driven primarily by the poor economy and unemployment. The budget proposal suggests that the final participation number for fiscal year 2010 will be more than 40 million participants with an unemployment rate of 10.1 percent. For fiscal year 2011, the Department estimates that 43 million people will participate in the program and unemployment will be 9.5 percent, a drop of 0.6 percent from the previous year's estimate. Given that unemployment is usually a strong indicator of SNAP participation and that the Department estimates unemployment will drop in fiscal year 2011, what is driving the participation estimate up by 3 million participants to more than 43 million people? Is there an underlying factor that is not explained by the unemployment rate?

Answer. SNAP participation is driven to a large extent by the national unemployment rate. However, the relationship between the two elements contains an inher-

ent lag with SNAP participation growth lagging increases in the unemployment rate. Therefore, a decline in SNAP participation may not occur until well after the end of the recession and drop in unemployment.

VOLUNTARY PUBLIC ACCESS AND HABITAT INCENTIVE PROGRAM

Question. What is the status of the Voluntary Public Access and Habitat Incentive Program?

Answer. The Voluntary Public Access and Habitat Incentive Program regulation is currently under review. Our plan is to have this regulation published in the Federal Register later this spring.

DISCRIMINATION CLAIMS

Question. Mr. Secretary, the President recently submitted a request for $1.150 billion to settle discrimination claims brought by Black farmers. Unfortunately there are similar claims of discrimination by other groups (women, Native Americans, and Hispanics).

What can you tell us about these other claims?

Will they be settled in the near future?

What is the potential liability of the Federal Government?

What is being done to prevent future discrimination?

Answer. I am committed to trying to resolve all farmers' claims of discrimination, including the claims of women (*Love*), Native Americans (*Keepseagle*), and Hispanic (*Garcia*) farmers.

U.S. Department of Justice (DOJ) and U.S. Department of Agriculture (USDA) are currently reviewing all available options in order to establish a path forward that will resolve all of the major cases pending before USDA. We are currently involved in confidential settlement discussions involving these cases. Consequently, all litigation has been stayed. Because of the confidential nature of the discussions, it is difficult for me to offer specifics on potential liability.

All farmers and all of USDA's customers should be treated fairly and equally. I remain absolutely committed to that principle and have made it a top priority for the Department. On April 21, 2009, I published a civil rights statement that noted, "This is a new day for Equal Employment Opportunity, program delivery, and civil rights in USDA. I intend to lead the Department in correcting its past errors, learning from its mistakes, and moving forward to a new era of equitable service and access for all." As we work to resolve all of the major cases pending before USDA, I will be guided by those commitments and will seek a just and equitable outcome for the various groups of individuals who believe they have suffered from discrimination.

To prevent future disparate treatment, USDA is undertaking several proactive measures which should decrease the filing of discrimination complaints. These measures include an independent assessment of program delivery, increased emphasis on outreach to socially disadvantaged and small and beginning farmers through the establishment of the Office of Advocacy and Outreach, reviewing findings of discrimination by the Office of Human Resources Management to determine if adverse actions are warranted and increased training for employees in civil rights.

In April 2009, USDA published a Request for Proposals to obtain an independent analysis of access to program delivery at the Farm Service Agency, Rural Development, Natural Resources Conservation Service, and the Risk Management Agency. After approximately 7 months of field interviews of USDA employees as well as gathering feedback from USDA customers, a thorough report will be provided to the USDA that lists specific recommendations and methodologies the Department can adopt to ensure programs are delivered equitably and fairly. These recommendations will ensure that access is afforded to all constituents, including socially disadvantaged farmers, ranchers, and rural America.

The Office of Human Resources Management under Departmental Management has been delegated responsibility for the establishment of an initiative to review all settlement agreements and decisions in program, individual, and employee complaints of discrimination. This initiative will ensure the highest level of accountability and fiscal responsibility is maintained within the USDA.

Key components of the initiative are as follows:

—Review of all settlement agreements and decisions finding liability against the Agency in program, individual, and employee complaints of discrimination.

—Investigations or inquiries to determine responsibility for the actions or inactions leading to Agency liability.

—Appropriate administrative actions to correct future conduct.

—Increased awareness of individuals in decision-making positions to make responsible decisions.
—Improvements in programs to ensure that all services are available in a nondiscriminatory manner.
—Hold USDA personnel accountable and responsible for their actions.

This last mandate will ensure that USDA employees at all levels will be held accountable for ensuring that all USDA applicants, customers, constituents, and stakeholders, as well as employees, are provided equal access to USDA opportunities, programs, and services.

The initiative to review settlement agreements and decisions in program, individual, and employee complaints of discrimination will be instrumental in improving civil rights and making USDA a model department.

Additionally, all employees are required to take annual EEO training, in conjunction with the Department issuing the annual notice on discrimination. Finally, the Secretary and Assistant Secretary for Civil Rights have regularly given speeches and issued correspondence regarding civil rights, EEO, diversity, and the consequences of violating the civil rights of individuals, employees, and USDA customers.

The 2008 farm bill authorized the creation of the Office of Advocacy and Outreach" (OAO), which was established under the Assistant Secretary for Administration on November 3, 2009. This action brought together outreach, advocacy and scholarship programs which were scattered throughout the USDA. The Office is in the process of obtaining staff, implementing grant and scholarship programs, and assembling two Advisory Committees—the Small and Beginning Farmer and Rancher Advisory Committee and the Minority Farmer Advisory Committee are being assembled. The Office is also developing accountability systems such as a receipt for services and the Program Participation Initiative that will track service to landowners by race, ethnicity and gender.

OAO will work with all USDA agencies to develop a comprehensive Departmental Outreach Plan to guide future activities of USDA. OAO is also charged with conducting a review of all rules and regulations in USDA to assess barriers to full participation in USDA programs by underserved groups.

The creation of OAO as a distinct entity in the Department will place heightened emphasis on making USDA programs accessible to all. The mission of OAO is "to increase access to programs of the Department and increase the viability and profitability of small farms and ranches, beginning farmers or ranchers, and socially disadvantaged farmers or ranchers."

Finally, I have directed all USDA political appointees to receive civil rights training. The Assistant Secretary for Civil Rights is providing the same civil rights training to senior managers in the field offices at the Farm Service Agency, Natural Resources Conservation Service, and Rural Development, especially in those States where USDA agencies report significant numbers of program discrimination complaints. In a video-taped message to training participants, I emphasized the importance of implementing USDA's civil rights policy and reminded attendees of their responsibility to ensure USDA constituents have full and equitable access to USDA programs and services. The civil rights training includes a historical perspective of civil rights at USDA, employment and program complaint processing, dispute resolution, civil rights compliance, and diversity. To date, trainings have been conducted in New York, Texas, Louisiana New Mexico, Florida and Oregon.

QUESTIONS SUBMITTED BY SENATOR THAD COCHRAN

CATFISH INSPECTION PROGRAM

Question. Secretary Vilsack, the administration's budget request recommends a decrease of $10.3 million for the catfish inspection program under the Food Safety Inspection Service. The farm bill was very clear that regulations for this program be completed within 18 months of passage of the farm bill. Can you elaborate on this budget request and inform the subcommittee when you expect the Department of Agriculture to both release the regulations and begin implementation of this program?

Answer. We believe that the $5 million requested for catfish inspection is adequate to meet essential program needs in fiscal year 2011. The draft proposed rule is currently under review. In the meantime, FSIS is working diligently in order to develop the foundation needed to assume catfish inspection responsibilities upon implementation of a final rule.

Question. In the President's budget request for the Catfish Inspection Program, the administration notes a "need for considerable stakeholder engagement." What is the Department doing to engage stakeholders?

Answer. Upon publication of the proposed rule, USDA will seek public comments on the proposed rule. In addition, USDA plans to hold three public meetings on the proposed rule, which will likely take place in Arkansas, Mississippi, and Washington, DC. We are developing significant outreach and communication plans for both domestic and foreign stakeholders to commence once the proposed rule is published.

THE FOOD, CONSERVATION, AND ENERGY ACT OF 2008

Question. Mr. Secretary, the administration's fiscal year 2011 budget submission includes proposals that require opening up and amending the Food, Conservation, and Energy Act of 2008. I have concerns about the implications of amending a farm law that was 2 years in development and which still has not been fully implemented. I would like to know your thoughts about the possible undermining of confidence in farm policy and the adverse impact on the rural economy that would result if Congress makes significant changes to farm law before its scheduled expiration?

Answer. I feel that the President's budget proposals regarding "payment limits" and "Adjusted Gross Income" criteria actually strengthen confidence in U.S. farm policy, rather than undermine it. By focusing farm program payments to those most in need, and working to reduce the additional $12 trillion in debt that has accumulated since the beginning of the decade, we are working to ensure that Federal funds are being spent wisely.

The Department provides a strong set of financial safety net programs to ensure the continued economic viability and productivity of production agriculture, including farm income and commodity support programs, crop insurance and disaster assistance, as well as other programs. The farm safety net is critically important and provides the foundation for economic prosperity in rural America. For 2011, USDA estimates that roughly $17 billion in total direct support will be provided to farm producers and landowners through a variety of programs.

Recognizing the need to reduce the deficit, the budget proposes to better target direct payments to those who need and can benefit from them most as well as cap total payments paid to larger operations. The savings from these proposals will impact approximately 30,000 program participants, which is about 2 percent of the 1.3 million total program participants, and will over time comprise less than 2 percent of the total direct support the Department expects to provide annually to farm producers and landowners.

PIGFORD II SETTLEMENT

Question. Mr Secretary, in regards to the *Pigford II* settlement, thousands of the farmers that have claims against the USDA are from Mississippi. I hope this settlement will resolve these claims in a fair way that is consistent with the court rulings rendered in these cases. I am told that under the settlement agreement, between 4.1 percent and 7.4 percent of the appropriated funds will be spent on attorney's fees. Can you tell me how USDA derived these percentages?

Answer. Subject to court approval, the parties have agreed to a range of attorneys' fees that will be not less than 4.1 percent but not more than 7.4 percent of the total amount of funds available for the settlement minus any money spent to implement the non-judicial claims process established in the agreement. Although the agreement permits plaintiffs to move for a fee award of 7.4 percent, the Agreement expressly provides that the Secretary can respond to plaintiffs' fee petition and argue to the Court that the Fee Award should be limited to 4.1 percent. The parties arrived at this structure through arms-length negotiation.

QUESTIONS SUBMITTED BY SENATOR SUSAN COLLINS

DAIRY

Question. I would like to stay on the topic of dairy and speak about cattle health. The health of cattle also can suffer during these economically challenging times for dairy farmers. Less income means less money spent on preventative care and waiting longer to take care of a sick animal. This not only can affect the farmer's bottom line, but it also may affect human health.

What is the USDA doing to ensure the health of our Nation's dairy cattle?

Answer. APHIS conducts a variety of activities to protect the health, quality, and marketability or our Nation's animals. These activities include surveillance to quickly identify diseased animals, and emergency response capabilities that allow for the Agency to provide leadership, strategies, and resources for effective emergency response and management. These activities help to minimize exposure of animals to diseases that negatively impact producers.

APHIS also assists States and producers with developing approaches for disease management of cattle herds by providing technical assistance. For example, APHIS has provided assistance to States and producers in developing and implementing their Johne's disease management, testing, and monitoring strategies for use in controlling the disease in cattle herds. APHIS also remains vigilant in protecting herds from economically significant animal diseases, such as brucellosis and tuberculosis, through effective control and eradication programs.

NOT-READY-TO-EAT POULTRY PRODUCTS

Question. On December 21 of last year Senator Snowe and I sent a letter (attached) to you regarding our concerns about the process for new regulations being promulgated by USDA's Food Safety and Inspection Service (FSIS) for certain Not-Ready-to-Eat poultry products without employing the traditional rulemaking process as outlined in the Administrative Procedures Act (APA). This important issue affects a number of producers across the country, including Barber Foods, a Maine company employing 750 people.

It is my understanding that FSIS will make a significant change in agency policy on regulation of Not-Ready-to-Eat poultry products which appear Ready-to-Eat. Specifically, FSIS is considering a change which would declare Salmonella to be an adulterant and would require non-detectable levels of Salmonella in Not-Ready-to-Eat poultry products which appear Ready-to-Eat.

A change in agency policy to regulate the presence of Salmonella in these products as an adulterant would reverse the long-standing policy of FSIS and establish a new precedent. Under the APA, changes to long-standing agency policies are to be made through formal rulemaking procedures.

Let me be very clear that the safety of our Nation's food supply is of paramount importance, and I am not commenting on the merits of the regulation change. I encourage FSIS to take all necessary steps to improve the safety of our food supply. Even the most important policy goals, however, must be implemented in accordance with the procedures established by law.

Since I have yet to receive a response to my letter, I wanted to take this opportunity to ask you what specific steps FSIS is taking to make sure any regulatory change for Not-Ready-to-Eat poultry products which appear Ready-to-Eat are made in accordance with APA requirements?

Answer. The problem of Salmonella in not-ready-to-eat (NRTE) stuffed poultry that appears to be ready-to-eat (RTE) is longstanding. There is a history of consumers purchasing the product, treating it as though it were RTE, and then getting sick. For more than a decade we have worked with companies making these NRTE products to identify and implement strategies that will result in a safer product. Unfortunately, despite our efforts, the problem persists.

We are committed to ensuring that any decisions about these products will be made in an open and transparent manner. Accordingly, please be assured that as USDA moves forward in this effort, we will provide ample opportunity for industry and, indeed, all interested parties to comment on any actions that FSIS tentatively determines are necessary to protect the public health. Ample time will also be allowed for the companies involved to implement any actions that FSIS may decide to require. We must all be aware, however, that while we work with companies to identify actions likely to be most effective, people continue to risk becoming ill from these products.

CONGRESSIONALLY DIRECT SPENDING

Question. For all congressionally direct spending, please provide for each: a funding history, all ultimate funding recipients, a statement of goals and accomplishments, any assessments made on funding amounts and how those funds were used.

Answer. The information is submitted for the record.

[The information follows:]

SPECIAL RESEARCH GRANTS

ADVANCING BIOFUEL PRODUCTION, TEXAS

The research under this project is being conducted at Texas A&M University and Baylor University. The goal of the proposed project is to enhance understanding of crop composition on bioenergy conversion, using sorghum as a model dedicated energy crop. Understanding the composition of this crop and its effect on conversion efficiency is crucial to the development of alternative energy sources. From the Texas A&M University sorghum program, biomass samples from different sorghum types grown under different agronomic practices were produced, dried, ground, and provided to Baylor University personnel. Samples continue to be analyzed for potential conversion to biofuels. The analysis focuses on the sugar composition using a protocol developed specifically for the analysis.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $148,950; for fiscal year 2009, $140,000; and for fiscal year 2010, $300,000. The total amount appropriated is $588,950.

Research activities to complete the objectives began in 2008. Samples of sorghum have been produced and are currently being analyzed to address the original objectives to analyze water-soluble materials in sorghum, investigate the optimal conversion technology and operation conditions for conversion into biofuel, and evaluate the existing germplasm and continued breeding programs to develop sorghum varieties.

The NIFA National Program Leader has had discussions with the principal investigator from Texas A&M University. A site visit to Baylor University is planned for 2010.

ADVANCED GENETIC TECHNOLOGIES, KENTUCKY

This research focuses on developing the infrastructure needed to initiate advanced genetic technologies used in the study of agriculturally relevant plants, animals, and microbes. The research will integrate the modern laboratory methods of large-scale DNA sequencing with computational methods to interpret DNA sequences and identify genes and key features of genomes. Pilot studies will be conducted to obtain sequences from an important symbiont of tall fescue, the most widely planted forage grass in the United States, and also from an important horse parasite. Other pilot studies will be invited and pursued as appropriate.

The results of this research will enhance techniques of genetic analysis, and through such techniques, increased understanding of genomes of plants, fungal symbionts of plants, and animal parasites. The techniques developed by this research will enable genome sequencing for numerous microorganisms that are pathogenic or symbiotic with agricultural plants and livestock in the local environment. The project will support the training of students and post-docs for work in the life science and computer science.

The work supported by this grant began in fiscal year 2001, and the following amounts have been appropriated: in fiscal year 2001, $473,955; in fiscal year 2002, $600,000; in fiscal year 2003, $670,613; in fiscal year 2004, $600,436; in fiscal year 2005, $644,800; in fiscal year 2006, $638,550; in fiscal year 2007, $0; in fiscal year 2008, $480,612; in fiscal year 2009, $452,000; and fiscal year 2010, $650,000. The total amount appropriated is $5,210,966.

The research is being conducted at the agricultural experiment station maintained by the University of Kentucky.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission.

AEGILOPS CYLINDRICA (JOINTED GOATGRASS), WASHINGTON

The purpose of this initiative is to investigate the biomass and bioproduct potential of plants that are typically classified as weeds when they invade land used for growing crops. Weedy plants have traits that allow them to compete successfully for resources and to grow rapidly. An issue related to biomass production is whether traits derived from weedy plants might be used to augment production of biomass crops and/or whether weedy plants might be developed into biomass crops. The goal with Aegilops cylindrica, or jointed goatgrass, is to determine whether the robust growth of jointed goatgrass-wheat hybrids might make these hybrids or related plants that carry some of their traits useful in dryland areas. These hybrids are annuals and almost completely sterile so if the hybrids themselves were used as a biomass crop, there would not be a significant control problem. Three other weedy plants also will be investigated. Research on a hybrid poplar will determine whether

it is possible to reroute significant amounts of carbon from the phenylpropanoid pathway that generates lignin precursors to other phenolic compounds that might be used as high-value biofuels. The ability to divert carbon from lignin into a valuable commodity would be especially useful in lignified biomass crops like poplar, which is an invasive tree well suited to the Pacific Northwest. Arundo donax, or giant reed, is an invasive and fast-growing grass, and various photosynthetic parameters will be investigated to determine why light harvesting or carbon allocation is so efficient. There is a good control plan in place for experimental plantings that rely on water limitation and herbicide application to eliminate the plant when necessary. Lactuca serriola, or prickly lettuce, will be evaluated to determine if it is possible to increase the quantity or quality of the latex compounds in the sap. There have been recent advances in gene mapping in this plant, and the focus may be on the weed itself but an alternative might be to take the genes responsible for isoprenoid polymerization to latex and move them into an alternate plant.

Previous work with jointed goatgrass focused on controlling invasion into wheat fields. The research has been a success. Scientists developed cultural practices to suppress this weed and combined these practices with a technology to allow elimination of jointed goatgrass by application of a herbicide during cultivation of a herbicide-resistant wheat developed for this project. Now that goatgrass can be controlled, progress has been made by gathering hybrids and probable parental plants from several locations for fiber analysis and by producing better defined crosses in greenhouses to generate the needed amount of hybrid seed for field testing. Preliminary experiments with giant reed have shown an impressive growth rate and extremely high rate of carbon dioxide assimilation. Prickly lettuce species and biotypes have been surveyed for latex quality and quantity; and matings have been carried out to develop populations for mapping productivity traits, and genetic markers are being screened. The research on poplar continues with cloning high capacity genes for using the phenylpropanoid pathway to reroute carbon flux to aromatic monomers.

The initial work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $329,000; for fiscal years 1995 1997, $296,000 each year; $346,000 for fiscal year 1998; $360,000 each year in fiscal years 1999 and 2000; $359,208 in fiscal year 2001; $367,000 in fiscal year 2002; $380,511 in fiscal year 2003; $340,976 in fiscal year 2004; $355,136 in fiscal year 2005; $351,450 in fiscal year 2006; $0 in fiscal year 2007; $261,159 in fiscal year 2008; and $245,000 per year in fiscal years 2009 and 2010. Total appropriations are $5,188,440.

This work is being carried out at Washington State University.

This project has been previously peer reviewed for scientific merit and adherence to the program objectives by a panel of scientists and producers. Senior agency scientists have reviewed the overall grant annually. Progress toward the new objectives was evaluated based on a progress report and during a site visit in the fall of 2009.

AGRICULTURAL DIVERSIFICATION, HAWAII

Diversified agriculture offers new opportunities and includes specialty fruits that open a variety of new markets. The overall objective of this project is to provide scientific and outreach support services that enable Hawaii entrepreneurs to increase their revenues or profits from growing and selling specialty fruits.

Highlights of work that have been accomplished include establishing a private sector oversight committee to review program activities, research on identification of new products, risk analysis, market analysis, and provision of business guidelines for growing and selling new crops. Since project inception, there has been a two- and one-half fold increase in the number of farms growing tropical specialty fruit crops and a three-fold increase in the value of the crops produced on these farms.

Grants have been awarded from funds appropriated as follows: for fiscal years 1988–1989, $156,000 per year; for fiscal years 1990–1993, $154,000 per year; for fiscal year 1994, $145,000; for fiscal years 1995–2000, $131,000 per year; for fiscal year 2001, $130,712; for fiscal year 2002, $128,000; for fiscal year 2003, $127,168; for fiscal year 2004, $113,327; for fiscal year 2005, $112,096; fiscal year 2006, $218,790; for fiscal year 2007, $0; for fiscal year 2008, $162,852; and for fiscal years 2009 and 2010, $153,000 per year. A total of $3,157,945 has been appropriated.

Research is being conducted at the University of Hawaii's College of Tropical Agriculture and Human Resources on the island of Oahu, and other Hawaiian islands.

Evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator. It has been determined that progress in the development of new agricultural opportunities and use of decision-making tools for farmers and entrepreneurs is satisfactory.

AGRICULTURAL ENTREPRENEURAL ALTERNATIVES, PENNSYLVANIA

This research is focused on key areas with entrepreneurial growth potential and will expand into two new areas with considerable growth potential. Such areas include bio-based energy, green buildings and organic foods. This research will determine the most effective methods designed to increase small farm profitability by improving farmers' business management, marketing, and production practices; and to identify barriers to marketing local foods in Pennsylvania.

To date, this project has hired a Research Associate whose appointment began in August 2009. This project has also completed the following: prepared and beta tested an agriculture and natural resources green business case study for entrepreneurship students; established a sustainable entrepreneurship research project design; gathered content to develop an agricultural focused entrepreneurship extension and outreach train-the-trainer program.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $248,250; for fiscal year 2009, $233,000; and for fiscal year 2010, $248,000. The total amount appropriated is $729,250.

This work is being carried out at Pennsylvania State University Research station.

Annual proposals for funding are peer reviewed for relevance and scientific merit. The National Institute of Food and Agriculture agency contact is also in regular contact with the principal researcher at Pennsylvania State University to discuss progress towards meeting project objectives.

AGRICULTURAL MARKETING, ILLINOIS

The University of Illinois developed an electronic infrastructure and marketing resource called MarketMaker which was to be used to assist and educate livestock farmers on marketing strategies for value-added meat products. It has developed into a tool that can benefit everyone in the food supply chain, from farmers, to processors, distributors, retailers, and the consumer looking for unique food products. The goal for this stage of development will include the continued geographic expansion of MarketMaker but will also build greater participation from businesses beyond the farm gate.

Current progress includes the following: Build awareness among non-farm food related enterprises—Project investigators and State partners are in the early stages of a campaign to educate and inform food processors, wholesalers, distributors and food retailers on the use MarketMaker to acquire attribute specific food products and identify potential supply chain partners. To extend the outreach of the project, the investigators have targeted organizations such as the National Restaurant Association, the American Association of Meat Processors, the Seafood Products Association, and the Food Marketing Institute. Solicit Food Industry Feedback—Food industry leaders and decision-makers have been invited to identify the types of information about other food related enterprises that they would find most useful. Conversations with WalMart, Sysco Corp, and C.H. Robinson are ongoing and are providing valuable feedback that will guide the further expansion of the current MarketMaker data base. Key Food Industry decision-maker interviews—The MarketMaker team will continue to solicit feedback from industry experts to arrive at the optimum extent of information that would aid food supply chain decision makers. Investigators will identify key food industry decision-makers, with input from the Advisory Board. Interviews will focus on collecting data on (1) food categories and characteristics most important for their business; (2) search capabilities most important to their business; and (3) strategies for training personnel to use MarketMaker in their industry. Identify Key Metrics to Determine the Commercial Readiness of Farmers—Industry interviews will also allow investigators to inventory standards of performance that are expected from farmers in such areas as post harvest handling, packaging standards and food safety standards. This information will become the basis for developing a curriculum for "Commercial Ready Farming Practices". This curriculum will be implemented by the land grant partners. Design New Business Registration Templates—This information will be integrated into a new online registration template used to create profiles for the individual business. The farmer/producer portion of the data base already includes expanded profiles that identify products produced, forms of sale, marketing attributes, and other types of information that help the user filter out the farmers that best fit their needs. Newly designed templates for registering will allow for the creation of equally rich profiles for food manufacturers, wholesalers, distributors, restaurants and food retailers. Other business profiles in the data base currently only include the kinds of cursory information that can be purchased through business data brokers.

Fiscal year 2008 was the first year that funds were appropriated for this grant, with an amount of $186,684; and for fiscal years 2009 and 2010, $176,000 per year. The total amount appropriated is $538,684.

The work is being conducted at the University of Illinois.

The agency evaluates the merit of research proposals as they are submitted. The principal investigators and project managers submit annual reports to the agency to document impact of the project. Agency evaluation of the project includes peer review of accomplishments and proposal objectives and targeted outcomes. Additionally, progress reports to the Current Research Information System (CRIS) are being monitored for satisfactory accomplishments and timelines.

AGRICULTURE ENERGY INNOVATION CENTER, GEORGIA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $1,000,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

AGRICULTURE SCIENCE, OHIO

This program has focused on research on emerging diseases of plants, animals, zoonotic diseases, and foodborne diseases. Specifically, these diseases have included influenza virus, severe acute respiratory syndrome (SARS) coronavirus, aster yellows phytoplasma, and sudden oak death. In 2009, work was done to determine the molecular basis for interspecies transmission of H3N2 viruses between swine and turkeys. This program also looked to determine if soybean rust and new strains of stem rust of wheat have arrived in Ohio, and to develop protocols for sampling for invasive crop diseases and assessing the accuracy of risk assessment models for emerging high-impact crop diseases.

Progress continues on research involving influenza viruses, SARS coronavirus, soybean rust, and sudden oak death. Educational materials have been developed to assist soybean growers in the identification of soybean rust in infected plants, and staff training continues for biosafety laboratory containment. Polyclonal antibodies specific for the soybean rust pathogen have been developed and several volatiles have been identified from infected trees that attract insects; chemical characterization is in progress.

The work supported by this grant began in fiscal year 2003, and the appropriation for fiscal year 2003 was $496,750; for fiscal year 2004, $444,363; for fiscal year 2005, $542,624; for fiscal year 2006, $564,300; $0 in fiscal year 2007; $407,130 in fiscal year 2008; $382,000 in fiscal year 2009; and $450,000 in fiscal year 2010. The cumulative total amount appropriated is $3,287,167.

This work is being done at the Food Animal Health Research Program laboratories and clinics at the Ohio Agricultural Research and Development Center and the Department of Plant Pathology, all located at The Ohio State University in Wooster, Ohio.

The fiscal year 2009 proposal was institutionally peer-reviewed at the Ohio State University. In addition, a NIFA National Program Leader reviewed the proposal and determined that the research project was appropriate and addresses important opportunities for better understanding new and emerging plant and animal disease threats. Furthermore, the feasibility, budget, time-frame, and facilities for the project were adequate. The National Program Leader noted that these ongoing research projects outline a program which builds upon established resources and responds to National research needs in emerging plant and animal diseases.

AGROECOLOGY/CHESAPEAKE BAY AGROECOLOGY, MARYLAND

The objective of this grant is to preserve farm and forest land in the Chesapeake Bay region and prevent farmland conversion to housing. The research focuses on: the management and selection of hull-less barley cultivars in Maryland that can be used as a feedstock for fuel ethanol production; investigating a variety of native plant species for use as high-value niche crops for small farms and nurseries; and assessing State forestland through the collection of information on forest type, past management history, age, volume, forest structure, and species diversity.

This grant has completed some objectives to provide alternative high value crops to maintain farmland and provide cover crops to reduce nutrient runoff.

Fiscal year 2009 was the first year that funds were appropriated for this grant. In fiscal years 2009 and 2010, funds appropriated were $499,000 per year. A total of $938,000 has been appropriated.

The work is being carried out at the Wye Research and Education Center in Queenstown, Maryland, and throughout the State.

Fiscal year 2009 is the first year that funds were appropriated for this grant. An evaluation is planned for the summer of 2010.

AIR QUALITY, TEXAS AND KANSAS

This research and technology-transfer initiative was created to form a Federal/State partnership that is: (1) characterizing odor, odorous gases, particulate matter, and greenhouse gases from open-lot concentrated animal feeding operations (CAFOs); (2) developing and evaluating cost-effective abatement measures; (3) providing a sound, scientific basis for specific air pollution regulations, including appropriate emission factors for particulates, odor, and odorous gases for the Southern Great Plains; (4) determining the potential impact of these air contaminants on animal health and productivity with inferences related to human health concerns; and (5) providing technology transfer to the public and agricultural producers. The project is no longer working on animal health and productivity and has begun measuring emissions of greenhouse gases. The following are the most recent accomplishments to date by objective.

Objective 1. Emissions Characterizations for Abatement Measures and Receptor Impacts.—A value of 20 percent surface moisture content of feedlot pen surfaces was determined to be a critical threshold for reducing particulate matter emissions, and time of day was found to be a critical parameter for applying the water to the pen surface. Average 12-month dry deposition of inorganic nitrogen was found to be almost three times as large as wet deposition. These relationships will be very useful in constructing process-based emissions models for particulate matter and gaseous emissions.

Objective 2. Process-Based Emissions Models.—A nitrogen mass balance was constructed for cattle in commercial feedyards. Less than 10 percent of the fed nitrogen was retained by the cattle and 30–35 percent of the nitrogen was available to be lost to the atmosphere as ammonia in winter and almost double that amount in summer. Feeding distiller's grains, a co-product of ethanol from corn, generated higher emissions of ammonia nitrogen which was proportional to increased protein content in the ration.

Objective 3. Dispersion Modeling, Regulation, and Emissions Factors.—Scraping manure from the feedyard pens reduced reactive volatile organic carbon emissions significantly. Emission factors for these organics was a factor of 10 times lower than values used by some State regulatory agencies. Scraping also significantly reduced emissions of carbon dioxide and methane. EPA methodology for estimating feedlot emissions of methane from volatile solids was determined and compared to more direct emissions measurements.

Objective 4. Technology Transfer.—Investigators produced 4 refereed journal articles, 17 scientific presentations, 5 news articles, 5 fact sheets, 2 eXtension webinars, and 6 graduate student theses. The project Web site was consolidated and improved. The project team received the Vice Chancellor's Award in Excellence-Research for their work on this project.

The work supported by this grant began in fiscal year 2002, and the appropriation for fiscal year 2002 was $640,000, $869,313 in fiscal year 2003; $894,690 in fiscal year 2004; $1,065,408 in fiscal year 2005; $1,558,260 in fiscal year 2006; $0 in fiscal year 2007; $1,160,817 in fiscal year 2008; and $1,090,000 per year in fiscal years 2009 and 2010. A total of $8,368,488 has been appropriated.

Research is being conducted within the Texas A&M University System with the lead being at the Agricultural Research and Extension Center at Amarillo and participation at West Texas A&M University. Kansas State University also participates in the project as well as participation by the Agricultural Research Service in Bushland, Texas.

A comprehensive program review was completed in August 2008 with an independent peer review team. The review team reported satisfactory progress on all but one of the five objectives. The review team felt that progress on the technology transfer objective could be much better given the maturity of the project. A number of very helpful recommendations were given by the review team to the project directors. The project directors have since met and have laid-out a very comprehensive plan to address the review team's recommendations. The 2008 review has created a broader group of participants on the advisory committee. The program officer thoroughly reviewed the most recent proposal and progress updates and participated in the research planning meeting for the 2010 fiscal year.

ANIMAL SCIENCE FOOD SAFETY CONSORTIUM, ARKANSAS, IOWA, AND KANSAS

The Food Safety Consortium researchers provide information to consumers by supporting one of the largest food safety Web sites. The Food Safety Consortium will

continue to improve the safety of American meat and poultry products, provide U.S. consumers with safer products and help the United States maintain a major role in the international market.

The original goal of this research was to assess the potential threats to beef, pork, or poultry during the production of the live animal and during processing, distribution, and consumption, in addition to developing sampling and testing strategies to rapidly identify any contaminants and determine the distribution of the contaminants in the food supply. To date promising results were obtained in continuing work with two natural proteins termed bacteriocins and produced by two beneficial bacteria belonging to the genus Bacillus. Preliminary studies indicate a potential mechanistic action of these new Bacillus candidates involving rapid activation of innate host immune mechanisms in chickens and turkeys. In addition to these findings, another research group determined whether combinations of organic acids would inhibit Salmonella Typhimurium biofilm formation using an assay based on adherence to titer plate wells. At lower concentrations organic acids disrupted biofilm formation while higher concentrations led to bacterial death.

Grants have been awarded from funds appropriated as follows: fiscal year 1989, $1,400,000; fiscal year 1990, $1,678,000; fiscal year 1991, $1,845,000; fiscal years 1992–1993, $1,942,000 per year; fiscal year 1994, $1,825,000; fiscal years 1995–1996, $1,743,000 per year; fiscal year 1997, $1,690,000; fiscal years 1998–2000, $1,521,000 per year; fiscal year 2001, $1,631,403; fiscal year 2002, $1,598,000; fiscal year 2003, $1,603,509; fiscal year 2004, $1,444,427; fiscal year 2005, $1,432,448; fiscal year 2006, $1,417,680; fiscal year 2007, $0; fiscal year 2008, $1,056,552; fiscal year 2009, $939,000; and fiscal year 2010, $1,000,000. The total appropriation was $32,494,019.

Research is being conducted at the University of Arkansas at Fayetteville, Iowa State University, and Kansas State University.

This program was reviewed and approved based on the proposal submission and Current Research Information system (CRIS) reports by NIFA staff in September 2009.

APPLE FIRE BLIGHT, MICHIGAN AND NEW YORK

This research is on fire blight in apple trees. Fire blight is a bacterial disease that can kill spurs, branches, and sometimes entire trees. The management of this disease is difficult because there are limited control options available. This research project is designed to develop fire blight resistant varieties, evaluate biological and chemical control methods for disease management, and develop an education and extension program to help growers improve their ability to manage fire blight in their orchards.

To date, new genes have been identified that show promise for their ability to make apple trees resistant to fire blight. These genes are now incorporated into apple trees that are significantly resistant to fire blight in the field. Additionally, a novel material, kasugamycin, has been shown to have good potential for controlling fire blight in areas where streptomycin resistance has developed. This is now being used by growers on a trial basis and will be further tested this year. An integrated pest management strategy is being developed and deployed.

Fiscal year 1997 was the first year that funds were appropriated for this project, with an appropriation of $325,000. Each year that this grant has been appropriated, the total has been split equally between New York and Michigan. For fiscal years 1998 through 2000, $500,000 per year; in fiscal year 2001, $498,900; in fiscal year 2002 $489,000; in fiscal year 2003, $491,783; in fiscal year 2004, $456,292; in fiscal year 2005, $479,136; in fiscal year 2006, $495,000; in fiscal year 2007, $0; in fiscal year 2008, $368,403; and in fiscal years 2009 and 2010, $346,000 per year. A total of $5,795,514 has been appropriated.

This research project is being conducted as a collaborative program at agricultural experiment stations maintained by Michigan State University and at the New York State Agriculture Experiment Station of Cornell University, located in Geneva, New York.

Senior agency technical staff conducts a merit review of the proposal submitted by the performing institution each year. The investigators have developed improved techniques for transferring resistance genes into apples and have been able to accelerate flowering in transgenic trees to be able to make evaluations after 2 years, rather than 4 to 5 years. The researchers have made progress toward effective biological control of the bacterium that causes the disease, as well as understanding the genetic basis for disease development.

AQUACULTURE, CALIFORNIA, FLORIDA, AND TEXAS

The objective of this grant is focused on shell fish aquaculture to ensure the sustainability of the hard clam aquaculture industry in Florida through evaluation of stock hybridization, stocking densities, and an initial assessment of soil characteristics in Florida. Objectives also focus on developing new technologies to advance United States marine finfish aquaculture by improving the efficiency and economic viability of recirculating aquaculture systems for maturation and spawning of marine fish broodstock.

Accomplishments from this directed research include but are not limited to: generation of a computer model and new design specifications for marine broodstock maturation systems and new water quality monitoring tests and protocols that have led to the successful spawning of southern flounder producing more than 600,000 viable eggs and juveniles. These eggs and juveniles were provided to the Texas Parks and Wildlife fish hatchery system along with juvenile flounder to a commercial grower for industry development. The University of Texas determined that juvenile flounder could be successfully reared in 10 parts per 1,000 salinity but had reduced survival at 0.5 parts per 1,000. Digestive enzymes in larval southern flounder were also measured during development in order to select an appropriate feeding regimen. Cultured Mercenaria mercenaria and wild Mercenaria campechiensis were spawned and single-parent crosses accomplished. Allozyme marker analysis indicated parental clams in two crosses were hybrids. Grow-out trials indicated hybrid weights and growth were higher than parental stocks. A laboratory challenge was conducted exposing two families to salinities of 15 or 25 parts per 1,000 and hypoxic or normoxic conditions at 32 degrees Centigrade. In the lab challenge, survival analysis indicated that the Mercenaria mercenaria x Mercenaria campechiensis crosses performed better under stressful conditions than did parents or reciprocal crosses. About 248,000 hybrid seed were planted in 2008 for replicated comparison of stocks, density, and gear. Experimental clams are sampled every four months and will be harvested in late summer. Ten commercial growers planted 190,000 seed clams on commercial leases in three counties for site comparison. Additionally, in March 2008, a total of 1,017,000 seed was transferred to Cedar Key for continued culture. The clam husbandry project is still underway.

Work supported by this grant began in fiscal year 2006 with an appropriation of $594,000; $0 in fiscal year 2007; $442,878 in fiscal year 2008; and $416,000 per year in fiscal years 2009 and 2010. The total amount appropriated is $1,868,878.

The University of Florida, Gainesville, in collaboration with commercial producers in the Cedar Key area in Florida, is conducting the clam research. Research on marine finfish is being conducted at the Mote Marine Laboratory and Aquarium in Sarasota, Florida, the Department of Marine Science of the University of Texas in Port Aransas, Texas, and at the Hubbs-Sea World Research Institute in San Diego and Carlsbad, California.

The Agency's National Aquaculture program staff review the project annually upon submission of proposals with details on all proposed studies. Programmatic review of the fiscal year 2009 proposal concluded that the methodology and experimental design were sound. Additionally, the Agency held a post-award management workshop in December 2009 that included reporting on progress and accomplishments and focus on performance, relevancy, and quality.

AQUACULTURE, IDAHO AND WASHINGTON

The original goal of the program was to improve and expand trout aquaculture at the regional and national levels through improved animal health management, improved water quality management, improved product quality, and new product development. Past research has led to vital information on the immune system of trout and new diagnostic methods that will help in the early detection of disease organisms affecting the rainbow trout industry; the identification of genetic disease-resistance markers in rainbow trout which will aid in the development of genetic vaccines for the rainbow trout industry; the development of disease diagnostic tools for other salmonids; improved processing technologies for rainbow trout and improved trout production systems to reduce effluents from trout farm; water re-use systems for less-costly and flow-through aquaculture facilities with more environmentally friendly performance due to new engineering techniques; Hepatopoietic Necrosis Virus resistance loci in a rainbow X cutthroat cross have been identified and mapped; and a rickettsial-like bacterial sequence associated with strawberry disease lesions in rainbow trout has been identified. Research on other species has led to: both imidacloprid and carbaryl were found to be efficacious in controlling burrowing shrimp at the rates tested; and ultrasound can be used to measure egg diameter in mature female sturgeon and to predict appropriate caviar harvest times.

Recent findings from this program include but are not limited to: Black soldierfly pre-pupae were grown with and without omega-3 and omega-6 fatty acids by altering their diets. Black soldierfly pre-pupae enriched with omega-3 and omega-6 fatty acids do not undergo significant oxidation even after 12 months of storage at room temperature. These findings suggest that this insect could easily be stored for several months at room temperature without becoming rancid, a characteristic that is beneficial to the feed industry if this product is to be considered as a potential feed ingredient for aquaculture diets as well as diets for various other animals. The mechanism of immune-stimulated muscle wasting in fish may be somewhat different than that in mammals. Selection of strains based on increased levels of immunity may be detrimental to muscle growth. These results may also imply that management practices such as long-term feeding of immunostimulant-containing diets may ultimately reduce production efficiency. Differential expression of heat shock proteins in rainbow trout tissues was determined, as well as differential capacity of rainbow trout embryos to up-regulate heat shock proteins expression in response to heat shock. Partial results of these studies did show that older embryos showed greater tolerance to heat shock than younger embryos. Rainbow trout should be fed a low level of soybean meal during early feeding to improve utilization of higher levels of soybean meal in grow-out, and this information challenges current dogma. Findings from this research have also identified important patterns in consumer response to mass media reporting on farmed salmon and aquaculture in general. People often use simple decision rules, leading a large percentage of the population to avoid farmed seafood products under the belief that these products are not natural or are contaminated. Media analysis shows that news stories rarely convey the science in a complete way. The research is leading to recommendations for both science reporting and health advisories regarding seafood.

The work supported by this grant began in fiscal year 2001, and the appropriation was $284,373. The fiscal year 2002 appropriation was $600,000; in fiscal year 2003, $769,963; in fiscal year 2004, $688,911; in fiscal year 2005, $763,840; in fiscal year 2006, $756,360; in fiscal year 2007, $0; in fiscal year 2008, $563,031; and in fiscal years 2009 and 2010, $529,000 per year. A total of $5,484,478 has been appropriated.

Washington State University, the University of Idaho, and the Pacific Shellfish Institute in Washington are conducting the research.

The proposals are reviewed by the agency's National Aquaculture Program staff upon submission. The last agency review concluded that significant progress had been reported on research objectives under this program. The Principal Investigators were leading authorities in this area of research and were well aware of the complexity of the industry and the implications of their research. The proposal was well written and objectives were clearly stated. The experimental design and scientific approach appeared to be sound. Literature and justifications for research were provided. The Agency conducted a post-award workshop in December 2009 that included reporting on progress and accomplishments with a focus on performance, quality, and relevancy.

AQUACULTURE, LOUISIANA

The original goal of the research was to provide science-based information that specifically addressed the needs of the aquaculture industry in Louisiana and the southern region. The program funded by the Aquaculture, Louisiana grant has resulted in increased crawfish production from research on new winter baits, the use of square-mesh traps, improved pond-draining and stocking schedules, and increased reproduction capacity and improved predictability of reproduction from short-term feeding of adult crawfish prior to burrowing. Studies were completed that evaluated bait type, trap soak-time, and crawfish escape from traps made from square-mesh welded wire. Research from this program has also demonstrated that chitosan produced from crawfish shells offers the potential to reduce off-flavor in processed channel catfish. Disease control has been enhanced through the development of new vaccines for channel catfish. Genetic maps have been developed for commercial strains of channel catfish and research on cryopreservation technologies has led to improved gene banking of commercially important aquaculture species. The use of ultrasound for classification of ovarian condition of catfish, including industry-scale use in cooperation with commercial farms, was standardized and validated. Spawning of catfish in greenhouse tanks prior to the natural spawning season has been documented as well as reproductive conditioning of koi carp in heated broodstock ponds. Research examined the utilization of ultrasound technologies to determine the state of ripeness of channel catfish eggs and demonstrated that channel catfish can be induced to spawn early by using warm well water without affect-

ing reproductive performance. New processing technologies have led to improved quality and safety of cultured aquatic species and new feed formulations have led to reduced production costs. Energy analysis of alligator operations showed two major areas where significant savings could occur: water heating; and feed production. Results from recent crawfish trials conducted in artificial burrows provided possible cause/effect relationships observed in crawfish ponds where production relies solely on natural recruitment to populate ponds. Possible causes of reproductive impairment were identified to improve the understanding of population dynamics in crawfish ponds. High-throughput cryopreservation technologies for blue catfish sperm is now available for application and, with continued work with commercial hatcheries, will become available for commercialization. Characterization of larval development of the Fat Sleeper, a marine baitfish, will aid in the identification of morphological changes prior to these larvae accepting live or artificial feed items. Soluble and insoluble proteins from catfish skin were isolated and studied. Freeze-dried soluble and insoluble hydrolysate catfish skin powders were shown to have desirable functional and rheological properties. Protein hydrolysates made from catfish skin can be converted into a high-value protein powder food ingredient. Applications of this food ingredient include incorporation into muscle tissue products by injection, tumbling, and coating. The majority of Vibrio vulnificus isolates from Gulf oysters were of the environmental type versus the clinical type, and there was a seasonal variation in the genotypes identified. The study may help guide future control measures to focus more specifically on seasons that tend to accumulate the clinical-type Vibrio vulnificus.

Research conducted under this program continues as initiated under the Aquaculture General program in fiscal years 1988 through 1991. The work supported by the current program began in fiscal year 1992, and the appropriation for fiscal years 1992–1993 was $390,000 per year; $367,000 in fiscal year 1994; $330,000 each year in fiscal years 1995–2000; $329,274 in fiscal year 2001; $322,000 in fiscal year 2002; $327,855 in fiscal year 2003; $313,141 in fiscal year 2004; $329,344 in fiscal year 2005; $325,710 in fiscal year 2006; $0 in fiscal year 2007; $243,285 in fiscal year 2008; $188,000 in fiscal year 2009; and $150,000 in fiscal year 2010. A total of $5,655,609 has been appropriated.

The research is being conducted at Louisiana State University.

The agency's National Aquaculture Program Staff review proposals as they are submitted to the agency with details of proposed research studies. The proposed research is consistent with national goals and objectives outlined by the Joint Subcommittee on Aquaculture, National Science, and Technology Council (JSA–NSTC) Strategic Plan for Aquaculture Research and Development. The Agency conducted a post-award management workshop in December 2009 that included reporting on progress and accomplishments with a focus on performance, quality and relevancy.

AQUACULTURE, MISSISSIPPI

The fiscal year 2009 research funded under the Aquaculture Research, Stoneville, Mississippi Special Research grant was focused on practical feeding and nutritional requirements of channel catfish. Specific objectives outlined in the fiscal year 2009 proposal include: (1) evaluate effects of lysine supplementation on lysine-deficient diets on growth, feed efficiency, and lysine utilization in channel catfish; (2) determine clearance times for yellow pigments in channel catfish; and (3) compare satiate and restricted feeding on production characteristics of pond-raised channel catfish x blue catfish hybrids. The anticipated impact will be a reduction in feed cost and an increase in profit for catfish producers. Research funded under this program has had significant impact on the profitability of the pond-raised channel catfish industry in the United States. Researchers involved in this program work closely with the catfish industry providing practical solutions to improve the feeding efficiency of catfish production systems.

Past research conducted under this program has resulted in improved feed formulations and efficiency and improved water quality and disease resistance strategies for commercial channel catfish culture. Past results, include but are not limited to, research that has shown that dried distiller's grains with solubles plus supplemental lysine can replace about 35 percent of soybean meal, and cottonseed meal plus supplemental lysine can replace about 50 percent of soybean meal in the diet without significantly affecting fish growth, feed efficiency, and processing yield. A combination of distiller's grains, cottonseed meal, and supplemental lysine can totally replace soybean meal. However, a dietary level of 30 percent distiller's grains appears to increase the fillet fat level because of the high fat content in distiller's grains. Another study examined the use of high-protein finishing diets to improve processing yield of pond-raised channel catfish using a multiple-batch cropping sys-

tem. Results showed that there were no significant differences in the amount of feed fed, net production, final weight per fish, feed conversion, processing yield, and body composition of fish fed low protein diets and finished with high protein diets compared with fish fed diets containing various levels of protein throughout the growing season. Based on results from this study, it appears that finishing with high protein diets does not appear to be beneficial to improving processing yield of pond-raised catfish. Another recent project concluded that there were no significant differences in weight gain, feed conversion ratio, survival, and processing yield of fish fed diets containing various levels of canola meal up to 50 percent. Comparisons between channel catfish and blue catfish concluded that, regardless of dietary protein levels, blue catfish had higher whole-carcass weight, nugget, and total meat yield and higher fillet moisture and protein but lower fillet yield and fillet fat than channel catfish. Results of this program are quickly disseminated to the industry having an almost immediate impact on production costs due to close linkages with the channel catfish industry.

The program was initiated in fiscal year 1980. Grants have been awarded from funds appropriated as follows: fiscal years 1980–1981, $150,000 per year; fiscal year 1982, $240,000; fiscal years 1983–1984, $270,000 per year; fiscal year 1985, $420,000; fiscal years 1986–1987, $400,000 per year; fiscal year 1988, $500,000; fiscal year 1989, $588,000; fiscal year 1990, $581,000; fiscal year 1991, $600,000; fiscal years 1992–1993, $700,000 per year; fiscal year 1994, $658,000; fiscal years 1995–1997, $592,000 per year; fiscal year 1998, $642,000; fiscal years 1999–2000, $592,000 per year; fiscal year 2001, $590,698; fiscal year 2002, $579,000; fiscal year 2003, $582,191; fiscal year 2004, $520,908; fiscal year 2005, $516,832; fiscal year 2006, $511,830; fiscal year 2007, $0; fiscal year 2008, $385,284; and fiscal years 2009 and 2010, $361,000 per year. A total of $14,637,743 has been appropriated.

The research is being conducted at the Thad Cochran National Warmwater Aquaculture Center and Delta Branch Experiment Station of the Mississippi State University Agricultural and Forestry Experiment Station located in Stoneville, Mississippi.

The agency's National Aquaculture Program staff review proposals with details of planned research studies that are submitted to the agency. The Agency conducted a post-award management workshop in December 2009 that included reporting on progress and accomplishments with a focus on performance, quality and relevancy.

AQUACULTURE, NORTH CAROLINA

The objective of the grant is to improve the production efficiency of the North Carolina warm water fish culture industry through understanding the fundamental mechanisms controlling growth and feed intake, and establishing methods to improve production efficiency and environmental sustainability of hybrid striped bass in recirculating water aquaculture systems.

Past research conducted under this program has lead to information on: certain plasma proteins in hybrid striped bass that were correlated with specific growth rates; a biofiltration study that suggested that wood chips would be a cost-effective alternative to the more-expensive, conventional plastic media; growth uniformity that can be achieved in yellow perch by controlling temperature and photoperiod of grow-out systems; nutritional requirement determinations for optimum growth and development for Southern flounder and hybrid striped bass; selection of families of hybrid striped bass for production traits including survival, growth, and dress-out weight; determining that increasing the percentage of female Southern flounder in a grow-out system will significantly reduce production costs; partial compensatory growth was observed in hybrid striped bass food fish grown in ponds and tanks during the re-alimentation period when fish were fed daily following periods of feed deprivation and pond total phosphorus concentrations was 32 percent lower in the compensatory growth treatments than control ponds; and many genes in hybrid striped bass are activated in association with the transition of oocytes from primary to secondary growth. Recent accomplishments include but are not limited to: ovaries in early atresia produce a choriolysin, which is related to the hatching enzyme involved in hatching fish embryos so that females initiating atresia can be identified and induced to reproduce before they become un-spawnable. Leptin expression was restricted to the liver in striped bass and hybrid striped bass while in mammals leptin is expressed predominantly in adipose tissue. Both tissues are important lipid stores for their respective groups. The principal investigators found that Insulin-like Growth Factor-I is a strong corollary to predict growth and that ghrelin, a major appetite stimulatory hormone, may partially drive the growth hormone secretory dynamics and hyperphagic response observed with compensatory growth feeding protocols for hybrid striped bass. Results from studies using chemicals to reduce effluents

from hybrid striped bass ponds strongly suggest that chemical treatment of pond effluents to achieve Environmental Protection Agency compliance is not feasible.

Work supported by this grant began in fiscal year 1997, and the appropriation was $150,000. The project was not funded in fiscal years 1998 and 1999. The fiscal year 2000 appropriation was $255,000; for fiscal year 2001, $299,340; for fiscal year 2002, $293,000; for fiscal year 2003, $291,096; for fiscal year 2004, $260,454; for fiscal year 2005, $277,760; for fiscal year 2006, $321,750; for fiscal year 2007, $0; for fiscal year 2008, $242,292; and for fiscal years 2009 and 2010, $227,000 per year. The total amount appropriated for this program is $2,844,692.

The research is being conducted at North Carolina State University at the North Carolina State aquaculture research facilities in Aurora and Plymouth, North Carolina.

The agency's National Aquaculture Program staff reviewed the project upon submission to the agency with details of all proposed research studies. The proposed research was consistent with the Joint Subcommittee on Aquaculture's Strategic Plan for Research and Development. The Agency conducted a post-award management workshop in December 2009 that included reporting on progress and accomplishments with a focus on performance, quality and relevancy.

AQUACULTURE PRODUCT AND MARKETING DEVELOPMENT, WEST VIRGINIA

The original goal of this research was to develop sound marketing strategies for aquaculture products, improve the economic efficiency of aquaculture production systems, and improve the quality and variety of aquaculture products coming from West Virginia and the Appalachian region. Research funded under this program has lead to the development of software designed to simulate raceway production of trout that will provide a way for growers to determine how to better-manage their systems; commercial fish meal-free diets that may provide an effective strategy to reduce the levels of contaminants in farm-raised rainbow trout; West Virginia fee-fishing opportunities that can contribute to the productivity of the tourism industry by providing tourists with more to see and do with respect to outdoor activities; information on watercress that can be grown in the effluent stream from trout raceway systems and that may effectively remove nitrogen and phosphorus discharged into streams; the use of impaired waters, such as mine discharge ponds, utilizing different feeds and the use of different strains or species of fish that may open opportunities for small fish farms in the Appalachian region; aquaponics systems that can utilize flow-through systems and that cool-season food and ornamental plants can be produced and grow well in this system; and plant production that can be maintained year-round providing a reliable income source and that can be used to grow cool-season crops through the summer when they are less-available and can command a higher price. New protein and lipid recovery technologies designed for semi-industrial applications that will allow protein and lipid recovery in sufficient quantities for development of marketable, value-added food products from aquaculture products from West Virginia has lead to the development of basic parameters for protein and fish oil recovery and design for an industrial-scale bio-reactor system for processing fish by-products and/or whole, gutted fish. This has resulted in the submission of two patent applications filed by West Virginia University with the United States Patent and Trademark Office.

Grants have been awarded from funds appropriated as follows: fiscal year 1998, $600,000; $750,000 for each of fiscal years 1999 and 2000; $748,350 for fiscal year 2001; $733,000 for fiscal year 2002; $735,190 for fiscal year 2003; $671,017 for fiscal year 2004; $705,312 in fiscal year 2005; $742,500 in fiscal year 2006; $0 in fiscal year 2007; $521,325 in fiscal year 2008; $489,000 in fiscal year 2009; and $550,000 in fiscal year 2010. A total of $7,995,694 has been appropriated.

The work is being carried out at the University of West Virginia in Morgantown along with a number of cooperators.

Proposals with details of planned research studies are submitted to the agency for critical review by the agency's National Aquaculture Program staff. The proposed research was consistent with national goals and objectives outlined in the National Science and Technology Council's Joint Subcommittee on Aquaculture under the Strategic Plan for Aquaculture Research and Development. The Agency conducted a post-award management workshop in December 2009 that included reporting on progress and accomplishments with a focus on performance, quality and relevancy.

ARMILLARIA ROOT ROT, MICHIGAN

This project has objectives to find resistance to Armillaria root rot of cherry by conventional breeding techniques and to develop a management strategy for Armillaria root disease, primarily host plant resistance. The nurseries in infected

field plots have already been established, but the outcome of the experiment will be 5 to 8 years in the future. Within the large screening program, some epidemiological work on strain distribution and on the efficacy of sanitation measures will be done. Analysis of integrated pest management possibilities, particularly biological control and chemical control are underway. Basic research is being conducted on the fungal pathogen itself, in the evaluation of genetic factors that help the Armillaria fungus develop rhizomorphs that grow from one tree to the next and are important in protecting the fungus from sunlight.

The work supported by this grant began in fiscal year 2002, and the appropriation for fiscal year 2002 was $160,000; in fiscal year 2003, $158,960; in fiscal year 2004, $142,156; in fiscal year 2005, $149,792; in fiscal year 2006, $149,490; in fiscal year 2007, $0; in fiscal year 2008, $111,216; and in fiscal years 2009 and 2010, $104,000 per year. The total amount appropriated is $1,079,614.

This work is being carried out at Michigan State University.

The submitting institution conducts a peer review of the proposal prior to submission. Senior agency technical staff conducts a merit review of the proposal prior to making a funding recommendation. The agency may conduct an on-site review in 2010.

ASPARAGUS PRODUCTION TECHNOLOGIES, WASHINGTON

The original goals of this research were to reduce production and consumer costs and increase the annual asparagus supply. To date this research has proven the concept of new harvesting technologies to reduce field labor costs, developed new reduced-labor processing technologies, investigated new packaging processes to improve quality and shelf life of fresh-packed asparagus, and began investigations into the economic and social impact of reduced-labor asparagus production. Reduced production costs will increase the national and global competitiveness asparagus growers.

The work supported by this grant began in fiscal year 2001. The amount appropriated for fiscal year 2001 was $224,505; for fiscal year 2002, $260,000; for fiscal year 2003, $278,180; for fiscal year 2004, $248,525; for fiscal year 2005, $248,000; for fiscal year 2006, $245,520; for fiscal year 2007, $0; and fiscal year 2008, $183,705; and for fiscal years 2009 and 2010, $173,000 per year. The total amount appropriated is $1,861,435.

The work is being conducted at Washington State University's agricultural experiment stations in Prosser and Pasco and at Michigan State University's experiment station in East Lansing.

The performing institution conducts a peer review of each proposal and submits an annual progress report to the agency each year. Progress has been made in achieving the research objectives. Senior agency technical staff reviews each proposal to assess quality. The findings of these reviews indicate progress in achieving the project's objectives.

AVIAN BIOSCIENCE, DELAWARE

The objective of the grant is to improve production efficiency, animal health, environmental compatibility, and food safety in poultry systems. A key goal of the University of Delaware Center for Avian Biosciences (Center) is to strengthen the interfaces between recognized and growing programs to enhance their visibility and effectiveness. Since its inception in 2006, and continued efforts in 2009, the Center has made significant contributions in the field of avian biosciences. Some of the significant highlights include: developed foam-based humane emergency mass depopulation alternative for floor-reared poultry broilers and turkeys; improved in-house compositing of poultry carcasses infected with highly pathogenic avian viruses; interacted with Federal agencies and legislators and provided scientific information for adoption/endorsement of the technology by the U.S. poultry industry; made numerous training presentations on Avian Influenza controls and eradication efforts; developed avian influenza rapid diagnostic assays; received recognition for two University of Delaware laboratories as leading labs in avian influenza surveillance and detection in wild birds and poultry; sponsored numerous conferences and workshops; established significant domestic and international linkages in animal health. This Center continues to build partnerships with the industry, appropriate State and Federal agencies, other organizations, centers, and universities in research, teaching and outreach efforts. Furthermore, undergraduate and graduate educational programs in avian biosciences are flourishing under faculty mentorship in avian bioscience disciplines.

The work supported by this grant began in fiscal year 2006 with an appropriation of $99,000; in fiscal year 2007, $0; in fiscal year 2008, $74,475; in fiscal year 2009,

$94,000; and in fiscal year 2010, $150,000. A total of $417,475 has been appropriated.

This work is being carried out at the University of Delaware in Newark, Delaware.

The agency thoroughly evaluated the current year and previous year progress in May of 2009. The agency evaluation is in agreement with the project description as being 40 percent research and 60 percent applied in nature. Subsequent conversations and email exchanges between the Project Director and our liaison suggest that the project is progressing well.

BABCOCK INSTITUTE, WISCONSIN

The original goal of the Institute was to cultivate links between the dairy industry of the United States and those in the rest of the world through mutually beneficial research and programs that are scientific, educational, and commercial in nature. This involves research collaboration and scientific exchange, world market and dairy trade analysis, and education and training programs. The Institute is still dedicated to its original goal. The Babcock Institute has completed studies of the Indian and Mexican dairy sectors as part of its series of dairy "country/regional studies" designed to help United States firms and policymakers develop strategies and policies to exploit export opportunities and accommodate actions of foreign dairy companies and governments in exporting countries. Mexico is the largest market for U.S. exporters of dairy products. In 2008, Mexico purchased U.S. dairy products valued at $935 million. Babcock is developing links with Southeast Asia. In 2009, the Director participated in a Trade mission to Japan and China to promote Wisconsin as a site for foreign investment and learn more about export opportunities and technical collaborations. Babcock is collaborating with the China Agricultural University in Beijing to increase the exchange of scientific information between the United States and China. Visitors from China toured the Babcock Institute to learn ways to help improve the quality and safety of dairy products in China. Babcock is building ties to current and future dairy leaders in Mexico through links with the main agricultural campus at Queretaro, Mexico's leading private University, commonly known as Monterrey Tec, the large Alpura processing cooperative, and the national Holstein Association. Partnerships have resulted in research to help improve the flavor of United States-produced Hispanic cheeses, which continue to be a substantial growth area in the United States, but are routinely criticized for poor flavor and functional characteristics. Babcock is funding research through sub-grants to study methods to improve animal/dairy products production. This includes feed evaluation to improve animal nutrition, which will improve the nutritional value of the dairy products and enhance dairy yields. Studies on the microbiology and chemistry of artisanal cheeses are also ongoing. The Institute has reached out to international and domestic producer groups with multilingual technical publications and CDs, multilingual electronic outreach through the Web, and international short courses and consulting services. Institute staff members continue to work closely with county extension agents to create practical training materials for Spanish-speaking dairy employees, including calf care and herdsmanship modules for the Dairy Worker Training series, and with University of Wisconsin—Madison professors to create educational CDs for U.S. and international farmers and dairy industry professionals. Recently developed CDs include Artificial Insemination Techniques, Milking Skills, and Brucellosis Prevention. Babcock also produces the Dairy Update series, which brings University of Wisconsin research findings to the agricultural community. The institute provided training to improve the quality and safety of dairy products to dairy farmers, producers, scientists, and students from Europe, Central and South America, Southeast Asia, and the Middle East. Training of young scientists in the United States in dairy science and cheese making is ongoing.

Grants have been awarded from funds appropriated as follows: fiscal years 1992 and 1993, $75,000 per year; fiscal year 1994, $250,000; fiscal years 1995–1998, $312,000 per year; fiscal year 1999, $400,000; fiscal year 2000, $510,000; fiscal year 2001, $598,680; fiscal year 2002, $588,000; fiscal year 2003, $596,100; fiscal year 2004, $536,814; fiscal year 2005, $564,448; fiscal year 2006, $594,000; fiscal year 2007, $0; fiscal year 2008, $442,878; and fiscal years 2009 and 2010, $416,000 per year. A total of $7,310,920 has been appropriated.

The work of the Babcock Institute is carried out at the University of Wisconsin—Madison College of Agriculture and Life Sciences and throughout the world.

The Babcock Institute undergoes two independent reviews each year, internally at the University of Wisconsin prior to submission of the proposal, and by technical staff at NIFA prior to approval for release of funds. In addition, the Institute was included in a review of the Department of Dairy Science at the University of Wis-

consin in May, 2004. The 2009 proposal was reviewed by the NIFA National Program Leader.

BARLEY FOR RURAL DEVELOPMENT, IDAHO AND MONTANA

The original goal of this research was to use results from significant earlier investment in barley genetics and molecular genetics to assemble appropriate genetic packages, with traditional crossing and selection techniques, to develop and release more economically productive barley varieties to western barley growers. These researchers have focused on unique attributes of barley as a crop and a valued product. A major development this year has been the acceptance of barley varieties developed by this project by major brewing companies, including Coors-Miller and Anhauser-Busch. The new varieties performed well in brewing quality tests. Farmers will benefit because the project's new varieties are significantly more reliable for them than varieties they were growing before, which were bred in and for Canada. Barley farmers in Montana, Idaho, and similar regions can now grow varieties that have a good market and reduced risk of crop failure, two characteristics that are critical for farm income and rural development. In addition, the researchers report a technical breakthrough this year toward a practical and economically feasible on-farm ethanol production from barley straw. After natural in-field freezing, fructan components in the straw can be isolated, concentrated, and fermented by a specific yeast to create biofuel.

The work supported by this grant began in fiscal year 2006 with an appropriation of $727,650; $0 in fiscal year 2007; $547,143 in fiscal year 2008; $514,000 in fiscal year 2009; and $547,000 in fiscal year 2010. The total amount appropriated is $2,335,793.

Research is being conducted at Montana State University and the University of Idaho.

Each annual proposal is reviewed by senior agency technical staff. This research has been productive based on germplasm releases and peer-reviewed journal articles and other publications.

BEEF IMPROVEMENT RESEARCH, MISSOURI AND TEXAS

The original goal of this program was to enhance production efficiency in beef cattle production systems. Since 2006, the Missouri group research has focused on measuring residual feed intake among animals, its relevance to feed costs differences among animals, and benefit of selecting for residual feed intake in reducing production costs in the feedlot. The research has shown that selecting progeny from sires that were tested to be efficient compared to those testing inefficient reduced production costs in the feedlot by an estimated $60 per head. The Texas researchers selected 105 Brahman bulls, 120 Brahman heifers, and 38 Bonsmara heifers based on phenotypic measure of residual feed intake including reproductive performance. The next phase of this study included breeding high and low efficiency Brahaman females to high and low efficiency Hereford bulls to develop high and low efficiency F1 females. With these animal populations in hand, the project staff is now pursuing to determine the biological basis for genetic and phenotypic variation in feed efficiency of growing and mature cattle; examining behavioral and physiological responses in cattle with divergent feed efficiencies; develop technologies to reduce the cost and increase the accuracy of measuring feed efficiency in cattle, especially on pasture; examine relationships between feed efficiency and fertility in gestation cows, growing heifers, and bulls; and develop producer education programs to enhance adoption of these technologies. Ultimately, a significant reduction in feed input costs and environmental impacts of beef production systems are the desired target.

The work supported under this grant began in fiscal year 2006, and the appropriation for fiscal year 2006 was $990,000; in fiscal year 2007, $0; in fiscal year 2008, $737,799; and in fiscal years 2009 and 2010, $693,000 per year. A total of $3,113,799 has been appropriated.

This work is being carried out at the Departments of Animal Sciences at Texas A&M University and the University of Missouri—Columbia.

The agency evaluated the initial proposal in May of fiscal year 2006. In September 2006, the National Program Leader responsible for the grant oversight visited the Texas facilities. The project was reviewed again in 2008. The Missouri project was reviewed by the National Program Leader in fiscal year 2006. No site visit for the Missouri project has been conducted. However, the project progress and the current project were thoroughly reviewed in spring of 2008 and spring of 2009.

BIOACTIVE FOODS AND RESEARCH FOR HEALTH AND FOOD SAFETY, MASSACHUSETTS

Fiscal year 2010 is the first year that funds were appropriated for this grant with an appropriation of $525,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

BIODESIGN AND PROCESSING RESEARCH CENTER, VIRGINIA

The Biodesign and Bioprocessing Research Center researchers are working to develop processes for producing high value polymers from poultry and dairy processing in Virginia, optimize biogas and acid production potential and nutrient recovery from dairy manure, and conduct a proof-of-concept study to produce high-yield hydrogen from polysaccharides and water through a novel enzymatic method.

The project has been investigating ways to toughen agricultural by-product proteins from poultry and dairy processing by eliminating the diffusible glycerol component and ways to stabilize the protein against biodegradation for longer life. It has been discovered that choice of the correct protein structure through processing can stabilize the protein to microbial attack and more efficiently tailor product life. Current studies are also focusing on self-assembly protein structures from wheat and corn protein that could serve as templates for high performance materials. Results so far show that these proteins can form fibers similar to silk, hair, and collagen. Studies have been conducted to explore a novel attached culture system for growing the alga Chlorella as a biodiesel feedstock, using dairy manure wastewater as the growth medium. Among the various supporting materials tested for algal attachment, the best performance in terms of biomass yield, ease of harvest and physical robustness was observed with polystyrene foam. The algal culture removed 61–79 percent total nitrogen and 62–93 percent total phosphorus from the dairy manure wastewater under different culture conditions. A patent application has been filed based on this technology. The project also produced high-yield hydrogen from cellulosic materials. In addition, they have increased the hydrogen production rate by 10x fold through optimization. The next 10-fold increase in reaction rate will greatly enhance the chances for commercialization of the technology. The results of these investigations have been disseminated at numerous national and international conferences throughout the World. The Center has provided opportunities for training of a large number of graduate students in an effort to produced skilled work force for the bio-industry of the future.

The work supported by this grant began in fiscal year 2006. The appropriation for fiscal year 2006 was $940,000; for fiscal year 2007, $0; for fiscal year 2008, $701,058; and for fiscal years 2009 and 2010, $868,000 per year; A total of $3,377,058 has been appropriated.

The research is conducted at the Virginia Polytechnic Institute and State University.

A progress report for fiscal year 2009 has been evaluated, and it has been determined that progress toward accomplishing the project objectives is on-going.

BIOENERGY PRODUCTION AND CARBON SEQUESTRATION, TENNESSEE

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $1,000,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

BIOMASS-BASED ENERGY RESEARCH, MISSISSIPPI AND OKLAHOMA

This project is focused on the conversion of cellulosic biomass, such as switchgrass, to liquid fuels using a gasification-fermentation process. Specifically, the project will: (1) assess the feedstock potential of agricultural and forestry crops; (2) establish critical parameters in maintaining syngas quality; (3) advance bioreactor designs and enhance enzyme activities; (4) investigate potential valuable products that complement ethanol production; and (5) determine the full cost of system components including production, harvesting, storage, processing, and waste disposal. The project has developed a new high-yielding switchgrass cultivar that has demonstrated significantly higher yields than the best standard variety. Correlations between gasifer performance parameters and biomass properties have improved the understanding of operational variables and increased syngas quality. Preliminary estimates suggest that at least three units of energy are produced for one energy unit of input.

The work supported by this grant began in fiscal year 2001, and the appropriation for fiscal year 2001 was $900,016; for fiscal year 2002, $960,000; for fiscal year 2003, $1,142,525; for fiscal year 2004, $1,022,929; for fiscal year 2005, $1,014,816; for fiscal year 2006, $1,188,000; for fiscal year 2007, $0; for fiscal year 2008, $893,700;

and for fiscal years 2009 and 2010, $839,000 per year. The total amount appropriated is $8,799,986.

The work is being carried out at Oklahoma State University, the University of Oklahoma, and Mississippi State University.

Evaluation of this project is conducted yearly based on annual progress reports and discussions with the principle investigators over the course of the year. This project is making progress in accordance with the mission of the National Institute of Food and Agriculture.

BIOTECHNOLOGY, NORTH CAROLINA

The original goal of this research was to improve the competitiveness of wood production in the southern United States, to better manage invasive pathogens of ornamental trees, and to increase the distribution of elite hardwood trees in natural forest settings. Researchers are planning on using biotechnology and genetics to address optimal ways to generate both transgenic and non-transgenic Populus clones that are better adapted as biomass feedstock under varying environmental conditions. Recent accomplishments include the development of field sites at Oxford and Williamsdale, North Carolina.

The work supported by this grant began in fiscal year 2001, and the following amounts have been appropriated: in fiscal year 2001, $284,373; in fiscal year 2002, $306,000; in fiscal year 2003, $304,011; in fiscal year 2004, $272,383; in fiscal year 2005, $286,688; in fiscal year 2006, $284,130; in fiscal year 2007, $0; in fiscal year 2008, $211,509; and in fiscal years 2009 and 2010, $199,000 per year. The total amount appropriated is $2,347,094.

The research is being conducted at North Carolina State University and various sites in the southern Appalachians and elsewhere in the southeastern United States.

Senior agency technical staff conducts a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission.

BOVINE TUBERCULOSIS, MICHIGAN AND MINNESOTA

The original goal of this program is to focus on the issues of spatial epidemiologic relationships involved in the transmission of tuberculosis among the deer population, survivability of the organism in the environment, and the other wild or domestic hosts that may exist for this organism, as well as the pathogenesis of the disease in pigeons. Tuberculosis infected deer have been found to be the source of infection for other wild animals and domestic cats. New approaches to TB diagnosis and detection, through more rapid, reliable diagnostic tools and novel and more efficient surveillance techniques, are needed to reduce the significant costs associated with TB control and eradication programs. A risk assessment model for herd tuberculosis status was developed and correctly classified 95 percent of the simulated case herds as tuberculosis positive. This risk model accurately predicts the likelihood of a beef herd being correctly identified as tuberculosis positive or negative. Incorporating these in to a risk-based surveillance program will enhance current TB surveillance programs. This will decrease both the economic and psychological costs of TB, and accelerate TB control and eradication.

The work supported by this grant began in fiscal year 2000 with an appropriation of $170,000; for fiscal year 2001, $324,285; for fiscal year 2002, $318,000; for fiscal year 2003, $345,738; for fiscal year 2004, $309,165; for fiscal year 2005, $352,160; for fiscal year 2006, $352,440; for fiscal year 2007, $0; for fiscal year 2008, $262,152; for fiscal year 2009, $246,000; and for fiscal year 2010, $346,000. The cumulative total amount appropriated is $3,025,940.

This work is being conducted at the College of Veterinary Medicine at Michigan State University in East Lansing, Michigan.

Each proposal submitted to NIFA has been institutionally peer-reviewed at Michigan State University. During the review of the fiscal year 2009 proposal, the NIFA National Program Leader determined that the research objectives were clearly described and placed in lucid and logical context with the objectives of the prior grant cycle.

BRUCELLOSIS VACCINE, MONTANA

The original goal of this program is to develop vaccine delivery systems and novel Brucella vaccines for bison. This will be accomplished by conducting research to design and develop new subunit and live Brucellosis vaccines that will effectively protect bison and cattle against Brucellosis.

Progress to date includes a better understanding of the bison immune response which shows the dynamics of bison immunity and the importance of studying bison mucosal immune responses to assist in the development of new generation Brucella vaccines. Reagents have been developed to detect immune responses of bison, and an oral delivery system for a bison vaccine has been optimized. The investigator continues to work toward vaccine development, and has identified possible candidates for the brucellosis vaccine. Results from the bison and mouse vaccination studies are promising due to protective efficacy which was obtained in both animal systems. Thus, the development of a subunit vaccine for brucellosis appears to be feasible once analyses' discerning the protective epitopes using a DNA vaccine approach has been completed. Further work was also done to characterize the new vaccine candidates.

The work supported by this grant began in fiscal year 1999. The appropriation for fiscal year 1999 was $150,000; for fiscal year 2000, $425,000; for fiscal year 2001, $494,909; for fiscal year 2002, $485,000; for fiscal year 2003, $489,796; for fiscal year 2004, $438,398; for fiscal year 2005, $440,448; for fiscal year 2006, $435,600; for fiscal year 2007, $0; for fiscal year 2008, $324,711; and for fiscal years 2009 and 2010, $305,000 per year. The total amount appropriated is $4,303,862.

This work is being done at Montana State University's Department of Veterinary and Molecular Biology in Bozeman, Montana.

Each fiscal year, the submitted proposal for this program is peer-reviewed by the institution prior to submission, and subsequently reviewed by a NIFA National Program Leader.

CATALOGING GENES ASSOCIATED WITH DROUGHT AND DISEASE RESISTANCE, NEW MEXICO

This research will use computational tools to investigate changes in gene expression that occur during drought and diseases stresses in plants grown in the American Southwest. The researchers propose to link DNA sequence information to gene expression patterns with particular interest in those genes that affect plant metabolism. They will also set up plant metabolite extraction methods and gas chromatography and mass spectrometry analysis methods to quantify key metabolites. Based on gene expression data, the researchers predict that certain metabolites in Capsicum chili and Phaseolus beans will be altered in response to disease and drought. They will test these predictions using root samples collected from treated resistant and susceptible or tolerant genotypes. Research on the molecular genetics of drought stress and the impact of drought on disease stress is crucial as water supplies and quality become more restricted.

In 2009, these researchers focused on the development of a process for green chemistry extraction of commercially valuable red pigments from chili peppers. This will be a new process that may be patented. They have also discovered that not all orange-colored chili peppers are high in beta-carotene, since red and yellow pigments can mix in the fruit to create orange color. Chili breeding programs should verify whether or not there is a link between color and vitamin content in their material, before proceeding with visual selection based on color.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $186,684; and for fiscal years 2009 and 2010, $176,000 per year. A total of $538,684 has been appropriated.

The research will be conducted at New Mexico State University.

The submitting institution conducts a peer review of the proposal prior to submission. Senior agency technical staff conducts a merit review of the proposal prior to making a funding recommendation.

CENTER FOR ONE MEDICINE, ILLINOIS

The original goal of this program, was to educate a new cadre of health professionals who understand the determinants and contributing factors for human, animal, and ecosystem health as well as how public health policy is developed and how it affects the health of all three objectives. To understand disease processes that occur at the interface of human and animal activities and their effects on the environment and to improve our society's preparedness and response to natural and intentional exposures of biological, chemical, and physical agents.

Fiscal year 2009 was the first year that funds were appropriated for this grant. An amount of $235,000 was appropriated in fiscal year 2009 and $500,000 in fiscal year 2010. A total of $735,000 has been appropriated.

The work is being carried out at the University of Illinois, at Urbana-Champaign.

The fiscal year 2009 proposal was institutionally peer-reviewed at the Center for One Medicine. In addition, a NIFA National Program Leader reviewed the proposal.

CENTER FOR RURAL STUDIES, VERMONT

The original goal was to create a database and analytical capability for rural development programming in Vermont. Past accomplishments include maps to target child hunger and rural development opportunities, applied research to inform the development of retail areas, an "Economic Handbook for Vermont Counties," and strategies for using the Internet.

The Center has assisted local officials with e-mail, streaming video, software installation and utilization, and accessing information from Web sources. It has developed databases useful for local planners and school boards and indicators to help local officials interpret data and apply for State and Federal grants. It worked with the Vermont Council on Rural Development to assess the need for broadband Internet service and facilitated community-level solutions for service in more than 47 towns. It has developed training materials for town clerks on Web site design, e-Government, and e-security.

In 2008, the Center updated the "Vermont Indicators Online," collaborated with the U.S. Census Bureau to ensure access to Census Bureau data, assisted Vermont data users, and maintained a Census Bureau data portal for State residents. The VIO had 24,000 Web site visits, and 60,000 pages of data were accessed that year. The Center also developed the "Vermont Geography Portal" to make spatial information and a mapping application widely available. In addition, the Center developed a GIS educational curriculum for municipal officials and K–12 educators. Also in 2008, the Center developed methods to use spatial data to identify population clusters in the State and analyze them community-by-community.

In 2009, the Center surveyed over 400 Vermont farmers on land and development issues related to farmer decisions to purchase or sell land or to change the way they farm. Almost 80 percent reported that local boards had some degree of understanding of agricultural issues and operations. The Center addressed the issue of extending broadband to rural Vermont and developed a database of over 4,800 households and businesses that want broadband access and services. Focusing on farm business incubation, the project supported 15 operations over 3 years that now report an average net farm income increase from $18,000 to $21,000 over 1 year. The Center completed a study of a local food e-commerce portal to assist in marketing fresh products. Farmers will help design and test an e-commerce portal in fiscal year 2010. Workshops for women farmers helped expose producers to new opportunities through the Internet. The Center continued to enhance and maintain the Vermont Indicators Online (VIO) Web site and the Vermont Housing Data Web site. The project funded two rounds of business workshops for food product entrepreneurs and provided technical assistance to a State farm-to-school program, with VT FEED. Other activities included maintaining and updating the Vermont Planning Information Center, a clearinghouse of information for municipal land use officials, and launching a community-based participatory research partnership with Smart Growth Vermont to determine indicators of health for Vermont downtowns, including food systems and regional landscape date.

The grant was initiated in fiscal year 1992. Appropriated amounts are: fiscal years 1992–1993, $37,000 per year; fiscal year 1994, $35,000; fiscal years 1995–1998, $32,000 per year; fiscal years 1999–2000, $200,000 per year; fiscal year 2001, $199,560; fiscal year 2002, $240,000; fiscal year 2003, $337,790; fiscal year 2004, $302,206; fiscal year 2005, $348,192; fiscal year 2006, $361,350; fiscal year 2007, $0; fiscal year 2008, $261,159; fiscal year 2009, $245,000; and fiscal year 2010, $350,000. Total appropriations are $3,282,257.

The work is being carried out through the University of Vermont. Parts of the research and application are done in association with county planning commissions and local governments and business organizations.

The agency evaluates the merit of research proposals as they are submitted. The principal investigators and project managers submit annual reports to the agency to document impact of the project. Agency evaluation of the project includes peer review of accomplishments and proposal objectives and targeted outcomes.

CHILDHOOD OBESITY AND NUTRITION, VERMONT

The objective of this grant is to increase physical activity behavior in preschool children enrolled in daycare centers by: increasing the exercise self-efficacy of daycare staff, increasing their knowledge and changing attitudes, beliefs, and perceptions about preschool physical activity, and increasing the availability and utilization of high quality physical activity materials.

This research looks at physical activity behavior as one intervention. Formative data on daycare centers and daycare providers were collected in 2004 through three focus groups to see how staff perceived physical activity for children, what they felt

the barriers to children getting more activity were and how they felt about their own activity. Focus groups gave positive feedback that physical activity for children was important to daycare providers. A key result was that the day care setting was a very favorable environment for promotion of physical activity with perceived advantages to social, cognitive, behavioral and health issues. In addition, there was a strong appreciation of the child care provider's role in promoting, facilitating, or teaching physical activity skills during active play times. Both modeling and leadership were seen as important to obtaining the benefits of physical activity in this environment. While child care providers showed a strong appreciation of their role in promoting, facilitating, or teaching physical activity during active play times, the level of engagement in physical activity in their own lives varied widely, suggesting that this will be a challenging direction for intervention in comparison to other skills directly related to child care work. Barriers to physical activity in day care settings to include indoor and outdoor space available, access to open land and play or exercise equipment were explored. In 2005 and 2006, two mail surveys were implemented and sent to Vermont daycare center directors and to daycare staff. Survey responses helped researchers identify training needs; training content, format, location and incentives; barriers to staff involvement in modeling or leading active play; and supporters or reinforcers for active play. In 2006 and 2007, the feasibility of using SenseWear Armbands to measure physical activity was determined in two different daycare centers. In 2008, the physical activity of 61 children from seven daycare centers was measured via direct observation and objectively using the SenseWear Armbands. Results showed that children spent a total of 58 percent of their day sedentary; 36.8 percent in moderate activity; 4.4 percent in vigorous activity and 0.7 percent in very vigorous activity. Children were about twice as active when they played outside as compared to inside for moderate or vigorous activity and the quality of their play or level of energy expended 10 percent higher when they were engaged in teacher-led activities. This evidence supports current work to train providers to provide more teacher-directed, structured physical activity to preschool children.

The work supported by this grant began in fiscal year 2003 with an appropriation of $149,025; for fiscal year 2004, $133,209; for fiscal year 2005, $190,464; for fiscal year 2006, $198,990; for fiscal year 2007, $0; for fiscal year 2008, $112,209; for fiscal year 2009, $169,000; and for fiscal year 2010, $250,000. A total of $1,202,897 has been appropriated.

Research is being conducted at the University of Vermont and State Agricultural College, Burlington.

The project underwent a peer review process in June 2009 in accordance with USDA guidelines and is also evaluated through annual reports. The project materials have also been reviewed by the Institutional Review Board and by State daycare leaders. Finally, any data that are published would be evaluated through the peer review process.

CITRUS CANKER AND GREENING, FLORIDA

The original goals of this research were to evaluate potential materials that could delay or interfere with the bacterial infection processes on susceptible host material, characterize aspects of canker and HLB and ACP biology, ecology, and epidemiology that might be manipulated to reduce infection or to predict more effectively where infection has taken place, and to develop mechanisms within the host plants that will increase their resistance to infection and disease development. Researchers are attempting to introduce additional resistance mechanisms derived from the pathogen or from plants with resistance to other similar bacterial diseases. Educational objectives of this project focus on development and delivery of current information on the organism, the disease, and efforts to eliminate it. Educational programs will be designed for commercial citrus producers, harvesters, and those who work in contact with citrus trees which may be exposed to the disease; homeowners with citrus planted in their yards; the general public who seeks information on the eradication effort and its necessity; and regulators and policy makers who are interested in science-based actions and policies.

This program began in fiscal year 2001. Funds have been appropriated as follows: fiscal year 2001, $4,739,550; fiscal year 2002, $490,000; fiscal year 2003, $486,815; fiscal year 2004, $447,345; fiscal year 2005, $470,208; fiscal year 2006, $495,000; fiscal year 2007, $0; fiscal year 2008, $1,295,865; and fiscal years 2009 and 2010, $1,217,000 per year. The total amount appropriated is $10,858,783. This project was funded only for citrus canker through 2007. Citrus greening was added to the objectives in 2008 although funding levels did not increase.

The research is being conducted at the University of Florida research and education facilities located at Lake Alfred, Bradenton, Immokalee, and Homestead; and in South Texas.

Senior agency technical staff evaluates the project every year. In addition, the University of Florida operates this project as an internal competitive grants program that seats an independent panel of experts to review the research and extension proposals. The agency worked with the program director to develop a request for applications and provided input into the development of a peer-review process. A review of the research supported by this project was undertaken in 2006 by the National Citrus Research Council, and an agency technical specialist was in attendance. There was no recommendation for change of direction, and the community wants to stay the course with the current objectives, while increasing public outreach, particularly on the option of transgenic oranges. In 2011, the Agricultural Research Service is leading a national research coordination effort. This special grant funded research projects and new request for applications will be reviewed in the context of the total national research and extension effort on citrus diseases.

COMPETITIVENESS OF AGRICULTURE PRODUCTS, WASHINGTON

This research identifies international marketing opportunities for Northwest firms in the forest products and food products sectors by providing information on markets and product technologies that can open higher-valued international markets to U.S. exporters. Foreign purchasers need information on the advantages of U.S. products, and U.S. exporters need information on the substantially different quality and service requirements for serving foreign markets.

The International Marketing Program for Agricultural Commodities and Trade (IMPACT) program of Washington State University implements this research and provides a central and stable core of knowledgeable experts who can guide small export businesses in navigating these markets successfully.

The Center for International Trade in Forest Products (CINTRAFOR), located within the College of Forest Resources at the University of Washington, provides the research knowledge in marketing and product conversion to be competitive in the world market.

The most recent accomplishments of IMPACT and CINTRAFOR are:

For 2008

IMPACT Center developed a cost effective algal cultivation process for converting cull potato starch to omega-3 polyunsaturated fatty acids (omega-3 PUFA), more specifically, docosahexaenoic acid (DHA). A patent for the process is currently pending. The enriched algal biomass that is created in the process also has auxiliary uses as feed additives that can be fed to dairy cows to enrich the nutritional value of milk or to other animals to increase the value of the respective animal products. In addition to the clear impact of providing a supply source for omega-3 polyunsaturated fatty acids that can have positive health effects on humans, as well as providing for nutritionally enhanced milk products, the process also provides for a valuable alternative market outlet for cull potatoes that might otherwise have limited value in the market place for potato producers.

CINTRAFOR, manages the United States-China Build (USCB) program and promotes the benefits of wood frame construction to construction professionals in China. This program also provides U.S. wooden building materials manufacturers the opportunity to participate in trade missions to China where they can meet with potential customers in three different cities to showcase their products and services. Since the start of the program, over 100 U.S. companies and over 2,800 Chinese construction industry professionals have participated in USCB programs in China. This program has resulted in over $32.4 million in new export sales to China while creating almost 350 new jobs within the forest products sector in the United States.

For 2009

The IMPACT Center funds a variety of projects applying advances in science and technology to improve the competitiveness of food and agricultural systems in today's global market.

IMPACT Center scientists are investigating polices for mitigating production and trade effects from invasive species outbreaks in livestock—e.g., mad cow disease or foot and mouth disease—and plants—e.g., apple maggot. Other projects include exploring the phase out of organophosphate pesticides on the apple industry, enhancing wine exports, profitability in the organic sector, and assessment of agri-tourism.

Research has demonstrated that losses from a foot and mouth outbreak in the United States could range over $270 billion, but that this can be dramatically reduced with improved traceability in the livestock system. Other projects can im-

prove export success for existing industries, solve phytosanitary and barriers to trade issues, or develop alternative revenues through organic production and agritourism.

CINTRAFOR manages the highly successful United States-China Build program for the Evergreen Building Products Association.

In 2009, CINTRAFOR organized two sales missions to China where 17 U.S. companies made technical presentations to the 678 Chinese construction professionals who attended the six seminars.

Following the conclusion of the two sales missions, the U.S. companies reported that they had obtained total sales of $22,441,000 as a result of their participation in the United States-China Build program. It is estimated that the increase in U.S. exports resulting from these two sales missions led to the creation of 252 new jobs.

The work began in fiscal year 1992. The appropriation for fiscal years 1992–1993 was $800,000 each year; fiscal year 1994, $752,000; fiscal years 1995–1998, $677,000 each year; fiscal years 1999–2000, $680,000 each year; fiscal year 2001, $678,504; fiscal year 2002, $665,000; fiscal year 2003, $675,580; fiscal year 2004, $604,413; fiscal year 2005, $646,784; fiscal year 2006, $672,210; fiscal year 2007, $0; fiscal year 2008, $500,472; and fiscal years 2009 and 2010, $469,000 per year. A total of $11,800,963 has been appropriated.

Both programs—IMPACT and CINTRAFOR—were formally reviewed by an external review team with a representative from NIFA in August 2004. Both were found to be satisfactorily achieving their goals.

On-site reviews are conducted annually of the University of Washington component of the project through annual meetings of the project's Executive Board and attended by NIFA and the Washington State University component through the grant competition evaluation where the NIFA project director is involved.

The original goal of this research was the application of leading-edge information technologies, including high-performance computing, to advance agricultural sciences and quickly bring research results to farmers and the general public. Spatially balanced, complete-block experimental designs have been created for 15 treatments and replications in agronomic crops and recently extended to vineyards; a hyperspectral soil data base has been developed; a real-time nitrogen management model, Adapt-N, has been linked to a Web interface; using widely dispersed rain gauge data and radar-based precipitation estimates, high resolution precipitation estimates are now generated and provided daily to farmers using a Web interface; economic investment models accommodate stochastic events, such as climate change and insect infestations; and data-mining techniques are used to make weather event predictions that are spatially and temporally explicit. Additionally, this project has supported six graduate student theses and generated more than 30 peer-reviewed scientific papers.

The work supported by this grant began in fiscal year 2003. The appropriation for fiscal year 2003 was $248,375; for fiscal year 2004, $221,684; for fiscal year 2005, $239,072; for fiscal year 2006, $236,610; for fiscal year 2007, $0; for fiscal year 2008, $176,754; and for fiscal years 2009 and 2010, $131,000 per year. The total amount appropriated is $1,384,495.

Research is conducted at Cornell University's Theory Center, at various Cornell University laboratories, and in experiment station and producer fields. With extension of the Adapt-N nitrogen tool, work is also being conducted in Iowa.

The project is subject to a thorough institutional peer review during preparation of the grant proposal. Submitted proposals undergo merit review by one or more agency scientists. In 2004, an agency-led on-site review of the research was conducted. The review team encouraged broader marketing of their activities and eventual development of one or two signature projects that fully exploit the computational resources available. The principal researcher and other institutional representatives met with agency staff in 2008 to review project progress.

COOL SEASON LEGUME RESEARCH, IDAHO, NORTH DAKOTA, AND WASHINGTON

The original goals of this project were to improve efficiency and sustainability of cool season food legumes through multi-disciplinary research directed at high priority issues affecting cool season food legumes. The program was to develop new and strengthen regional collaborative approaches in research and technology transfer. While the overarching goals remain the same, specific objectives are revised annually and prioritized through consultation among researchers, industry representatives, and farmers. In one outcome, phenolic and flavenoid compounds have been tracked to assess antioxidant activity to help explain the cancer prevention properties of pulse legumes. Extracts of specific legumes have been confirmed to inhibit cancers of the colon, liver, stomach, and tongue. Compounds are being isolated from

green and yellow pea, lentil, and chickpea and their activity is being confirmed. Processing of the legume seed with steam appears to improve the appearance, texture, and retention of antioxidant activity. This research has complemented work done to investigate the retention of antioxidant capacity in extruded products made from legume flours. Extruded snacks containing 65 percent of lentil or dry pea, along with selected natural food ingredients and potato starch, were prepared in the laboratory and sent to a certified laboratory in Canada to determine the glycemic index (GI) using human subjects. These legume-based foods offer great alternatives for populations suffering from health problems, such as type two diabetes, obesity, colon cancer, and heart disease.

Cool season food legume trials across the northern plains provided critical information for producers about high yielding legume varieties with good quality traits. These data will help decision makers improve yields 5 to 10 percent and benefit the industry with a better quality end product.

Lentil and pea selections for adaptation, agronomic, quality, disease tolerance are ongoing. Several mapping populations are now in development or are in use to more quickly identify powdery mildew resistance. Other genetic markers have been identified to improve efficiency of breeding for resistance to Fusarium and Aphanomyces fungi and of high-yielding pea cultivars. These new methods have increased throughput, accelerating powdery mildew resistance screening of 24 cultivars, 17 lines, and 582 accessions of pea. No immune genotypes were found, but a range of susceptibility was identified. Leveillula taurica, the chickpea powdery mildew pathogen was also identified for the first time in the Pacific Northwest. Pea seed treatments fungicides were found to reduce root rot incidence and severity and increase yield.

The critical weed-free period for chickpea and lentil and the associated yield losses has been shown to vary across cultivars are now better understood. These data will help growers with decisions on herbicide use, application timing and may result in a better return on herbicide inputs or less herbicide being used.

A system has been launched to track the movement of the winged pea aphid into the Palouse region of Washington and Idaho using geospatially referenced insect traps. It is expected that this system will result in reduced insecticide use and the associated environmental and public health benefits and reduced production cost.

The work supported by this grant began in fiscal year 1991 with appropriations for fiscal year 1991 of $375,000; fiscal years 1992–1993, $387,000 per year; fiscal year 1994, $364,000; fiscal year 1995, $103,000; fiscal years 1996 through 2000, $329,000 per year; fiscal year 2001, $328,276; fiscal year 2002, $321,000; fiscal year 2003, $333,816; fiscal year 2004, $536,814; fiscal year 2005, $564,448; fiscal year 2006, $558,360; fiscal year 2007, $0; fiscal year 2008, $416,067; fiscal year 2009, $235,000; and fiscal year 2010, $350,000. A total of $6,904,781 has been appropriated in the life of the project.

This research is being conducted at agricultural experiment station locations in Idaho, Washington, and North Dakota. The funds are awarded competitively among scientists from the participating States.

The project is evaluated annually by an advisory panel of university and industry experts. Proposals are peer reviewed at the performing institutions and by senior agency technical staff. An on-site review of the project was conducted by a senior member of agency's technical staff in 2004. A strategic planning session was held in February 2006 in Spokane, Washington, to assess current research needs for cool season pulse crops. The current research priorities are based on the conclusions from that meeting. The next external peer review panel and program review by the Industry Research Committee will be held in February of 2010. The research priorities identified at that workshop will be reflected in the program application for 2010.

COTTON INSECT MANAGEMENT AND FIBER QUALITY, GEORGIA

The objectives of this project are to improve the quality of cotton produced in Georgia and other southeastern States and to test a new experimental gin. This research focuses on areas that integrate levels of biological organization such as population ecology and the biology and ecology of transgenic organisms in agroecosystems, along with the more traditional pest management tactics to sustain cotton production in Georgia and the southeastern region. Substantial progress has been made toward achieving the overall project goals including maintaining fiber quality, understanding the biology and ecology of emerging pests, improving sampling of emerging pests and establishing management thresholds, improving management tactics for emerging insect pests, and continuing surveillance of the farmscape for shifts in pests. A cotton entomologist has been hired and is currently

establishing a laboratory. Several studies have been completed evaluating recommended thresholds and assessing the possibility of using variable thresholds depending on the phenology of the crop. Another study has been conducted examining the possible use of barrier crops, such as grain sorghum and Sudan grass, to reduce colonization of cotton fields and limit crop damage.

Work supported by this grant began in fiscal year 2006 with an appropriation of $489,060; $0 in fiscal year 2007; $368,402 in fiscal year 2008; and $346,000 per year in fiscal years 2009 and 2010. The total amount appropriated is $1,549,463.

This research is being conducted primarily at the Coastal Plain Experiment Station located at Tifton, Georgia. However, collaborative work has expanded several of the studies into other States in the Southeast.

Each of the annual project proposals was subjected to peer review performing institution's peer review and was reviewed by senior agency technical staff. Results of this project have been presented at the Beltwide Cotton Research Conferences, meetings of the Entomological Society of America, and at numerous regional meetings of growers and commodity groups.

CRANBERRY/BLUEBERRY DISEASE AND BREEDING, NEW JERSEY

The work is focused on identification and monitoring of insect pests on blueberries and cranberries; the identification, breeding, and incorporation of superior germplasm into horticulturally desirable genotypes; identification and determination of several fungal fruit-rotting species; identification of root-rot resistant cranberry genotypes; and identification of human health benefits from cranberry and blueberry consumption. Overall, research has been focused on the attainment of cultural management methods that are environmentally compatible, while reducing blueberry and cranberry crop losses.

This project involves insects and diseases having major impacts on New Jersey's cranberry and blueberry industries, but the findings are being shared with experts in Wisconsin, Michigan, and New England.

Over 75 blueberry selections with wild blueberry accessions resistant to secondary mummy berry infections have been moved into advanced testing. The biology and seasonal life history of spotted fireworm on cranberries has been determined. A pheromone trap-based monitoring system for cranberry fruitworm was developed and further refined for commercialization. Blueberry fruit volatiles attractive to blueberry maggots were identified and tested in the field. Researchers have planted over 4,500 cranberry progeny for evaluation. Seven major fruit-rotting fungal species were identified, and their incidence in 10 major cultivars of blueberry and cranberry were determined. It is likely that resistance to fruit rot is specific to fungal species. Investigators have developed a product that is ready for field testing which uses current season remote sensing data to predict the incidence of fruit rot in cranberry.

Grants have been awarded from funds appropriated as follows: fiscal year 1985, $100,000; fiscal years 1986 and 1987, $95,000 per year; fiscal years 1988 and 1989, $260,000 per year; fiscal year 1990, $275,000; fiscal years 1991 to 1993, $260,000 per year; fiscal year 1994, $244,000; fiscal years 1995 to 2000, $220,000 per year; fiscal year 2001 $219,516; fiscal year 2002, $216,000; fiscal year 2003 $234,466; fiscal year 2004 $209,755; fiscal year 2005, $352,160; fiscal year 2006, $643,500; fiscal year 2007, $0; fiscal year 2008, $479,619; for fiscal year 2009, $451,000; and for fiscal year 2010, $550,000. A total of $6,785,016 has been appropriated.

This research is being conducted at the New Jersey Agricultural Experiment Station.

This project is evaluated annually based on the annual progress report and discussions with the principal investigator. It has been determined that progress in the development of new agricultural opportunities and use of decision-making tools for farmers and entrepreneurs is satisfactory. The agency conducted an on-site evaluation of the project in April 2006. In addition, evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator. It has been determined that progress in the development of new agricultural opportunities and use of decision-making tools for farmers and entrepreneurs is satisfactory.

CRANBERRY/BLUEBERRY, MASSACHUSETTS

The original goal of this research was to use molecular genetics to reduce dependence on chemical pesticides in cranberry production. An additional goal was to use molecular genetic techniques to identify potential biological control agents that could be used to further decrease dependency on the use of synthetic pesticides in cranberry production. Good progress has been made toward achieving both of these

goals. Molecular markers have been developed that differentiate between early and late emerging dodder populations. These markers have been used to identify field populations of the different strains, and trials have been initiated to determine the best timing of herbicide applications to provide complete control of dodder. Field samples have been taken from both wild and cultivated cranberry, and various strains of Actinomycete fungi have been isolated. These organisms will be evaluated under greenhouse and field conditions for the ability to suppress the growth of fungi pathogenic to cranberry and blueberry.

The work supported by this grant began in fiscal year 1999, and the appropriation for fiscal years 1999 and 2000 was $150,000 per year; in fiscal year 2001, $174,615; in fiscal year 2002, $172,000; in fiscal year 2003, $170,882; in fiscal year 2004, $153,091; in fiscal year 2005, $151,776; in fiscal year 2006, $158,400; in fiscal year 2007, $0; in fiscal year 2008, $118,167; in fiscal year 2009, $111,000; and in fiscal year 2010, $160,000. A total of $1,669,931 has been appropriated.

Research is being conducted at a University of Massachusetts Research and Extension Center.

A site visit was made by senior agency technical staff in July 2003, and a merit review was conducted in April 2007. It was determined that the investigators are making progress toward the achievement of their stated objectives. In addition, evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator.

CROP INTEGRATION AND PRODUCTION, SOUTH DAKOTA

The objectives of this grant are to develop crop alternatives for which there is no governmental commodity support but which would be economically sustainable in no tillage conditions of South Dakota, North Dakota, and Nebraska. The research is designed to develop production management systems for alternative crops in western Nebraska, North Dakota, and South Dakota that are nitrogen producing and that also fit into a no tillage dry land crop rotation system.

Researchers have focused on examining characteristics of alternative crops relative to their potential to improve cropping systems. The factors evaluated included the ability of the crop to reduce nitrogen needs, disrupt pest cycles, and produce products with adequate economic return. The information from this research will be used to assess the nutritional and economic viability of these crops as food, feedstuffs, forage, energy, or green manure sources. Nebraska researchers have initiated beef feedlot feeding trials. Some swine ration research using pulse crops and oilseed meals as feed ingredients are being conducted; this presents a large potential market for pulse crops, particularly these corps that do not meet the food grade standard.

The work supported by this grant began in fiscal year 2002, and the appropriation for fiscal year 2002 was $200,000; for fiscal year 2003, $273,213; for fiscal year 2004, $268,407; for fiscal year 2005, $294,624; for fiscal year 2006, $297,000; for fiscal year 2007, $0; for fiscal year 2008, $223,425; for fiscal year 2009, $258,000; and for fiscal year 2010, $400,000. A total of $2,214,669 has been appropriated.

The research is being conducted in South Dakota, North Dakota, and Nebraska under semiarid conditions.

A peer review of the proposal was conducted by the submitting institution, and senior agency science staff conducted a critical review of the proposal. In 2008, an on-site review was conducted by senior agency technical staff.

CROP PATHOGENS, NORTH CAROLINA

This research will elucidate the genomics of high consequence fungal plant pathogens and produce algorithms for tracking and mapping the spread of crop pathogens, with the specific intent to determine if the spread is natural or appears to be unusual. The study is directed toward identifying regions of DNA diagnostic to the sub-species level, as well as for pathogenicity, survival, and toxin production of three high-consequence fungal pathogens: Mangaporthe oryzae, Aspergillus flavus, and Rhizoctonia species.

Progress to date includes building phylogenetic relatedness maps of several highly damaging plant pathogens and performing the systematic work needed to turn this knowledge into accurate diagnostic tools. The research on Rhizoctonia is develop DNA markers and microarray technology to discern Rhizoctonia species from other biota in soils.

This project began in fiscal year 2003 with an appropriation of $198,700; for fiscal year 2004, $177,944; for fiscal year 2005, $250,976; for fiscal year 2006, $321,750; for fiscal year 2007, $0; for fiscal year 2008, $240,306; and for fiscal years 2009 and 2010, $225,000 per year. A total of $1,639,676 has been appropriated.

The research is being conducted at North Carolina State University.

The submitting institution conducts a peer review of the proposal prior to submission. Additional merit review is conducted annually by senior agency technical staff prior to making a funding recommendation.

DAIRY AND MEAT GOAT RESEARCH, TEXAS

The objective of this grant focuses on defining the population structure of goats in Texas and the Southeastern United States with an ultimate aim of determining the genetic make-up, breed identification, semen preservation, and embryo collection and storage.

In 2006, the researchers focused on capacity building in artificial insemination and embryo transfer technologies at the International Goat Research Center at their institution. The overall objectives for the 2008 project were: (1) to quantify genetic diversity within and among 15 goat breeds located in Texas and the southeastern United States; and (2) to clarify the evolutionary genetic relationships among the 15 goat breeds. However, in fiscal year 2009, the focus of the project changed to defining the underlying molecular mechanisms that impact goat fertility. The investigators have standardized techniques for cell culture and biochemical analysis of cellular proteins by western blotting and immunoreactivity. The National Program Leader overseeing the progress of this project is satisfied with the progress and expects the project objectives to be completed within the project duration.

Grants have been awarded through appropriated funds as follows: $100,000 per year for fiscal years 1983–1985; $95,000 per year for fiscal years 1986–1988; no funds were appropriated in fiscal year 1989; $74,000 for fiscal year 1990; $75,000 per year for fiscal years 1991–1993; $70,000 for fiscal year 1994; $63,000 per year for fiscal years 1995–2000; $62,861 for fiscal year 2001; $63,000 for fiscal year 2002; $62,591 for fiscal year 2003; $56,664 for fiscal year 2004; $99,200 for fiscal year 2005; $148,500 in fiscal year 2006; $0 in fiscal year 2007; $111,216 in fiscal year 2008; $94,000 in fiscal year 2009; and $200,000 in fiscal year 2010. A total of $2,230,032 has been appropriated thus far.

Research is being conducted at Prairie View Agricultural and Mechanical University in Texas.

The current project was thoroughly reviewed at the time of submission in 2009. The project progress is being monitored continuously.

DAIRY FARM PROFITABILITY, PENNSYLVANIA

The objective of this grant is to identify and develop improved dairy management practices that will help producers sustain and improve the profitability of their operations by: improving the reliability and enhancing the performance of next-generation anaerobic digesters by developing psychrotolerant and acidotolerant microbial consortia derived from acidic bogs; develop innovative sensing systems with Internet enabled remote monitoring and process control to reduce operator management requirements; defining digester designs based on current best practices and next-generation digester enhancements, building on the innovations developed in the first two objectives; and assessing the dairy farm-level performance and profitability of these digester designs for different dairy farm types and sizes and different policy scenarios.

To date, current progress is focusing on the following four objectives:

—Use the Profitability Assessment Dairy Tool (PA Dairy Tool) and the Income Over Feed Cost (IOFC) Tool to identify bottlenecks that limit dairy farm profitability on at least 50 farms over 2 years. (http://www.das.psu.edu/dairy/pa-tool and http://dairyalliance.psu.edu/resources/income-over-feed-cost-tool/)

Uniqueness of the Pennsylvania Dairy Tool

Several features of the Pennsylvania Dairy Tool are novel and innovative including:

—an overall, big picture assessment of an operation's profitability combined with drill-down specificity at the basic management level,

—minimal data input to generate results,

—unbiased assessment of the factors limiting revenue generation on the dairy operation,

—simple color-coded results that immediately focus the attention of the user on the most critical management areas,

—useable across herds of different sizes, different breeds, different management styles, and different regions,

—estimation of revenue loss from each operational management area,

—the ability to estimate revenue losses against both industry benchmarks and the dairy operator's goals,
—the ability to build a database to assess farm management changes and dairy profitability.
—Determine relationships between operational and capital efficiency and overall return on assets of high profit—greater than 4 percent—level farms.
—Identify strategic changes that will result in improvement in IOFC, cows per worker, milk sold per worker, internal herd growth (IHG) and asset turnover ratio in order to increase overall farm profitability—using data from objective 2 and high profit level herds.
—Teach dairy producers and advisors about strategies—objective 3—for improving farm profitability through ongoing training with Dairy Profit Teams, a series of webinars, and quarterly newsletters.

The work supported by this grant began in fiscal year 2001. The appropriations amount to the following: fiscal year 2001, $284,373; fiscal year 2002, $294,000; fiscal year 2003, $496,750; fiscal year 2004, $444,363; fiscal year 2005, $468,224; fiscal year 2006, $495,000; fiscal year 2007, $0; fiscal year 2008, $372,375; fiscal year 2009, $349,000; and fiscal year 2010, $372,000. In total, this research has received $3,576,085.

The work is being carried out at the Pennsylvania State University, University Park, Pennsylvania.

The productivity of the research team has been documented through the publication of many scientific papers in peer reviewed journals, Pennsylvania Department of Agriculture publications, and others. Additionally, the agency closely reviews each year's proposals and works with the project director to correct any deficiencies. Additionally, progress reports to the Current Research Information System (CRIS) are being monitored for satisfactory accomplishments and timelines.

DELTA RURAL REVITALIZATION, MISSISSIPPI

The objective of the grant is to support basic and applied research relevant to efforts to expand economic development opportunities for farms, families, communities, and residents of the Mississippi Delta region, increase adult literacy, and address healthy living issues.

The project has progressed through several phases. Phase I research produced a baseline assessment of economic, social, and political factors that enhance or impede the region's progress. Phase II research evaluated the potential for entrepreneurship and small business creation and assessed the availability and use of information technology in the Delta. In the current phase, major new applied research efforts have been launched.

Grants have been awarded from funds appropriated as follows: fiscal year 1989, $175,000; fiscal year 1990, $173,000; fiscal years 1991–1993, $175,000 per year; fiscal year 1994, $164,000; fiscal years 1995–2000, $148,000 per year; fiscal year 2001, $204,549; fiscal year 2002, $201,000; fiscal year 2003, $203,668; fiscal year 2004, $182,914; fiscal year 2005, $244,032; fiscal year 2006, $247,500; fiscal year 2007, $0; fiscal year 2008, $186,684; and fiscal years 2009 and 2010, $176,000 per year. A total of $3,747,430 has been appropriated.

The research is being carried out by the Southern Rural Development Center, housed at Mississippi State University, and sub-contractors. The Southern Rural Development Center Director is the project director, and he has established collaborations with the Mid-Delta Developers' Association, the Delta Council's Adult Literacy Program, the Delta Regional Authority, the Delta Data Center, the Mississippi Development Authority, and regional Chambers of Commerce.

Proposals are submitted for internal review, evaluation, and merit review within the agency as they are received. The principal investigators and project managers submit periodic updates to the agency to document progress and impacts. For the current phase of the project, a team prioritized research questions so that the research investment interfaces closely with regional needs and supports outreach education.

DESIGNING FOODS FOR HEALTH, TEXAS

The objectives of the grant are to: (1) optimize the health promoting bioactive compounds through genetics; (2) assess the health benefits of these compounds; (3) isolate, purify and characterize the bioactive compounds; and (4) develop technologies for pre/post-harvest and processing.

The interdisciplinary team of scientists has expertise in the areas of breeding, pre- and post-harvest physiology, nutrition, chemistry, biochemistry, biotechnology, biomedical sciences, and molecular genetics. This inter-disciplinary research team

provided need-based outcomes evolved from stakeholders. Integrating efficient drip irrigation, nitrogen and potassium fertilizer strategies will lead to optimal quality and yield of high cash-value vegetable crops in southwest Texas.

The work supported by this grant began in fiscal year 1999, and the appropriation for fiscal year 1999 was $250,000; for fiscal year 2000, $318,750; for fiscal year 2001, $561,761; for fiscal year 2002, $690,000; for fiscal year 2003, $819,638; for fiscal year 2004, $1,342,035; for fiscal year 2005 $1,611,008; for fiscal year 2006, $1,980,000; for fiscal year 2007, $0; for fiscal year 2008, $1,474,605; and for fiscal years 2009 and 2010, $1,385,000 per year. The total appropriation was $11,817,797.

Research is conducted at the Vegetable and Fruit Improvement Center and other research centers within the Texas Agricultural Experiment Station of the Texas A&M University System. Some research is conducted at the University of Houston, Victoria, and the University of Arizona.

The 2009 proposal was reviewed in September 2009 by NIFA staff who determined the faculty and facilities were adequate for completion of the proposed project.

DETECTION AND FOOD SAFETY, ALABAMA

The goal of this project was to reduce the incidence of food-borne illness through the use of sensor chips that assess the safety of food items as they moved through the food chain. Work in 2001 was aimed at developing a hand-held sensor that will allow food processors to detect the presence of bacterial pathogens and toxins in food within 100 seconds. Laboratory tests in 2003 demonstrated faster response times while detecting as few as 300 Salmonella cells in 1 milliliter of liquid. Test kits have also been commercialized for detecting a livestock feed constituent that transmits bovine spongiform encephalopathy, commonly referred to as "mad cow disease." Furthermore, investigators have demonstrated capability with radio-frequency identification tags and have patented and licensed several new approaches to sensing pathogens, including Salmonella and anthrax that promise the capability to detect a single bacteria or spore. Tests with patented magneto-strictive particle sensors in 2005 confirm one-cell sensitivity. A new, more sensitive Enzyme-Linked Immunosorbent Assay (ELISA) test strip for anthrax has been prototyped. A patent application has been submitted for a new micro-fluidic device that can bring a single bacteria cell or spore in contact with a nano-scale sensor. At this point in 2008, one spin-off company has been established and four other companies are selling commercialized products resulting from this work. Recently, a sixth licensed technology dramatically improves the software diagnostic capability of off-the-shelf electronic noses used in defense and in the food industry.

The work supported by this grant began in fiscal year 1999 under the Food Safety, Alabama grant. The appropriation for fiscal year 1999 was $300,000; for fiscal year 2000, $446,250; for fiscal year 2001, $519,854; for fiscal year 2002, $608,000; for fiscal year 2003, $1,117,688; for fiscal year 2004, $1,000,065; for fiscal year 2005, $1,091,200; for fiscal year 2006, $1,134,540; and for fiscal year 2007, $0. In fiscal year 2008, the project was renamed the Detection and Food Safety, Alabama grant with an appropriation of $1,861,875; and for fiscal years 2009 and 2010, $1,748,000 per year. The total amount appropriated for this program is $11,575,472.

Research is conducted at the Auburn Research Center for Detection and Food Safety, Auburn University.

The project is subject to a thorough institutional peer review during preparation of the grant proposal. Each project proposal receives merit review by one or more agency scientists. All food safety special-grant projects were reviewed at an investigator-attended workshop held at agency offices in August 2005. The project's principal investigator provided a seminar for agency personnel in 2009. It was noted that the project is proceeding according to its projected time line.

DROUGHT MITIGATION, NEBRASKA

The objective of the grant is to reduce the risk to agriculture and society associated with drought: promoting and conducting research on drought mitigation and preparedness technologies; improving coordination of drought-related activities and actions within and between levels of government; and assisting in the development, dissemination, and implementation of appropriate mitigation and preparedness technologies in the public and private sectors.

The work supported by this grant received an appropriation of $200,000 per year in fiscal years 1995 through 2000; $199,560 in fiscal year 2001; $196,000 in fiscal year 2002; $223,538 in fiscal year 2003; $200,808 in fiscal year 2004; $211,296 in fiscal year 2005; $219,780 in fiscal year 2006; $0 in fiscal year 2007; $372,375 in

fiscal year 2008; $469,000 in fiscal year 2009; and $600,000 in fiscal year 2010 for a total appropriation of $3,892,357.

The research is conducted at the University of Nebraska—Lincoln. The National Drought Mitigation Center in Lincoln, Nebraska, is recognized around the world as a leader in research, education, and outreach for drought. The Center also hosts preparation of the Drought Monitor—a product used to determine drought relief in USDA.

An on-site review of the project was conducted in 2005, and a follow-up review was conducted at the NIFA National Water Conference in February 2006. Since then, the project leaders have conducted informal meetings with the National Program Leader assigned to this project in Washington, DC. The project also is reviewed each year when the proposal is submitted for funding. The project was reviewed as part of a Programmatic Review conducted by the National Institute of Food and Agriculture in 2009.

EFFICIENT IRRIGATION, NEW MEXICO AND TEXAS

The objective of the grant is to increase the efficiency of agriculture and urban landscape irrigation and encourage the development of efficient water markets in the Rio Grande Basin. Modeling technology aids are helping irrigation district managers understand likely financial outcomes of changes in water-delivery rates to agricultural, municipal, and industrial users. Data being gathered from rehabilitation projects for irrigation districts with leaking canals and pipelines and inefficient pumping facilities are estimated to save 61,275 acre-feet of water per year. Significant reductions in sugarcane water use are possible using efficient application methods that improve uniformity of distribution and optimum scheduling, including amount and timing of water application. Substantial water savings have been facilitated in vegetable and citrus production in the Lower Rio Grande Valley using soil moisture monitoring, various cultural practices on crop water use, and irrigation recommendations. The potential water savings may reach 19,528 million gallons per year, assuming 50 percent of landscapes in El Paso are irrigated with recycled water. Several chili pepper cultivars were found to be more salt tolerant than others; this indicates that recycled water may be used for irrigating chili peppers and freshwater can be saved for more sensitive crops. Soil salinization in urban green spaces is being studied in El Paso. This study is expected to establish soil assessment and handling guidelines for construction of sports fields and irrigated urban landscapes. Such guidelines will help improve water-use efficiency and wise use of fiscal resources.

The work supported by this grant began in fiscal year 2001, and the appropriation for fiscal year 2001 was $1,185,386; for fiscal year 2002, $1,176,000; for fiscal year 2003, $1,490,250; for fiscal year 2004, $1,342,035; for fiscal year 2005, $1,488,000; for fiscal year 2006, $1,658,250; for fiscal year 2007, $0; for fiscal year 2008, $1,235,292; and for fiscal years 2009 and 2010, $1,160,000 per year. The total amount appropriated is $11,895,213.

Texas A&M University and New Mexico State University jointly conduct this research through the Water Resources Institute at Texas A&M University.

An agency scientist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. A conference of the co-investigators was held in August 10–13, 2009. The site review involved a series of presentations by project leaders that described project objectives and accomplishments for the previous year. The site visit review of this project allowed the agency scientists to ensure that objectives of the project were coordinated with the other three projects in the basin. The research team is a multi-disciplinary group including, but not limited to economists, engineers, plant, soil, and atmospheric scientists. Agency scientist(s) intend to participate in a similar conference in 2010 to continue evaluating its progress.

EMERALD ASH BORER, OHIO

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $550,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

ENVIRONMENTAL RESEARCH, NEW YORK

The objectives of this research are (1) Improve estimates of the magnitudes of biogeochemical fluxes of Nitrogen (N), (P), and sediments from the New York portion of the Susquehanna River basin into the Susquehanna, and ultimately to the impaired Chesapeake Bay; (2) Assess controls on nutrient pollution, particularly N, in rural landscapes with a mixture of forested and agricultural land uses; (3) Evaluate

the importance of agricultural sources of nutrient pollution in the context of all sources in the watershed; and (4) Assess the effects of climate variability and climate change on fluxes of N, P, and sediment from the rural landscape.

There are three main research areas for the project. Research activities on Agricultural Biogeochemistry are being conducted at the Harford Animal Science Teaching and Research in Cortland County, New York. Research on Atmospheric Deposition is being conducted at the Connecticut Hill Game Management Area in New York State. Integrated modeling of nutrient and sediment sources and sinks across spatial scales is being done at Cornell University. Each of the three research areas has collected the essential background and historical information for their respective sites and established specific monitoring activities.

At the Harford Animal Science Teaching and Research Center, ongoing and historical data available include water quality from 15 wells, soil test results and crop yields, manure and fertilizer applications records for 20 years, nutrient inputs via animal feed, animal densities and field management. Data to be collected for this project include: repair and sampling of wells monthly for a year; analysis of dissolved organic nitrogen, nitrate, ammonium, monthly storm events, and surface samples from drainage creeks and nearby streams; analysis for sediments, nitrite, nitrate, ammonium, total dissolved nitrogen, soluble reactive phosphorus, total dissolved phosphorus, and particulate nitrogen and phosphorus; and monitoring deposition of ammonia and ammonium along gradients away from the farm site, using both bulk deposition measurements and passive samplers for ammonia gas in the atmosphere.

At the Connecticut Hill Atmospheric and Precipitation Chemistry Research and Monitoring Facility, historical data available include a 30-year record of wet and dry nitrogen deposition, comparative studies of dry deposition of nitrogen and sulfur species between measurements through the fall season versus inferentially measured estimates, and isotopic studies of wet and dry deposition to understand the sources of nitrogen deposition, and the impact of changing emissions of sulfate and nitrate on wet and dry deposition of sulfur, nitrogen, and acidity.

The work supported under this grant began in 1991 with an appropriation of $297,000; $575,000 per year in fiscal years 1992–1993; $540,000 in fiscal year 1994; $486,000 per year in fiscal years 1995 through 1999; $400,000 in fiscal year 2000; $399,120 in fiscal year 2001; $391,000 in fiscal year 2002; $392,433 in fiscal year 2003; $350,917 in fiscal year 2004; $372,992 in fiscal year 2005; $369,270 in fiscal year 2006; $0 in fiscal year 2007; $275,061 in fiscal year 2008; and $258,000 per year in fiscal years 2009 and 2010. The total amount appropriated is $7,883,793.

The last evaluation showed progress in producing a series of creative spin-up efforts emphasizing field and laboratory studies by individuals or groups of Cornell faculty that have led towards a better understanding of the sources and sinks of nutrients and sediments in the Susquehanna River Basin. The program has also been successful in integrating models of nutrient and sediment sources and sinks across spatial scales. The program has also made progress towards evaluating the importance of atmospheric deposition and agricultural sources of nutrient pollution in the context of all sources in the watershed. The Cornell community has the broad expertise in the disciplines required to achieve their goals. The program is designed to foster creative new research and integrate the results with current research at Cornell into an overall, comprehensive effort. The Susquehanna River Basin has proven to be an ideal laboratory for better understanding of the factors that control nitrogen fluxes from rural landscapes with mixed agriculture and forest lands.

ENVIRONMENTAL RISK FACTORS/CANCER, NEW YORK

The objectives of the grant are to evaluate the scientific information on pesticides, other chemicals, and diet, and the relationships of these to breast cancer risk. As a result of the proposed work, health professionals, extension educators, community leaders, and the public will increase their understanding of the relationship between overweight and obesity and breast cancer risk and will improve their capacity to take an environmental approach to breast cancer risk reduction through obesity prevention in communities.

Focus group data of over 200 study participants showed the proportion of participants meeting walking goals increased from 38 to 65 percent over 10 weeks with the greatest relative step increase by those who walked least at baseline. Ninety-three percent reported positive dietary changes. In the current project year, the proposed intervention and data collection objectives have been met; the intervention, Small Steps are Easier Together, has been implemented in five new worksites and three comparison worksites and pre- and post-intervention data have been collected from all sites. In addition, information on the environmental approach for obesity

prevention developed and implemented by this research was disseminated at multiple scientific and professional meetings, reaching 525 researchers, health professionals, educators and community leaders.

The work supported by this grant began in 1997, and in fiscal years 1997–1999, $100,000 was appropriated per year; fiscal year 2000, $170,000; fiscal year 2001, $226,501; fiscal year 2002, $222,000; fiscal year 2003, $220,557; fiscal year 2004, $197,826; fiscal year 2005, $217,248; fiscal year 2006, $214,830; fiscal year 2007, $0; fiscal year 2008, $159,873; and fiscal years 2009 and 2010, $150,000 per year. A total of $2,228,835 has been appropriated.

The work is done at Cornell University, Ithaca, New York.

A university peer review of the project was last completed in May 2009. In addition, this project has undergone continuous evaluations by the agency and project researchers. Conclusions from these have informed planning efforts for the education component including the streamlining of the environmental intervention, e.g. Small Steps are Easier Together for easy local application by community educators with minimal assistance.

ENVIRONMENTALLY SAFE PRODUCTS, VERMONT

The objectives of the grant are to develop new applications for "waste" products that may lead to novel products or approaches to solving environmental problems including the development of an environmentally friendly wood finish, coating formulation system, the development of a deicer from by-products of the cheese whey production process, the use of iron slag wastes as absorptive materials to capture phosphorous in agricultural runoff to then be used in horticultural applications, and the use of waste products as energy sources to improve efficiency of greenhouse operations.

Five prototype wood coating mixes were formulated and have been optimized for maximum performance in industrial settings. The chemical characteristics of the formulations have been analyzed, and the coating materials have been applied on experimental wood samples. A workshop has been built which is designed for this project. The safe wood finishes perform better in terms of water resistance, drying time, and pencil scratch hardness compared with the same type of commercial products. The analyses on mold resistant properties and ultraviolet resistance of the prototypes have been completed. A U.S. patent application for formulation and production of the environmentally safe wood finish products was filed in July 2002. Commercial application trials have been carried out at two of Ethan Allen Furniture operations. An organic salt, potassium acetate, has been produced through a two-stage fermentation process at lab scale, and work is ongoing to optimize the process. This by-product of the cheese making process serves to reduce road ice and is biologically degradable in the environment. Other by-products of the cheese manufacturing process, whey protein and lactate, are being evaluated as coatings and nutrient sources for biocontrol fungi, respectively. Whey protein-based wood and paper adhesives have been developed with much improved strength. Scaled up studies on the plywood adhesives were performed. Analyses on functional properties of the adhesives were conducted. A peer-reviewed manuscript on the findings of this project has been submitted to Journal of Polymer Sciences.

The work supported by this grant began in fiscal year 2000. The appropriation for fiscal year 2000 was $200,000; for fiscal year 2001, $245,459; for fiscal year 2002, $240,000; for fiscal year 2003, $243,408; for fiscal year 2004, $745,575; for fiscal year 2005, $740,032; for fiscal year 2006, $742,500; for fiscal year 2007, $0; for fiscal year 2008, $335,634; for fiscal year 2009, $188,000; and for fiscal year 2010, $250,000. The total amount appropriated is $3,930,608.

This work is being carried out in the College of Agricultural and Life Sciences, the University of Vermont.

Evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator and colleagues, as appropriate. The review is conducted by the NIFA staff who has determined that this research is in accordance with the mission of the agency.

EXPANDED WHEAT PASTURE, OKLAHOMA

The goal of this research was to discover and disseminate scientific information that decreases production risk and improves profitability of feeder cattle and grain production from dual purpose winter wheat. This work has already shown how the use of feed supplements can increase net profit from cattle grazing on wheat pasture. The study has identified management practices, for example, date of planting, cultivar selection, grazing intensity, and date of cattle removal, that produce the optimum grain yield and cattle gain. A decision support microcomputer model, titled

"Wheat and Wheat/Stocker Production Planner" has been developed for use by producers and extension educators as a decision aid to help producers assess income risk in the operation. Wheat cultivars called GRAZEnGRAIN that maintain high grain yields after being grazed have been identified. Studies were conducted to further develop supplementation strategies for growing cattle on wheat pasture, characterize the physiological basis for differences in finishing performance of feeder cattle off wheat pasture and determine the effects of wheat breeding practices, varietal improvement, and cultural and management practices on productivity of the wheat/stocker cattle enterprise. Data evaluating adipose tissue development indicate that steers grazing winter wheat pasture will gain at a greater rate and start to deposit more intramuscular fat at a younger age compared with steers grazing dormant native rangeland.

The work supported by this grant began in fiscal year 1989, and appropriations were as follows: fiscal year 1989, $400,000; fiscal year 1990, $148,000; fiscal year 1991, $275,000; fiscal years 1992–1993, $337,000 per year; fiscal year 1994, $317,000; fiscal years 1995–2000, $285,000 per year; fiscal year 2001, $292,355; fiscal year 2002 $286,000; fiscal year 2003, $307,985; fiscal year 2004 $275,366; fiscal year 2005, $272,800; fiscal year 2006, $319,770; fiscal year 2007, $0; fiscal year 2008, $238,320; and fiscal years 2009 and 2010, $223,000 per year. A total of $5,962,596 has been appropriated.

Large replicated pasture studies are being conducted at wheat pasture research units near the Oklahoma State University campus, at the Wheat Pasture Research Unit, 596 acres near Marshall, Oklahoma, which is 30 miles west of the Oklahoma State University campus, and the Sparks Beef Research Center, an Oklahoma Agricultural Experiment Station facility near campus. As a component of the Oklahoma Agricultural Experiment Station wheat breeding program, breeding nurseries have been established at Marshall using a graze-plus-grain management system. In addition, small-plot wheat variety performance tests are conducted at about 18 locations across the State either on Oklahoma Agricultural Experiment Station facilities or on private farm land.

Senior agency technical staff reviewed the annual project proposal and progress reports and concluded that the project was appropriately focused and addressing the stated objectives. A comprehensive review including site visit is still under consideration for 2010.

EXPERT INTEGRATED PEST MANAGEMENT DECISION SUPPORT SYSTEM

The objective of this project is to streamline the exchange of pest management information within and between Federal and State government agencies, research scientists, extension educators, agricultural industries, commodity groups, and agricultural producers. The Expert Pest Management Information Decision Support System has been moved to a Web-based system, with access to all of the originally proposed databases now complete. This system has now been seamlessly integrated into the agency's Regional Integrated Pest Management Centers Information System at www.ipmcenters.org. Semi-automated updating of the databases is now in place as a cooperative effort among the agencies responsible for collecting the information. The Center for Integrated Pest Management maintains the databases for the Pipeline, CropLife Pesticide Use Data, Crop Profiles, Pest Management Strategic Plans, Crop Timelines, the NIFA Food Quality Protection Act Research Projects Database, the NIFA Contacts Database, the aggregated National Agriculture Statistics Service Pesticide Use Data, a new Interagency Integrated Pest Management Projects Database and a new Proposal/Project Management System. The latter is used by the Regional Integrated Pest Management Centers to track and seamlessly manage all Request for Applications for which they have responsibility, from Request for Applications publication, through proposal submission and review, to project reporting locally and dynamically into the Interagency Integrated Pest Management Projects Database.

This work supported by this grant began in fiscal year 1995, and appropriations were as follows: in fiscal year 1995, $172,000; in fiscal year 1996, $177,000 from this special grant plus $21,000 from Research, Extension, and Education Evaluation Funds and $40,000 from the Pesticide Impact Assessment Program; in fiscal year 1997, $165,425; in fiscal years 1998–2000, $177,000 per year; in fiscal year 2001, $176,611; in fiscal year 2002, $177,000; in fiscal year 2003, $175,850; in fiscal year 2004, $158,062; in fiscal year 2005, $156,736; in fiscal years 2006 and 2007, $155,430 per year; in fiscal year 2008, $153,915; in fiscal year 2009, $154,000; and in fiscal year 2010, $156,000. Total amount appropriated is $2,725,459.

The bulk of the work is carried out on the campus of North Carolina State University in Raleigh, which collaborates with agricultural scientists at land-grant uni-

versities throughout the United States. The Center for Integrated Pest Management at North Carolina State University manages the Web server where the pest management information system is located.

Over the past 4 years, the Web development aspect of the project has been evaluated annually. Currently, the annual review of the project and goals is by a Web development committee composed of the directors and Information Technology staff of the Regional Integrated Pest Management Centers. Several key components of the project received favorable reviews during a formal comprehensive review of the Integrated Pest Management Centers in February of 2008. For 2009, the project was competitively awarded and was reviewed prior to submission by three independent reviewers and an external review panel.

FLORICULTURE, HAWAII

The original goals of this research were to develop and commercialize high yielding, disease and insect resistant floral cultivars of anthurium, orchids, protea, flowering ginger, bird of paradise, heliconia, ti leaves and other exotic tropical flower and foliage varieties; address current technical constraints; and implement effective marketing strategies.

More than 100 new anthurium hybrids are in individual plant selection stage and eight selections in tissue culture are in advance testing on cooperator farms. Protea resistant to the fungal pathogen, Phytophthora cinnamomi, were obtained from South Africa, and this germplasm is being incorporated into protea breeding lines. Seventeen new resistant, tissue-culture propagated protea hybrids were released to the public for a total of 101 new cultivars released since 1999. Seventeen new Leucospermum hybrids were released since 2003. Tests continue for Phytophthora cinnamomi resistance and extended vase life. The orchid breeding program was intensified in 2004, and 39 crosses have been germinated to date. Research on light enhancement has shortened the production period for orchid flowering by four to six weeks. Research was also focused on the development of post-harvest handling practices and addressed quarantine issues. A post-harvest hot air treatment was developed and proved effective in controlling nematode and bacterial infections in anthurium plants and will significantly reduce production costs. Studies determined effective controls for a new pest, pink hibiscus mealybug. Over 4,400 Protea cuttings were released to Hawaii growers; 15 new anthurium hybrids are being evaluated on grower-cooperator farms; several new dendrobium orchids are being tested for both potted and cut flower varieties. Nine commercial orchid nurseries were assessed for fusarium diseases; Fusarium proliferatum, F. oxysporum, F. solani, and F. subglutinans were the most common pathogens. Most recently, a series of water and fertilizer management audits at large nurseries found improper usage of water and fertilizers. Results of an irrigation experiment on Anthurium showed a substantial increase in flower yield by 35 percent and also an increase in the proportion of large flowers size from 45 percent to 70 percent with several short pulses of fertigation compared to current farm practices, resulting in a net revenue gain of approximately $200,000 per acre each year. Additionally, composts using macadamia nut shells and rubber chips as ingredients were demonstrated to be appropriate alternative potting media for potted palms compared with more expensive potting media sold commercially. Using controlled-release fertilizers with a shorter time-release rate enabled faster movement of nutrients into the potting media was shown to facilitate faster intake by plants. Also it was found that a coir-cinder mixture was an adequate potting media for dendrobium and oncidium orchids due to its better water holding capacity; thus, lower the rate of fertilizer release. These research results were presented at a national conference and an abstract was published in HortScience.

The work supported by this grant began in fiscal year 1989 and the following amounts have been appropriated: in fiscal year 1989, $300,000; fiscal years 1990–1993, $296,000 per year; fiscal year 1994, $278,000; fiscal years 1995–2000, $250,000 per year; fiscal year 2001, $249,450; fiscal year 2002, $400,000; fiscal year 2003, $397,400; fiscal year 2004, $354,894; fiscal year 2005, $352,160; fiscal year 2006, $348,480; fiscal year 2007, $0; fiscal year 2008, $259,173; fiscal year 2009, $243,000; and fiscal year 2010, $300,000. A total of $6,166,557 has been appropriated since fiscal year 1989.

This research is being conducted by the College of Tropical Agriculture and Human Resources at the University of Hawaii—Manoa at locations in Honolulu and Hilo, and by the College of Agriculture, Forestry and Natural Resource Management at the University of Hawaii at locations in Hilo, with input from the floral crops industry on the islands of Hawaii and Maui.

Each individual project proposal goes through a national peer merit review managed by the applicant institution. Each proposal is peer reviewed and ranked, and funding is provided only to the highest ranked projects. Project accomplishments and proposed research objectives are reviewed annually. In addition, project expenditures are monitored to ensure that spending is consistent with approved project budgets and with Federal regulations. Research results are also reviewed by members of the Hawaii floriculture industry to ensure that priorities identified by the industry and reflected in the request for proposals are being addressed and progress toward achieving objectives are on schedule. As new objectives are identified, they will be reviewed by research administrators and members of the Hawaii floriculture industry.

FOOD AND AGRICULTURE POLICY RESEARCH INSTITUTE, IOWA, MISSOURI, NEVADA, WISCONSIN

The objectives of the grant are: (1) to provide information to help public decision makers evaluate farm policy options; and (2) to enhance capacity to conduct quantitative analysis of agricultural policy issues.

The institutions maintain large econometric models and datasets which are regularly updated to analyze farm and trade policy alternatives and the impacts of various programs on several sub-sectors of the agricultural economy. During the past year, the Food and Agriculture Policy Research Institute (FAPRI) at Missouri included an annual 10-year outlook for agriculture—prepared every year since 1984, agricultural policy scenarios requested by Congress at will, Congressional briefings, and Congressional testimony. The final projections for domestic and world agricultural markets are found in FAPRI 2009 U.S. and World Agricultural Outlook. Each publication is posted on their Web site (www.fapri.missouri.edu).

Grants have been awarded from funds appropriated as follows: fiscal years 1984–1985, $450,000 per year; fiscal years 1986–1987, $357,000 per year; fiscal year 1988, $425,000; fiscal year 1989, $463,000; fiscal year 1990, $714,000; fiscal years 1991–1993, $750,000 per year; fiscal year 1994, $705,000; fiscal years 1995–1996, $850,000 per year; fiscal year 1997–2000, $800,000 per year; fiscal year, 2001, $947,910; fiscal year 2002, $1,000,000; fiscal year 2003, $1,515,088; fiscal year 2004, 1,364,899; fiscal year 2005, $1,536,608; fiscal year 2006, $1,595,880; fiscal year 2007, $0; fiscal year 2008, $1,191,600; fiscal year 2009, $1,139,000; and fiscal year 2010, $1,339,000. The total amount appropriated is 22,700,985.

The program is carried out at the Center for Agriculture and Rural Development, Iowa State University, and the Center for National Food and Agricultural Policy, University of Missouri.

Each year Iowa State University and the University of Missouri publish the Food Agriculture Policy Institute U.S. and World Agriculture Outlook which is assessed annually. A formal evaluation of this program has not been conducted.

FOOD AND FUEL INITIATIVE, IOWA

The objectives of this grant focus on: (1) discovery of new value-added food safety compounds in co-products to enhance economic development opportunities; (2) Mycotoxin monitoring in co-products for food and feed safety and mitigation strategies; and (3) economic analysis, risk assessment and communication.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $297,900; $280,000 in fiscal year 2009; and $298,000 in fiscal year 2010. A total of $875,900 has been appropriated.

This research is conducted at Iowa State University.

The submitted proposal for this new project was critically reviewed in the summer of 2009 by the National Program Leader of NIFA and was found to be scientifically sound.

FOOD MARKETING POLICY CENTER, CONNECTICUT

The objectives of the grant are the analysis of private strategies, public policies, and food system performance to enhance economic welfare; and, the development of food safety and related policies to provide guidance for the control of safety risks and for significant reduction of safety risks in the global food system.

The work supported by this grant began in fiscal year 1988. The appropriations amount to the following: fiscal year 1988, $150,000; fiscal year 1989, $285,000; fiscal year 1990, $373,000; fiscal years 1991–1993, $393,000 per year; fiscal year 1994, $369,000; fiscal years 1995–1998, $332,000 per year; fiscal years 1999–2000, $400,000; fiscal year 2001, $493,911; fiscal year 2002, $484,000; fiscal year 2003, $486,815; fiscal year 2004, $581,548; fiscal year 2005, $579,328; fiscal year 2006, $573,210; fiscal year 2007, $0; fiscal year 2008, $426,990; and fiscal years 2009 and

2010, $401,000 per year. The total amount appropriated for this project to date is $8,911,802.

Project work is being carried out at the University of Connecticut and also at the University of Massachusetts and at cooperating universities via the visiting fellows program.

Annual proposals for funding are peer reviewed for relevance and scientific merit. The NIFA contact is also in regular contact with the principal researcher at the key institution to discuss progress towards meeting project objectives.

FOOD SAFETY, MAINE AND OKLAHOMA

The objectives of this project is to discover ways to improve the safety and security of the Nation's food supply at all steps from farm or ranch production through processing. The project will focus on E.coli monitoring in cattle, L. Monocytogenes virulence, oregano as an inhibitor of food borne pathogens, and the tracing of staphylococcal enterotoxin along with a recombinant genetic method for detecting prions in meat or meat by-products.

Researchers have demonstrated that injection of 0.1 percent solution of ammonium hydroxide significantly affects aerobic and anaerobic microbial populations in beef loins. Protocols have successfully been developed for the detection of the various soy products' DNA using the lectin gene with Real-time Polymerase chain reaction. E. coli O157:H7 has been found to persist in young growing spinach for up to two weeks, and the leaf morphology for spinach has been found to play a role in bacterial colonization.

The work supported by this grant began in fiscal year 2002 with an appropriation of $400,000; for fiscal year 2003, $620,938; for fiscal year 2004, $555,702; for fiscal year 2005, $551,552; for fiscal year 2006, $546,480; for fiscal year 2007, $0; for fiscal year 2008, $407,130; and for fiscal years 2009 and 2010, $382,000 per year. A total of $3,845,802 has been appropriated.

The research is being conducted at Oklahoma State University, Agricultural Experiment Station in the Food and Agricultural Products Research and Technology Center. The sensor technology proof of concept research will be completed in Orono, Maine, at the Sensor Research and Development Corporation.

An agency evaluation was conducted in 2009. The Project Director met with the National Program staff at NIFA via a series of teleconferences and gave a summary of the status of the project and also presented the data that has been compiled to date.

FOOD SAFETY, TEXAS

The objective of the grant is to develop a national and international Electron Beam Food Research Center that will conduct applied research focusing electron beam technology on food applications and agriculturally related products. Specifically, the Center will host research projects from industry, government, and academia, while conducting outreach, training, and education in the science and technology of electron beam-based irradiation.

To date, the Center has completed studies on the usage of electron beams to inactivate viruses on cantaloupes and pathogens in lettuce and spinach, and a provisional patent has been obtained for the use of E-beam for the treatment and disinfection of municipal wastewater. In addition, the researchers are using e-beam irradiation to develop novel vaccines for Salmonella in poultry. A Salmonella vaccine patent has been submitted in collaboration with USDA–Agricultural Research Service scientists for use by poultry breeders, growers, and in hatcheries. E-beam irradiation can be used to replace formalin, which is currently used in vaccine production. Formalin has been classified as "reasonably anticipated to be a human carcinogen"; Therefore, this technology will likely improve the safety of vaccines. This has public health implications and could be used to improve the safety of human vaccines. In addition, use of the vaccine in live chickens will improve the health of the chickens, thus reducing the need for antibiotics and may result in lower levels of Salmonella contamination in poultry meat. Experiential short courses in food safety have been conducted periodically and have provided hands-on training for food industry workers and other food science and food safety professionals. In 2009, this research included scientists from Mexico, France, and India.

The work supported by this grant began in fiscal year 2003, and the appropriation for fiscal year 2003 was $198,700; for fiscal year 2004, $177,944; for fiscal year 2005, $187,488; for fiscal year 2006, $198,000; for fiscal year 2007, $0; for fiscal year 2008, $74,475; and for fiscal years 2009 and 2010, $69,000 per year. A total of $974,607 has been appropriated.

Currently, all related research has been conducted at the Institute of Food Science and Engineering in the Texas A&M University Electron Beam Food Research Facility, College Station, Texas.

The last Agency evaluation of this project was conducted in December 2009. It was concluded that the investigators are qualified to carry out the objectives involving applied research on food and agriculturally related products and that the findings of the research will result in food safety and public health benefits.

FOOD SAFETY RESEARCH CONSORTIUM, NEW YORK

The objective of this grant is to conduct and coordinate food safety research that provides critical new knowledge on foodborne pathogens and leads to the development of new and innovative food safety tools and intervention strategies by developing and applying molecular characterization and epidemiological methods to provide an improved understanding of the transmission, evolution, and ecology of selected bacterial foodborne pathogens, including Salmonella and L. monocytogenes.

Strain collections, subtyping and characterization methods, and protocols will be made broadly available to facilitate application of the methodologies developed. Over the last project year, researchers have made major progress on two specific projects. Previous research has shown that L. monocytogenes isolates can be grouped into three genetic lineages, which seem to differ in their ability and likelihood to cause human disease. Researchers have also tested the hypothesis that L. monocytogenes lineages may exhibit different stress-related phenotypes.

The work supported by this grant began in fiscal year 2001 with an appropriation of $284,373; for fiscal year 2002, $800,000; for fiscal year 2003, $894,150; for fiscal year 2004 $800,250; for fiscal year 2005, $892,800; for fiscal year 2006, $990,000; for fiscal year 2007, $0, for fiscal year 2008, $737,799, for fiscal years 2009 and 2010, $693,000 per year. A total of $6,785,372 has been appropriated.

This research will be conducted at Cornell University in Ithaca, New York, in the Departments of Food Science and Computer Science.

An agency evaluation was conducted by NIFA staff in September 2009 upon receipt of the proposal and Current Research Information System (CRIS) reports. NIFA staff determined the proposal was sound and the facilities and faculty were adequate to complete the project successfully.

FOOD SECURITY, WASHINGTON

The objectives of this grant are to enhance the Pacific Northwest (PNW) spring wheat breeding material; develop and test facultative wheat varieties that can be planted in the late fall, winter, or early spring; develop innovative intervention to control microbiological pathogens associated with food processing; and develop new packaging and processing methods to prevent microbiological contamination of processed foods.

The work began in fiscal year 2002 with an appropriation of $400,000; $447,075 in fiscal year 2003; $399,628 for fiscal year 2004, $397,792 in fiscal year 2005; $394,020 in fiscal year 2006; $0 in fiscal year 2007; $293,928 in fiscal year 2008; and $276,000 per year in fiscal years 2009 and 2010. A total of $2,884,443 has been appropriated.

Research is being conducted at laboratories at the College of Agriculture, Human, and Natural Resources, Washington State University.

Proposals for projects are developed by Washington State University and are reviewed by peers at the College of Agriculture, Human, and Natural Resources. They are then submitted to NIFA and are reviewed by National Programs Leaders. NIFA staff also monitors the progress of the project through semi-annual conference calls and through review of annual accomplishments. Selection of recipients of small grants awarded by the project is made by scientists at Washington State University. It is anticipated that NIFA staff will conduct an evaluation in 2010.

FORAGES FOR ADVANCING LIVESTOCK PRODUCTION, KENTUCKY

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $473,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

FORESTRY RESEARCH, ARKANSAS

The objective of the grant is to develop alternative forest management strategies for achieving multi-resource objectives; i.e., production of timber, wildlife, recreation, and other values of the forest on private industrial and non-industrial forest lands and public lands. Progress has been made in several areas such as development of

intensive fiber farming systems as alternatives to soybeans for Mississippi Delta farmers, and discovery of the nutrient needs of predators of the beetle so predators can be grown and studied in artificial cultures.

A major accomplishment in 2008 follows:

The Arkansas Forest Resources Center conducted bio-fuel research to determine the most efficient alternative bio-fuel and feed-stocks in a variety of locations around the State of Arkansas. Portable bio-refinery work proceeds as a component of this research. Results indicated that large volumes of cellulosic biomass from forest residue and agronomic biomass crops are compatible with growing sites in Arkansas and can provide large volumes capable of providing fuel feed stocks. Forest based feed stocks—residuals and slash—could produce as much as 900,000,000 gallons of ethanol a year. This is a replacement of 10 percent of the total gasoline consumption in the State.

A major accomplishment in 2009 follows:

Issues surrounding cellulosic-based biomass feedstock production are complex and require sound science-based information from which to base management decisions. Scientists implemented studies on cellulosic biomass production systems to assess biomass yields, determine investment potentials, and evaluate impacts on selected environmental services. Successful establishment of different cellulosic biomass production systems was influenced by local environmental factors associated with each treatment immediately following planting.

Grants have been awarded from funds appropriated as follows: 1994 $470,000; 1995 $523,000; 1996 $523,000; 1997 $523,000; 1998 $523,000; 1999 $523,000; 2000 $523,000; 2001 $521,849; 2002 $512,000; 2003 $508,672; 2004 $455,298; 2005 $461,280; 2006 $456,390; 2007 $0; 2008 $339,606; 2009 $319,000; 2010 $319,000; Total $7,501,095.

The Arkansas Forest Resources Center is administered through the School of Forest Resources on the campus of the University of Arkansas at Monticello. Individual studies are being conducted at the University of Arkansas, Fayetteville; University of Arkansas at Monticello; and several locations across the State.

A review was conducted in 2001. The review team found no adverse conditions on research capability, and that infrastructure is adequate; projects were progressing as scheduled. A review will be scheduled in 2010.

FRESH PRODUCE FOOD SAFETY, CALIFORNIA

The objectives of this grant are to establish a clearinghouse for research related to produce safety, and to support studies focused on developing solutions that mitigate risks associated with the Nation's produce supply.

Eleven research projects have been awarded, and each will specifically address reducing the food safety risks associated with growing and harvesting fresh produce.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $521,325; $704,000 in fiscal year 2009; and $750,000 in fiscal year 2010. A total of $1,975,325 has been appropriated.

The research is being conducted at the University of California, Davis.

A summary of completed work was submitted, reviewed, and approved by National Program staff in November 2009.

GENOMICS FOR SOUTHERN CROP STRESS AND DISEASE, MISSISSIPPI

The objective of this grant is to determine how southern crops and livestock respond to stress from pests and the environment, in order to provide basic and applied knowledge to breeding programs. The research will use genomics tools for identification of pathogen and stress resistance in southern agricultural crops including, but not limited to, cotton, rice, soybeans, corn, sweet potatoes, forestry, and in livestock, including poultry.

Researchers have been constructing the genome maps of agriculturally important plants and animals, using experimental data to provide more accurate blueprints for identifying key genes involved in production. This work is continually ongoing as more and more genome sequence data becomes available. It makes the genome sequences much easier for researchers worldwide to interpret, use, and turn into valuable products. Researchers are also continually improving the encyclopedia of all gene functions for all agriculturally important species; the encyclopedia is called AgBase and is available at www.agbase.msstate.edu. AgBase provides information that has a digital code and is used to reverse-engineer the molecular components of cellular machines. It is used by researchers worldwide to derive knowledge, and thus value, from their massive genomics data sets.

The work supported by this grant began in fiscal year 2002. The appropriation for fiscal year 2002 was $640,000; for fiscal year 2003, $715,320; for fiscal year 2004,

$640,200; for fiscal year 2005, $882,880; for fiscal year 2006, $1,128,600; for fiscal year 2007, $0; for fiscal year 2008, $849,015; and for fiscal years 2009 and 2010, $797,000 per year. A total of $6,450,015 has been appropriated.

Research is being conducted at Mississippi Agriculture and Forestry Experiment Station sites. Collaboration will be encouraged with researchers at Historically Black Colleges and Universities in the State. Alcorn State University and the Mississippi University for Women have participated in summer programs through this project. The researchers also collaborate with the European Bioinformatics Institute.

The project is managed as a competitive grants program. Each application is reviewed by an external, nationally recognized panel of reviewers. Only projects with superior recommendations are funded.

GEOGRAPHIC INFORMATION SYSTEM

The objectives of the grant are to build institutional frameworks for developing and disseminating geographic and related information to local decision-makers and to promote collaborative and innovative transfer of geographic information system (GIS) technologies to State and local governments and others in the public and private sectors.

In fiscal year 2009, administration of this project was transferred to Pennsylvania State University from the University of Wisconsin. Accomplishments in fiscal year 2008 common to all sites include: technical assistance in GIS implementation; pilot project demonstrations; data automation and database development; consultation and advice for local and tribal government; software evaluation and development; model development; software and GIS application training; satellite telecasts; educational video production; public conference and other professional presentations; technical and lay audience publications; and provision of information and technical resources through the RGIS Web site. The RGIS Web site will be maintained by the Chesapeake Penn State University site www.ruralgis.org.

All sites contribute and participate in the two annual coordinating committee meetings; regional GIS meetings and conferences; preparation and distribution of the project bulletins; helping to update and maintain the project Web site; and coordination and guiding development of education modules. The project provided several bulletins and education modules for the Cooperative Extension's eXtension community of practice called Map@Syst.

A few examples of project impacts by site are detailed below:

Chesapeake—Pennsylvania State University.—Developed a Web application that allows farmers to create maps necessary to meet regulatory requirements of the Pennsylvania Nutrient Balance Sheets; Initiated development of the Pennsylvania One Stop, an online application that provides farmers with the ability to develop their own conservation and nutrient management plans; Designed a method to assess drought vulnerability for Pennsylvania applicable at the field scale using local soils, climatic conditions, and crop management factors; Evaluated LiDAR data for use in riparian buffer assessment for streams by improving channel morphology data, characterization of buffer vegetative conditions, and to quantify stream shading conditions; and Expanded an educational program called FARMSAFE where FFA students and their teachers develop Farm Emergency Response Maps for farmers. They learn about farm safety and geospatial technologies. Currently 26 school districts are participating and using curriculum developed by this center.

South—South Georgia Regional Development Center.—Developed models and maps of lands in south Georgia suitable for both development and agriculture uses, including land use for bio-energy, land areas in which there is suitability for both uses, and land in proximity to residential and commercial enterprises where it is prone to loss as a prime source of food and energy crops; Developed a first-of-its-kind geospatial database template to assist the Georgia Department of Community Affairs with gathering complete, topologically sound land use reporting from 16 regional development centers across the State; and Refined and disseminated the Well and Septic Tank Referencing and Online Map (WelSTROM) resource for the mapping and data collection of private wells and septic systems as the installations occur.

Tribal Technical Center (TTC)—Southwestern Indian Polytechnic Institute.—The Tribal Technical Center has not yet provided a report for 2008 RGIS activities. Key personnel left the project at the beginning of the project and considerable time elapsed before they were replaced. It is only in recent months that RGIS–TTC has begun to make substantive progress toward project goals. In order to allow RGIS–TTC sufficient time to meet 2008 goals, TTC requested and received a 1-year no-cost extension to the overall RGIS grant. During the spring 2010 business meeting, members of the consortium will evaluate TTC progress and provide a recommenda-

tion to the 2008 grant administrative unit—University of Wisconsin—Madison. It is hoped that TTC will have sufficient progress at this time to justify disbursement of the entire funds allocated for their purposes. If, however, it appears at that time that RGIS–TTC will not be able to expend the funds toward project goals, RGIS Administration will submit a request to USDA to reallocate funds.

Grants have been awarded from funds appropriated as follows: fiscal year 1990, $494,000; fiscal year 1991, $747,000; fiscal years 1992 and 1993, $1,000,000 per year; fiscal year 1994, $1,011,000; fiscal year 1995, $877,000; fiscal year 1996, $939,000; fiscal years 1997 through 1999, $844,000 per year; fiscal year 2000, $850,000; fiscal year 2001, $1,022,745; fiscal year 2002, $1,199,000; fiscal year 2003, $1,390,900; fiscal year 2004, $1,431,504; fiscal year 2005, $1,702,272; fiscal year 2006 $1,783,980; fiscal year 2007, $0; fiscal year 2008, $1,328,634; and fiscal years 2009 and 2010, $1,248,000 per year. A total of $21,805,035 has been appropriated. This project was funded under research Federal Administration through fiscal year 2004. In fiscal year 2005, these funds were awarded as a Special Research Grant.

The National Consortium for Rural Geospatial Innovations in America is administratively centered at Pennsylvania State University at University Park and functions as one of the Chesapeake Centers.

The South Georgia Center in Valdosta, Georgia, works in affiliation with the South Georgia Regional Development Center.

The Mid-South Center, in Fayetteville, Arkansas, works in affiliation with the University of Arkansas.

The Pacific Northwest Center works in affiliation Central Washington University and the Yakima Nations.

The Great Plains center in Grand Forks, North Dakota, works in affiliation with the University of North Dakota.

Native American communities are being reached through the Southwestern Indian Polytechnic Institute Tribal Technical Center in Albuquerque, New Mexico.

Beginning in 1995, the program was externally reviewed by local advisory committees and qualified professionals inside and outside of government with comments and suggestions sent to the agency to assist with the merit reviews. A 2-day review of the program was conducted in November 2002 by the NIFA personnel in conjunction with a satellite training broadcast of Geographic Information Systems technologies to tribal colleges. In December 2003, an independent group of peers did a comprehensive review of project activities over the last 5 years. The program was found to be making progress towards objectives and producing useful documents for their clientele. In fiscal year 2006, the project conducted a stakeholder survey to assess the achievement and impacts of RGIS directly.

GLOBAL CHANGE AND UV MONITORING, COLORADO

The objective of this grant is the establishment of a climatological network to monitor ultraviolet radiation at the surface of the earth.

Instruments have been deployed and are currently in operation at 36 monitoring sites across the 50 United States and Canada. Data are available within 24 hours of measurement, via the Web, and are used by many Federal agencies and university researchers. In 2009, the project's Web site increased its capability to provide users with graphical displays for some data. Some project funds are expended each year to partially support studies by researchers across the country to address plant, animal, and ecological impacts from ultraviolet exposure. This, of course, represents a small fraction of all the scientific studies being conducted with these data by the broader scientific community. The lead scientist is developing an integrated impact assessment model that couples climate, radiation, crop models, and local weather conditions to predict and understand climate-crop interactions. Recent model results demonstrate geospatially dispersed effects of combined ultraviolet radiation and temperature increases on the productivity of cotton cropland across the United States. Model results for corn crops will be available by the middle of 2010.

The work supported by this grant began in fiscal year 1992, and the appropriation for fiscal years 1992–1993 was $2,000,000 per year; fiscal year 1994, $1,175,000; fiscal year 1995, $1,625,000; fiscal year 1996, $1,615,000; fiscal year 1997, $1,657,000; fiscal years 1998–2000, $1,000,000 per year; fiscal year 2001, $1,430,845; fiscal year 2002, $1,402,000; fiscal year 2003, $2,235,375; fiscal year 2004, $2,000,129; fiscal year 2005, $1,984,000; fiscal year 2006, $2,162,160; fiscal year 2007, $0; fiscal year 2008, $1,610,646; and fiscal years 2009 and 2010, $1,408,000 per year. A total of $28,713,155 has been appropriated.

Colorado State University manages the operating network, which includes fully instrumented sites across the continental United States, and in Hawaii, Alaska, Puerto Rico, and New Zealand. Ultraviolet radiation effects work is conducted at col-

laborator laboratories across the United States. Isolated experiments on ultraviolet effects are conducted at various university and government laboratories across the country.

The agency has assigned two technical staff to continuously monitor activities in the global change research program. Agency staff scientists are in contact with the principal researchers on a monthly basis. A review of the Ultraviolet Radiation Monitoring Program by a panel of technical experts from outside the Department was completed in April 2001, and their report is available. Agency staff met with program staff in January 2002 to discuss implementation of review panel recommendations. In 2004, the project's principal researchers developed a 5-year strategic plan for monitoring and research, which has been reviewed and approved by agency technical staff; this plan is updated annually to keep it current. Each year, the project's principal researchers meet with the agency administrator and other staff to evaluate project objectives, approaches, and impacts. In 2008, funds were awarded to the institution competitively though a request for applications and a peer-review process.

GRAIN SORGHUM, KANSAS AND TEXAS

The objective of the grant is to identify and use germplasm to develop grain sorghum cultivars that both mature earlier and produce more grain.

In 2009, research in this project has improved understanding of the mechanisms of drought tolerance in sorghum. Field research with genetically diverse sorghum lines under different conditions revealed that leaf temperature and slow wilting are the best measurable indicators of superior end-of-season yields under drought stress. These traits are known to be related to plant water use efficiency. Researchers are using the technique of association mapping with these same lines, to identify the genes that help sorghum use water efficiently. Breeders will then be able to use these genes in marker-assisted breeding to develop sorghum lines that are even more drought tolerant.

The work supported by this grant began in fiscal year 1997, and the appropriation for fiscal years 1997–2000 was $106,000 per year; for fiscal year 2001, $105,767; for fiscal year 2002, $104,000; for fiscal year 2003, $139,040; for fiscal year 2004, $124,262; for fiscal year 2005, $135,904; for fiscal year 2006, $728,640; for fiscal year 2007, $0; for fiscal year 2008, $548,136; for fiscal year 2009, $515,000; and for fiscal year 2010, $1,000,000. A total of $3,824,749 has been appropriated.

The research is conducted at Kansas State University, Texas Tech University, and Texas A&M University.

The project is subjected to peer review by the recipient institution, as well as review by senior agency technical staff. In addition, stakeholder input was obtained through formal and informal methods. The project was reviewed as part of the agency review of the Kansas State University Agronomy Department.

GRASS SEED CROPPING FOR SUSTAINABLE AGRICULTURE, IDAHO, OREGON, AND WASHINGTON

The objectives of this grant are to: develop sustainable grass seed cropping systems that optimize economic seed production with maximum energy and resource conservation and maintain or improve environmental quality; develop economic utilization of grass seed production by-products in agriculture; and develop maximum genetic and biological potential of seed.

The work supported by this grant began in fiscal year 1994 with an appropriation of $470,000; fiscal years 1995–2000, $423,000 per year; fiscal year 2001, $422,069; fiscal year 2002, $414,000; fiscal year 2003, $454,030; fiscal year 2004, $406,587; fiscal year 2005, $450,368; fiscal year 2006, $445,500; fiscal year 2007, $0; fiscal year 2008, $332,655; and fiscal years 2009 and 2010, $313,000 per year. A total of $6,559,209 has been appropriated.

The research is conducted at State agricultural experiment stations in Idaho, Oregon, and Washington.

Additional work is expected to address some of the most difficult issues, such as breeding new cultivars to address changing needs and developing markets for the unburned crop residue. That work is now underway.

This program is subject to an annual comprehensive evaluation by a team of peer scientists, industry representatives, and farmers. The results are used to guide research for the next year. Each proposal undergoes merit review at the performing institution and is reviewed by senior agency technical staff. The program was subjected to a comprehensive review in December of 2000, which focused on the program objectives and priorities. A site visit and review of progress was conducted in 2003.

HIGH PERFORMANCE COMPUTING, UTAH

The objective of this grant is to extend the use and applications of high performance computing to the agricultural research community by producing a virtual, scalable infrastructure for agricultural researchers, and developing a new parallel approach to population genetics and phylogeography on this infrastructure.

During 2006, Utah State University organized and sponsored a national symposium on high performance computing for the agricultural research community with a technical and educational program; a similar meeting was held in 2009. Researcher-focused seminars and workshops were held in 2008 and 2009 to help faculty and graduate students develop knowledge and skills related to high-performance computing and to help them initiate projects. Investigators have completed testing of a regional climate model for snowpack, and the simulation and analysis of climate impacts on agricultural water use have been completed.

The work supported by this grant began in 2006 under the Advanced Computing Research and Education grant with an appropriation of $539,550; and in fiscal year 2007, $0. In fiscal year 2008, the project was renamed High Performance Computing with an appropriation of $521,333; in fiscal year 2009, $525,000; and in fiscal year 2010, $263,000. A total of $1,848,883 has been appropriated for this program.

The program is carried out at Utah State University.

The project is subject to a thorough institutional peer review during preparation of the grant proposal. Submitted proposals undergo merit review by one or more agency scientists. The principal researcher meets annually with agency staff wherein project objectives, plans, and accomplishments are discussed. An agency scientist made an on-site visit to the project in 2009.

HUMAN NUTRITION, LOUISIANA

The objective of this grant is to understand differences in fat storage and how this information can be applied to terminating the current fattening of America.

Previous work evaluated the effects of high and low protein diets in normal and overweight men and women at both low and high levels of physical activity and energy intake using gene expression and muscle metabolism, in vitro to explore the metabolism, and genetic basis of the responses to intakes of these diets. Weight gain with the low protein diet was significantly less than with higher protein diets, but the fat storage was identical between the groups. These results are noteworthy in that from a nutritional point of view it means that interpreting weight changes in people with different protein intakes is not simple and suggests that additional measures may be needed to adequately interpret such data. Currently, this research has two projects underway. The first, the study of variability of food intake in dietitians is based on a demonstration of corrective signals for feeding that operate over 3- to 4-day intervals in relatively sedentary women. The second, the study of the interaction of dietary fat and carbohydrates examines whether a high fat diet enhances liver fat and decreases insulin sensitivity over 3- to 4-day intervals and if this effect is exaggerated by the type of monosaccharide, such as fructose or glucose, in the diet.

The work supported by this grant began in fiscal year 1991, and the appropriation for fiscal years 1991–1993 was $800,000 per year; for fiscal years 1994–2000, $752,000 per year; for fiscal year 2001, $750,346; for fiscal year 2002, $800,000; for fiscal year 2003, $794,800; for fiscal year 2004; $711,776; for fiscal year 2005, $706,304; for fiscal year 2006, $698,940; for fiscal year 2007, $0; for fiscal year 2008, $526,290; and for fiscal year 2009, $494,000; and for fiscal year 2010, $526,000. A total of $13,672,456 has been appropriated.

Research is conducted at the Pennington Biomedical Research Center, a unit of the Louisiana State University.

A scientific and independent peer-review was conducted by a panel of three reviewers from the Pennington Biomedical Research Center, Baton Rouge, Louisiana, and two external reviewers according to the USDA guidelines on May 20, 2009. In addition, progress is evaluated through the review of annual reports by NIFA National Program Leaders.

HUMAN NUTRITION, NEW YORK

The objective of the grant is to support new multi-investigator collaborative research projects that integrate approaches in genomics, nutritional biochemistry, and human metabolism to address fundamental questions in human nutrition and health. Research focuses on the use of stable isotope approaches to understand human nutrient dynamics at the whole body and cellular level in healthy humans.

Work on the current human nutrition research projects that focus on the key nutrients calcium, iron and choline began in fiscal year 2009. Studies to measure calcium, vitamin D, related hormones and bone turnover markers in pregnant teens to determine how these factors are associated with fetal bone growth and maternal bone loss across pregnancy are nearing completion. Researchers have found that vitamin D insufficiency is prevalent in minority adolescents and their newborns at delivery and that suboptimal vitamin D status is associated with a significantly lower birth weight in the newborn infant. Maternal vitamin D insufficiency was also found to have a significant negative impact on fetal bone growth. These results are being written for publication. Human nutrition studies of choline requirements during pregnancy are completing data collection. Analysis of the data is underway.

Grants have been awarded from funds appropriated as follows: fiscal year 1989, $450,000; fiscal years 1990–1991, $556,000 per year; fiscal years 1992–1993, $735,000 per year; fiscal year 1994, $691,000; fiscal years 1995 through 2000, $622,000 per year; fiscal year 2001, $620,632; fiscal year 2002, $609,000; fiscal year 2003, $571,163; fiscal year 2004, $546,755; fiscal year 2005, $580,320; fiscal year 2006, $574,200; fiscal year 2007, $0; and fiscal year 2008, $402,165; and fiscal years 2009 and 2010, $377,000 per year. A total of $12,113,235 has been appropriated.

Research is being conducted at Cornell University, New York.

The proposal that was received for fiscal year 2009 was subjected to independent peer review as required by the Cornell University Agricultural Experiment Station. The process followed guidelines issued by that office and entailed complete review of the proposal by two Cornell faculty members external to the Division of Nutritional Sciences. The proposal that is being prepared for fiscal year 2010 is a continuation that is subject to an internal review by NIFA staff.

HYDROPONIC PRODUCTION, OHIO

The objective of the grant is to expand hydroponic production technology with new growers and new crops using energy efficient greenhouses and Internet decision support tools and have year-round availability of locally grown, high-quality vegetable and floriculture crops for all consumers.

Significant progress has been made in the areas of economic analyses to enable producers to make fiscally sound decisions on choice and operation of production facilities, cropping patterns, and marketing decisions. This information has been provided to the user community in easily accessible formats, including demonstration greenhouses at Toledo, printed information, Web-based information, and conferences. There is continuous, ongoing testing and demonstration of improved technology including determination of the economic feasibility of using the new technology systems. A Web-based grower information system with interactive decision model for growing hydroponic tomatoes, which is available at www.oardc.ohiostate.edu/hydroponics/drake/index.php, was developed and is continuously updated and modified. Demonstration and outreach activities are assisting growers in expanding markets and marketing organizations for hydroponic-grown crops; refining Internet decision support tools; designing and demonstrating new, economical, energy efficient production systems; investigating the feasibility of new crops for hydroponic production methods; and conducting research on and demonstrating safe, effective integrated pest management practices for hydroponic production systems. Vegetable growers in Ohio and abroad were provided with technical, cultural, and marketing support through one-on-one consultations and site visits, telephone and e-mail communications, a monthly greenhouse newsletter, a Web site, as well as through support for the grower-led organization, the Great Lakes Hydroponic Association.

The work supported by this grant began in fiscal year 1998, and the following amounts have been appropriated: in fiscal year 1998, $140,000; in fiscal years 1999 and 2000, $200,000 per year; in fiscal year 2001, $99,780; in fiscal year 2002, $100,000; in fiscal year 2003, $99,350; in fiscal year 2004, $178,938; in fiscal year 2005, $178,560; in fiscal year 2006, $177,210; in fiscal year 2007, $0; in fiscal year 2008, $132,069; and in fiscal years 2009 and 2010, $124,000 per year. A total of $1,753,907 has been appropriated.

The research is being conducted by the Food, Agricultural, and Biological Engineering, the Ohio State University Agricultural Research Center, Wooster, Ohio; the Ohio State University Extension Commercial Business Enhancement Center, Bowling Green, Ohio; and at the Toledo Botanical Garden, Toledo, Ohio.

Each year, the performing institution conducts an internal peer review of the proposal. In addition, the agency conducts a merit review of each new proposal. To date, satisfactory progress towards accomplishing project goals and objectives has been made.

IMPROVED DAIRY MANAGEMENT PRACTICES, PENNSYLVANIA

The objective of this grant is to research new technologies and management practices that will help Pennsylvania dairy operations become more profitable and sustainable.

Feed represents the largest and most variable cost for dairy producers. Therefore, the productivity and profitability of every commercial dairy farm depends on the efficient use of feed, with the goal of achieving the highest output of milk with the minimum input of feed. New feeding strategies are needed to improve feed efficiency in dairy cattle. To this end, the research in this project seeks a better understanding of the natural biological rhythms in dairy cattle. This information will enable researchers to test different feeding regimens and find ways to produce more milk with less feed. In addition to improved productivity and profitability, enhanced feed efficiency has the potential to decrease the production of greenhouse gases by dairy cattle and thus lessen their local, regional and global contributions to climate change.

The work supported by this grant began in fiscal year 1992, and the appropriation for fiscal years 1992 and 1993 was $335,000 per year; fiscal year 1994, $329,000; fiscal years 1995–2000, $296,000 per year; fiscal year 2001, $397,124; fiscal year 2002, $389,000; fiscal year 2003, $397,400; fiscal year 2004, $354,894; fiscal year 2005, $352,160; fiscal year 2006, $348,480; fiscal year 2007, $0; fiscal year 2008, $259,173; and fiscal years 2009 and 2010, $243,000 per year. A total of $5,759,231 has been appropriated.

This research is being carried out at the Pennsylvania State University.

The submitted proposal for this new project was critically reviewed by the National Program Leader of NIFA in the summer of 2009.

IMPROVED FRUIT PRACTICES, MICHIGAN

The objective of this grant is to reduce the chemical contamination of the environment during protection from pests in fruit production and improve production practices for beans and beets through multi disciplinary research, including genetic resistance, pesticides, and the development of new nonchemical production methods.

Field studies are being conducted to determine optimum nitrogen application rates for sugar beet. This project has played a crucial role in the development, registration, and expanded use of mating disruption products for Michigan apples and peaches. The use of this technique has greatly improved the control of codling moth, a key pest of apples. The technique involves spraying a chemical that interferes with moth mating. The spray does not leave toxic residue on the fruit and does not harm beneficial organisms. Use of the technique has reduced fruit injury and provided increased revenues of $20 to $100 per acre. To reduce costs of application and effectiveness of the technique to control key fruit pests, pheromone delivery and application technologies are being developed. Reducing the reliance on broad spectrum pesticides in the production of fruit has been a focal point of this project. By incorporating reduced risk control options into their integrated pest management programs, Michigan apple producers have been able to reduce insecticide and miticide use by an average of 28 percent. This includes a 20 percent and 37 percent reduction in the use of organophosphate and carbamate compounds, respectively. Insect trapping technologies are now finding application to protect Michigan's cherry crop. Traps provide an alternative to insecticide use. Using traps on the crop has saved the industry as much as $700,000 per growing season.

The work supported by this grant began in fiscal year 1994. The appropriation for fiscal year 1994 was $494,000; for fiscal years 1995 2000, $445,000 per year; for fiscal year 2001, $444,021; for fiscal year 2002, $239,000; for fiscal year 2003, $237,447; for fiscal year 2004, $211,743; for fiscal year 2005, $210,304; for fiscal year 2006, $209,880; for fiscal year 2007, $0; for fiscal year 2008, $156,894; and for fiscal years 2009 and 2010, $147,000 per year. A total of $5,167,289 has been appropriated.

Research is conducted by Michigan State University at several of its field stations and in grower orchards and fields.

This project has been subjected to a comprehensive review each year. The annual proposals are peer reviewed at the performing institution before submission to the agency, and the proposal is then reviewed by senior agency technical staff.

INCREASING SHELF LIFE OF AGRICULTURAL COMMODITIES, IDAHO

The objective of this grant is to develop a bio-electronic detector platform for the detection of staphylococcal microorganisms and enterotoxins, which can be applied in food processing and distribution systems and that can serve as a model for the

development of a sensor with broader applications to other pathogens and food contaminants.

A micro-electronic test chip has been specifically designed and manufactured for this purpose; transistor parameters have been defined. The electronic test structure fabricated allows surface chemistry data to be acquired along with deoxyribonucleic acid binding data. Initial experiments captured both live and formalin killed staphylococcus aureus from pure cultures. Data obtained using the test chip provide information for the design of an intelligent electronic micro-device. National Aeronautics and Space Administration's Ultra Low Power technology was used to create maximum sensitivity. The transistor circuits were completed. The fabrication run was completed, and processes for chip cleaning and surface modifications and encapsulation were developed. Three electronic sensor platforms have been evaluated in food systems. A hand-held, sensitive, enzyme-linked immunomagnetic electrochemistry biosensor has been developed and tested for detection of microorganisms and toxins in food and water. Silica nanospring mat electronic biosensors were fabricated and found useful in sequence specific detection of deoxyribonucleic acid. The third platform is nanowire-based field effect transistor devices for label free and ultra-sensitive electronic biodetection. Conjugated gold nanoparticle technology has been explored to knock down genes for improving shelf-life of meat through pre-harvest regulation or post-harvest fatty acid oxidation.

The work supported by this grant began in fiscal year 2002. The appropriation for fiscal year 2002 was $640,000; $789,833 in fiscal year 2003; $706,805 in fiscal year 2004; $822,368 in fiscal year 2005; $854,370 in fiscal year 2006; $0 in fiscal year 2007; $642,471 in fiscal year 2008; and $603,000 per year in fiscal years 2009 and 2010. A total of $5,661,847 has been appropriated.

The primary research is conducted at the University of Idaho Research Park in Post Falls and in the Department of Microbiology, Molecular Biology, and Biochemistry, and Department of Chemical and Materials Engineering on the Moscow campus of the University of Idaho. Limited supplementary works, including microchip fabrication and some tests, are conducted at the chosen collaborators' locations.

An agency scientist conducts a merit review of the proposal submitted in support of the appropriation on an annual basis. A review of the proposal for fiscal year 2009 was conducted on June 25, 2009. The research team is a multi-disciplinary group consisting of molecular biologists, electronic designers, organic chemists, solid state physicists, microbiologists, material engineers, and food scientists. The feasibility of a successful completion of the proposed tasks is good.

INFECTIOUS DISEASE RESEARCH, COLORADO

The objective of this grant is to initiate, conduct, and promote research activities that have impacts on trade issues; use a multidisciplinary, integrated approach to monitor for diseases; prioritize critical research needs through stakeholder advisory groups; and provide outreach and graduate student training.

The investigators have contributed to the diagnosis and preventive policy for several economically important diseases such as Vesicular Stomatitis, Bovine Tuberculosis, Johne's Disease, Brucellosis, Bovine Spongiform Encephalopathy, Foot and Mouth Disease, and Bovine Viral Diarrhea. Research results have been made available directly to the stakeholders for immediate implementation through an advisory group, as well as a Web site. Antimicrobial drug use and antimicrobial resistance research has been conducted to investigate appropriate methods to evaluate antimicrobial resistance through time. Furthermore, industry, international, veterinary, and traditional students from diverse disciplines have received advanced short-term or long-term training in animal diseases, health and food safety.

The work has been underway since 1999 with an initial appropriation of $250,000. Since that time appropriations have been made as follows: $255,000 for fiscal year 2000; $299,340 for fiscal year 2001; $640,000 for fiscal year 2002; $745,125 for fiscal year 2003; $667,041 for fiscal year 2004; $777,728 for fiscal year 2005; $808,830 for fiscal year 2006; $0 for fiscal year 2007; $608,709 for fiscal year 2008; $572,000 for fiscal year 2009; and $650,000 in fiscal year 2010. A total of $6,273,773 has been appropriated.

The work is being conducted on the campus of Colorado State University located at Fort Collins by the College of Veterinary Medicine and Biomedical Sciences.

The NIFA National Program Leader from the agency hosted a meeting with the Project Director in Washington, DC in March 2007 and has met with him at various professional meetings on a regular basis since then. In addition, the project advisory committee conducted a program review in February–March 2005. The progress and accomplishments were found to be consistent with the goals of the project. The fiscal

year 2010 proposal was institutionally reviewed by Colorado State University, as well as by a NIFA National Program Leader.

INITIATIVE TO IMPROVE BLUEBERRY PRODUCTION AND EFFICIENCY, GEORGIA

The objective of this grant is to develop a variety of blueberry cultivars with high fruit quality with regards to flavor, storage, and shipping.

In the first year of the project, field trials were established on University of Georgia research farms and at grower test sites. The trials consisted of standard cultivars and advanced selections from the University of Georgia blueberry breeding program. The field trials included both rabitteye and southern highbush selections. Various fruit and plant attributes were evaluated.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $223,425; and $209,000 per year for fiscal years 2009 and 2010. A total of $641,425 has been appropriated.

A merit review of the application was conducted in 2010.

INLAND MARINE AQUACULTURE, VIRGINIA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $400,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

INSTITUTE FOR FOOD SCIENCE AND ENGINEERING, ARKANSAS

The objective of the grant is to provide a mechanism for the University of Arkansas to utilize its multidisciplinary research expertise to offer an integrated approach to developing and disseminating scientific information associated with production, value-added processing, safety, nutritional value, packaging, storage, and distribution of food products.

The Institute for Food Science and Engineering seeks to strengthen existing partnerships and develop new partnerships and alliances with the State, regional, national food industry, government, and academic institutions, while providing an appropriate balance of fundamental and applied research in program areas that are critical to the food processing industries in Arkansas, the region, and the Nation. New production, processing, and packaging technologies are developed and promoted to enhance product quality and ensure safety throughout the food chain from production to consumption. Technology transfer efforts assist the food industry in developing value-added, high-quality products that are safe, appealing, and healthy. Appropriate technology transfer methods are used to communicate research findings, developing a nationally and internationally recognized industry outreach program.

The work supported by this grant began in fiscal year 1996. The appropriation for fiscal years 1996 and 1997 was $750,000 each year; $950,000 for fiscal year 1998; $1,250,000 each year for fiscal years 1999–2000; $1,247,250 for fiscal year 2001; $1,222,000 in fiscal year 2002; $1,214,057 for fiscal year 2003; $1,086,551 for fiscal year 2004; $1,110,048 for fiscal year 2005; $1,107,810 for fiscal year 2006; $0 for fiscal year 2007; $825,183 for fiscal year 2008; and $775,000 per year for fiscal years 2009 and 2010. The total appropriation was $14,312,899.

This project was evaluated in September 2009 by NIFA staff and the reviews indicated that the faculty and facilities were adequate, and the proposal was sound.

INTEGRATED ECONOMIC AND TECHNICAL ANALYSIS OF SUSTAINABLE BIOMASS ENERGY SYSTEMS, INDIANA

The objective of this grant is to conduct economic and environmental analyses to assist Indiana and the Midwest in producing and using renewable energy and how biomass production and conversion affects the economy, environment and ecosystems of the region.

The original goal of this research is to conduct economics and environmental analyses. The economic analysis is using three different economic modeling tools that capture the uncertainty in oil price and other economic variables and simulation of the impacts of different biofuels policy options and oil prices on ethanol production. The policies being considered are the fixed biofuel subsidy, a variable subsidy that fluctuates with the price of oil, the Renewable Fuel Standard, and greenhouse gas policies. This project is also examining a model used to simulate global impacts of domestic and European Union biofuels programs. Technology options include cellulose conversion via biochemical processes and via thermochemical processes. The economic analyses are under development by building spreadsheet models for each of the major technology paths and policy options. The environmental analysis will

include data collection and analysis of field trials using big bluestem, miscanthus, switchgrass, sorghum, and corn grown in rotation with soybean and continuous corn. All experimental treatments have been established at the primary experimental site including transplanting Miscanthus rhizomes and removal of residues from corn and sorghum residue removal treatments. All monitoring equipment has been installed and calibrated to study grain and total above ground dry matter yields as a function of nitrogen fertilizer rate and dissolved organic carbon content in drainage water and weekly assessment of greenhouse gas emissions. Compositional analysis of all plant issues has been initiated.

Fiscal year 2009 was the first year that funds were appropriated for this grant. An amount of $188,000 per year was appropriated in fiscal years 2009 and 2010. The total appropriation is $376,000.

The work is being carried out at Purdue University and at the Purdue University Water Quality Field Station.

Fiscal year 2009 was the first year that funds were appropriated for this grant. An agency evaluation will be conducted when the proposal for fiscal year 2010 is submitted.

INTEGRATED PEST MANAGEMENT

The objective of this grant is to develop new approaches for managing critical pest problems in agricultural production systems and urban environments. Integrated pest management systems are developed to enhance or maintain profitability, protect human health and the environment, manage invasive pest species, and serve as a replacement for management tools lost as a result of regulatory action, pest resistance, and other factors.

The investment of research grant funds in these projects has resulted in the development of many new pest management tools and a reduction in the economic, health, and environmental risks associated with agricultural production. Recent examples of contributions made by this research program include the development of new management approaches for peach brown rot, rice stink bug, and grape berry moth.

The work supported by this grant began in fiscal year 1981, and the following amounts have been appropriated: in fiscal year 1981, $1,500,000; in fiscal years 1982–1985, $3,091,000 per year; in fiscal years 1986–1989, $2,940,000 per year; in fiscal year 1990, $2,903,000; in fiscal year 1991, $4,000,000; in fiscal years 1992 and 1993, $4,457,000 per year; in fiscal year 1994, $3,034,000; in fiscal years 1995–2000, $2,731,000 per year; in fiscal year 2001, $2,724,992; in fiscal year 2002, $2,725,000; in fiscal year 2003, $2,707,288; in fiscal year 2004, $2,438,527; in fiscal year 2005, $2,419,488; in fiscal years 2006 and 2007, $2,395,800 per year; in fiscal year 2008, $2,379,228; in fiscal year 2009, $2,379,000; and in fiscal year 2010, $2,415,000. A total of $85,841,123 has been appropriated since fiscal year 1981.

Researchers from all land-grant universities are eligible to compete for this funding. In fiscal year 2009, the following 15 institutions received funding from this competitive grants program: Clemson University, Cornell University, Idaho State University, Louisiana State University, Michigan State University, Montana State University, North Carolina State University, Ohio State University, Oregon State University, Purdue University, the University of Florida, the University of Georgia, the University of Massachusetts, the University of Maine, and Washington State University.

The agency has established a comprehensive annual process to identify meritorious projects through a competitive process that evaluates relevance to stakeholder needs and technical merit. All proposals undergo technical and merit review at the institutional and regional levels. All proposals are reviewed by a panel of experts to identify those that are both highly relevant and technically sound. Senior agency technical staff evaluates proposals and make recommendations based on the evaluation of the peer review panel. The agency's technical staff also reviews annual and final reports to evaluate accomplishments and to determine whether project objectives are being achieved. The program was reviewed by an external panel in February 2006 as part of a broader stakeholder review of the agency's Regional Integrated Pest Management Centers program.

INTEGRATED PRODUCTION SYSTEMS, OKLAHOMA

The objectives of this grant are to develop organic production techniques for crops in Oklahoma, and to characterize changes in market prices at regional terminal markets and develop potential market opportunities.

Recent work includes a project to determine activity and effectiveness of organic pesticides for managing harlequin bugs on brassica crops. Three studies were con-

ducted on the use of cucurbit crop planting systems following a rye cover crop for their impact on weed control. Another study was conducted on corn gluten meal for weed control in southern peas. Cultivar trials were conducted with 18 cultivars of tomatoes grown under certified National Organic Program protocols. Twelve cultivars of cantaloupe were also grown in a soil fertility study comparing conventional synthetic fertilizers with organic poultry litter fertilizers. In another study, the effectiveness of conventional versus organic vegetable production systems was examined. Results of these studies have been published in journals and Oklahoma State University variety trial publications and presented at field days.

Work supported by this grant started in fiscal year 1984, and the appropriations were: fiscal year 1984, $200,000; fiscal year 1985, $250,000; fiscal year 1986, $238,000; fiscal years 1987–1989, $188,000 per year; fiscal years 1990–1991, $186,000 per year; fiscal year 1992, $193,000; fiscal year 1993, $190,000; fiscal year 1994, $179,000; fiscal years 1995–1998, $161,000 per year; fiscal years 1999–2000, $180,000 per year; fiscal year 2001, $179,604; fiscal year 2002, $176,000; fiscal year 2003, $231,486; fiscal year 2004, $206,773; fiscal year 2005, $205,344; fiscal year 2006, $252,450; fiscal year 2007, $0; fiscal year 2008, $187,677; and fiscal years 2009 and 2010, $177,000 per year. A total of $4,983,334 has been appropriated.

This research is being conducted at the Wes Watkins Agricultural Research and Education Center at Lane, Oklahoma. This facility is operated by the Oklahoma State Agricultural Experiment Station.

Each of the annual project proposals was subjected to peer review by the performing institution and was evaluated by senior agency technical staff.

INTERNATIONAL ARID LANDS CONSORTIUM, ARIZONA

The objective of this grant is to develop an ecological approach to multiple-use management and sustainable use of arid and semi-arid lands.

The Consortium has conducted research and development, educational and training initiatives, demonstration projects, workshops and other technology transfer activities applied to the development, management, restoration, and reclamation of arid and semi-arid land in North America, the Middle East, and elsewhere in the world. All activities are supported by member institutions through their ongoing applied research and demonstration projects. The IALC was authorized by Congress in 1990. During the past 20 years, the IALC has funded 91 research projects, 30 demonstration projects, 11 special initiatives; administered a successful 7-year IALC–USAID (U.S. Agency for International Development) cooperative agreement in Central Asia and the Middle East; and sponsored 20 undergrad and grad students through the IALC Peace Fellowship program. Selected project topics over the past 20 years include: conservation; water quality; irrigation; GIS (Geographic Information System) and remote sensing; ecology; agriculture; wildlife management; rangeland management; wastewater; and biodiversity. IALC outputs from projects include: journal articles; books; doctoral dissertations; presentations; Web sites; and many others. Most IALC projects have taken place in the Southwestern United States and in the Middle East. Four highlights from the fiscal year 2008–2009 projects funded by NIFA include: (1) Fire in Chihuahuan Desert Grasslands: Effects on Soil Biota and Nutrient Cycling; (2) Pine Expansion in Arid Land: Fire Effects on Safe Site Abundance; (3) Post-Fire Vegetation Recovery: Impacts of Restoration and Environment; and (4) Runoff, Flood, and Non-sewage Wastewater for Native Tree Propagation: Anaerobic Sewage Treatment for Sustainable Water Reclamation in Jordan.

The International Arid Lands Consortium was incorporated in 1991. Funds were appropriated to the Forest Service in 1993. Additional funds were received during each of the years that followed. For fiscal years 1994–1998, $329,000 per year; for fiscal years 1999 and 2000, $400,000 per year; for fiscal year 2001, $493,911; for fiscal year 2002, $484,000; for fiscal year 2003, $513,640; for fiscal year 2004, $581,549; for fiscal year 2005, $579,328; for fiscal year 2006, $573,210; for fiscal year 2007, $0; for fiscal year 2008, $426,990; and for fiscal years 2009 and 2010, $401,000 per year. Total appropriations are $6,899,628.

Research is currently being conducted at the University of Arizona; South Dakota State University; Texas Agricultural and Mechanical University, Kingsville; New Mexico State University; University of Illinois; Nevada's Desert Research Institute; and several research and higher education institutions in Israel, Jordan, and Egypt.

The National Program Leader for Rangeland and Grassland Ecosystems communicates regularly with the project director and attended the Board of Directors meeting held in spring 2009. The research conducted under this grant is progressing satisfactorily and is in accordance with the mission of the agency.

INVASIVE PLANT MANAGEMENT, MONTANA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $270,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

IR–4 MINOR CROP PEST MANAGEMENT

The objectives of the grant are to obtain and maintain regulatory clearances of effective crop protection agents for high value, specialty food crops and for minor uses on major crops with special emphasis on lower risk chemicals and uses that are compatible with integrated pest management programs; to support research to enhance the development and registration of bio-pesticides for use in food and non-food pest management programs; and to support research on crop protection products that will expand their uses on ornamental crops to allow management of new and important pest species.

Since the program began, data generated by IR–4 has contributed to the approval of over 8,400 food-use and over 10,800 ornamental pest management product clearances and registrations. The IR–4 program supported clearances accounting for approximately 50 percent of all pest management registration packets approved by the EPA between 2001 and 2004. From 1999 through 2004, IR–4 data packages contributed to the registration of 3,780 food-crop products and 3,520 ornamental products, which are 46 percent and 32 percent, respectively, of all IR–4 supported registrations. During calendar year 2008, the EPA reviewed a record 41 chemistries for IR–4 Food Use Program tolerance petitions. The agency also eliminated the remaining backlog of IR–4 petitions making 2008 one of the most productive years for IR–4. Permanent pesticide tolerances on these were established on 241 chemicals that could result in 999 new specialty crop use registrations, many of which are considered reduced risk. IR–4 Ornamental Horticulture Program data supported seven new registrations and one registration amendment as well as four registrations in California. These IR–4 supported successes impacted 3,095 ornamental plant species. The Biopesticide Program funded 29 research projects to provide data to support expansion on a number of biopesticide registrations. IR–4's efforts supported 18 new or modified products which could provide 128 new biopesticide uses. IR–4 continued the crop group update by submitting a proposal to EPA to expand the tree nut crop group. In 2008, the IR–4 food crop program consisted of 573 field trials associated with 92 studies. The IR–4 Ornamental Horticulture program established 1,323 trials with greenhouse and field ornamental crops in support of company registrations decisions. All food use studies are conducted in compliance with Federal Good Laboratory Practice Standards. The IR–4 Quality Assurance Unit conducted 157 field and 73 analytical in-life inspections; and audited 651 field data books, 84 analytical summary reports, and 97 final or amended reports. In 2008, the Food Use Program submitted 151 data packages, involving 36 chemicals, and the Ornamental Horticulture Program submitted 12 data packages to registrants.

Grants have been awarded from appropriated funds as follows: Program redirection in fiscal year 1975, $250,000; fiscal years 1976–1980, $1,000,000 per year; fiscal year 1981, $1,250,000; fiscal years 1982–1985, $1,440,000 per year; fiscal years 1986–1989, $1,369,000 per year; fiscal year 1990, $1,975,000; fiscal year 1991, $3,000,000; fiscal years 1992–1993, $3,500,000 per year; fiscal year 1994, $6,345,000; fiscal years 1995–1997, $5,710,000 per year; fiscal years 1998–2000, $8,990,000 per year; fiscal year 2001, $8,970,222; fiscal year 2002, $10,485,000; fiscal year 2003, $10,673,171; fiscal year 2004, $9,549,325; fiscal year 2005, $11,145,120; fiscal years 2006 and 2007, $10,677,150 per year; fiscal year 2008, $11,367,864; fiscal year 2009, $12,000,000; and fiscal year 2010, $12,180,000. A total of $187,881,002 has been appropriated.

Field work is performed at locations that meet specific EPA requirements for appropriate geographic distribution of locations for regulatory data collection. The majority of IR–4 field research is conducted at 28 Field Research Centers in the following 20 States: California, Colorado, Florida, Hawaii, Idaho, Illinois, Maine, Maryland, Michigan, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oregon, South Dakota, Tennessee, Texas, Washington, and Wisconsin. In addition, the Agricultural Research Service (ARS) has cooperating IR–4 field research sites in California, Georgia, South Carolina, Ohio, Oregon, Texas, and Washington. IR–4 laboratory analyses are being conducted at Agricultural Experiment Stations in California, Florida, Michigan, and New York with assistance from State Agricultural Experiment Stations in Hawaii, North Carolina, and Washington. The ARS laboratories in Georgia, Maryland, and Washington also cooperate with the processing of residue sample analysis. Protocol development, data assimilation, writing

petitions, and registration processing are coordinated through the New Jersey Agricultural Experiment Station.

Funding applications are reviewed by senior agency technical staff. The findings of these reviews indicate progress in achieving the objective of providing safe and effective pest management alternatives for specialty crops growers. In May 2003, the agency sponsored a peer review of the project, which consisted of a science panel composed of representatives from the USDA, the EPA, commodity groups, the food processing industry, the crop protection industry, and land-grant universities. The review committee was asked to examine past IR–4 accomplishments, review the current organizational structure, operations and program, and help chart future directions for the program. The review panel report was issued in July 2003 with specific comments and recommendations for each of the above areas. The report ranked the IR–4 program as outstanding in carrying out its mission of facilitating the registration of new pest management products for specialty crops. A strategic planning conference was held in December 2008 to focus on future needs and opportunities. Participants believe that maintaining and enhancing the core objectives of the Food Use, Ornamental Horticulture, and Biopesticide programs is essential. An external peer review was conducted in May 2009.

JOINT UNITED STATES/CHINA BIOTECHNOLOGY RESEARCH AND EXTENSION, UTAH

The objective of this grant is to establish joint programs between the United States and China in agricultural biotechnology and related areas. Joint research programs will focus on animal models for the study of infectious diseases, natural bioactive compound development, and cellular communication networks; and agriculturally relevant crops and forages; livestock cloning and genetics; water resources; and climate change.

A collaborative project on sheep genomics between Utah State University and Yunnan University in Kunming has resulted in the training of graduate and postgraduate students with joint publications as outcomes.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $446,850; $420,000 in fiscal year 2009; and $210,000 in fiscal year 2010. A total of $1,076,850 has been appropriated.

The research is being conducted at Utah State University and at cooperating institutions in China.

Senior agency technical staff conduct a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission.

LEOPOLD CENTER HYPOXIA PROJECT, IOWA

The objective of this grant is the development of performance-based strategies for improving land management in the Upper Mississippi River basin by optimizing agricultural production on specific landscapes, facilitating land use change to create ecological buffers and water retention areas, and diversifying land use to increase production of perennials for bio-based and energy crops.

Demonstration sites for this project have been established and results of water quality improvement are being analyzed. One key issue is developing management alternatives for producers. To that end, the project continues to explore alternative methods to reduce nutrient losses from agriculture.

The work is being carried out through the Leopold Center for Sustainable Agriculture at Iowa State University in Ames, Iowa.

The project was initiated in fiscal year 2004. The appropriation for fiscal year 2004 was $223,673; for fiscal year 2005, $222,208; for fiscal year 2006, $219,780; for fiscal year 2007, $0; for fiscal year 2008, $112,209; and for fiscal years 2009 and 2010, $105,000 per year. A total of $987,870 has been appropriated for this project.

A programmatic review of this project is expected to be conducted in 2010. The most recent review was conducted by a NIFA National Program Leader who visited the campus at Iowa State University and met with project officials in fiscal year 2006. The Project leader met with the National Program Leader responsible for oversight of this project in 2008.

LIVESTOCK AND DAIRY POLICY, NEW YORK AND TEXAS

The objective of this grant is to provide timely and comprehensive analysis of numerous policy and technological changes affecting livestock and dairy farmers and agribusinesses and advise them and policymakers promptly of possible outcomes.

The program continues to provide timely assessments and evaluations of provisions and proposed changes in agricultural policies, the General Agreement on Tariffs and Trade, and the North American Free Trade Agreement; various income and

excise tax measures; and alternative pricing measures for milk. Work on most projects continues under Project 576. Accomplishments under various sub-projects of Project 594 include econometric models of price transmission processes in U.S. dairy markets. Both institutions maintain extension outreach programs to disseminate results of their analysis throughout the United States. They have organized a national Dairy Markets and Policy Extension Committee to advise and assist them in this effort. This committee was especially helpful to USDA in educating farmers about proposed milk marketing order changes last year.

Grants have been awarded from funds appropriated as follows: fiscal year 1989, $450,000; fiscal year 1990, $518,000; fiscal years 1991–1993, $525,000 per year; fiscal year 1994, $494,000; fiscal years 1995–1998, $445,000 per year; fiscal year 1999 and 2000, $475,000 per year; fiscal year 2001, $568,746; fiscal year 2002, $558,000; fiscal year 2003, $600,074; fiscal year 2004, $894,690; fiscal year 2005, $892,800; fiscal year 2006, $990,000; fiscal year 2007, $0; fiscal year 2008, $737,799; and fiscal years 2009 and 2010, $693,000 per year. A total of $12,395,109 has been appropriated.

The research is being conducted at Cornell University and Texas A&M University.

A formal evaluation of this project has not been conducted. Annual proposals for funding, however, are peer reviewed for relevance and scientific merit. The NIFA contact is also in regular contact with principal researchers at each institution to discuss progress toward project objectives.

MAPLE RESEARCH, VERMONT

The objective of the grant is to investigate several novel maple sap vacuum tubing collection systems in order to develop a cost-effective system that maximizes sap yield.

Research funded by the USDA Special Grants for Maple since 2005 has focused on the effects of sap processing technology on maple syrup chemistry and quality. Initial studies during the spring seasons of 2006 and 2007 examined the impacts of air injection of maple sap and concentrate on maple syrup chemical composition and flavor. In general, air injection, either of sap or concentrate, results in production of maple syrup that is significantly lighter in color, but with relatively few other changes of consequence. In 2008, as a result of producer desires to reduce energy consumption by further increasing reverse osmosis concentration, researchers compared the effects of boiling 8 degree Brix and 21 degree Brix sap concentrate. In addition to the initial "sweetening" boil, during the 2009 production season researchers were able to complete five test boils in two identical syrup evaporators with the different levels of sap concentrate. Laboratory analyses of syrup produced in these experiments are ongoing; however, it appears that for color grade, trends found in the 2009 season are similar to those observed in 2008, although syrup is produced at a considerably faster rate at higher concentrations.

Work under this project began in fiscal year 1985. Annual appropriations in support of this project are as follows: fiscal year 1985, $100,000; fiscal years 1986 and 1987, $95,000 per year; fiscal years 1988 and 1989, $100,000 per year; fiscal years 1990–1993, $99,000 per year; fiscal year 1994, $93,000; fiscal years 1995–1997, $84,000 per year; fiscal years 1998–2000, $100,000 per year; fiscal year 2001, $119,000; fiscal year 2002, $120,000; fiscal year 2003, $149,025; fiscal year 2004, $133,209; fiscal year 2005, $131,936; fiscal year 2006, $137,610; fiscal year 2007, $0; fiscal year 2008, $97,314; $155,000 in fiscal year 2009; and $165,000 in fiscal year 2010. The total appropriation was $2,739,094.

This research is being conducted at the Proctor Maple Research Center at the University of Vermont in Burlington.

The proposal was evaluated by NIFA Staff in September 2009. Approval was granted based on the quality of the proposal, the facilities, faculty, and previous Current Research Information System (CRIS) reports.

MEADOWFOAM, OREGON

The objective of this grant is to increase the productivity and profitability of meadow foam as an oilseed crop by developing new varieties that out-yield previously grown varieties. Four new experimental varieties were developed in 2008–2009 and planted for further increase and yield evaluation.

Breeding and genetics, weed management, and other research activities are being carried out in field, greenhouse, and laboratory facilities managed by the Department of Crop and Soil Science at Oregon State University, Corvallis. Assessment of herbicidal activity of glocosinolate derivatives is conducted at the Columbia Basin Agricultural Research Center, Pendleon, Oregon.

The work supported by this grant began in 1999, and the appropriation for fiscal years 1999–2000 was $300,000 per year; for fiscal year 2001, $299,340; for fiscal year 2002, $293,000; for fiscal year 2003, $293,083; for fiscal year 2004, $262,442; for fiscal year 2005, $259,904; for fiscal year 2006, $257,400; for fiscal year, 2007, $0; for fiscal year 2008, $191,649; and for fiscal years 2009 and 2010, $180,000 per year. A total of $2,816,818 has been appropriated.

Evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator as appropriate. In the fall of 2006, a discussion on progress was held with the Oregon Meadowfoam Oilseed Growers Association. The evaluation is conducted by the National Program Leader for Agricultural Materials who has determined that research is progressing and is in accordance with the mission of the agency.

MICHIGAN BIOTECHNOLOGY CONSORTIUM

The objectives of the grant are to increase the utilization of agricultural raw materials; to develop bioprocessing technology to manufacture products from agricultural raw materials; to reduce agricultural surpluses; and to reduce the need to import foreign petroleum, thereby decreasing environmental costs of agricultural products and processes.

Recent accomplishments include identification of a bacterium, Actinobacillus succinogenes, capable of utilizing both hexose and pentose sugars simultaneously for the production of succinic acid, demonstration that this organism is capable of converting hydrolyzed raw starch efficiently to succinic acid in a clean-not-sterile environment, and demonstration that biomass-derived sugar streams, generated through pre-treatment and hydrolysis of corn fiber, can serve as sugar sources in succinic fermentations. Additional goals for this project include: optimizing the physical, chemical and mechanical properties of cellulose in the form of nanowhiskers and microfibrils as reinforcement in polymer matrix nanocomposites; developing a biodegradable, thermoplastic cellulose polymer based on environmentally benign processing techniques; developing a commercially viable process for the production of succinic acid from bio-based feedstocks; and identifying new commercially attractive biobased technologies. Six promising technologies for new biobased products have been identified and further research on these technologies is being initiated.

The work supported by this grant began in fiscal year 1989, and the following amounts have been appropriated: in fiscal year 1989, $1,750,000; in fiscal year 1990, $2,160,000; in fiscal year 1991, $2,246,000; in fiscal years 1992–1993, $2,358,000 per year; in fiscal year 1994, $2,217,000; in fiscal year 1995, $1,995,000; in fiscal years 1996 and 1997, $750,000 per year; in fiscal years 1998–2000, $675,000 per year; in fiscal year 2001, $723,405; in fiscal year 2002, $481,000; in fiscal year 2003, $623,918; in fiscal year 2004, $558,684; in fiscal year 2005, $554,528; in fiscal year 2006, $549,450; in fiscal year 2007, $0; in fiscal year 2008, $409,116; and in fiscal years 2009 and 2010, $384,000 per year. A total of $23,277,101 has been appropriated.

This research is being conducted on the campus of Michigan State University and at the Michigan Biotechnology Institute. Technology demonstrations are occurring throughout the United States.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission.

MIDWEST CENTER FOR BIOENERGY GRASSES, INDIANA

The objective of this grant is to optimize bioenergy crops for their end-use production as biofuels by (1) exploring grass genetics for improved feedstock quality and quantity; (2) optimizing biomass architecture for end-use production; (3) developing cropping systems for plant production, sustainability, and cost efficiency; and (4) developing direct-conversion technologies for scalable and distributive hydrocarbon refineries.

Researchers have already engaged growers, ethanol producers, and implement companies to work with the research center to test and grow feedstocks and produce and assess the resulting ethanol. Test plots to determine soil characteristics and long-term sustainability have been established.

Fiscal year 2009 was the first year that funds were appropriated for this grant. An amount of $188,000 per year was appropriated for fiscal years 2009 and 2010. A total of $376,000 has been appropriated.

The research is being conducted by Purdue University at regional Purdue Agricultural Centers and at Purdue University's Water Quality Field Station.

Evaluation of this project is conducted yearly based on annual progress reports and discussions with the principle investigators over the course of the year. This project is making progress in accordance with the mission of the National Institute of Food and Agriculture.

MIDWEST POULTRY CONSORTIUM, IOWA

The objective of the grant is to conduct poultry research based on current and projected needs of the poultry system in the Midwest.

The Midwest Poultry Consortium priorities for the poultry industry in the Midwest are improving efficiency and sustainability of poultry production through integrated, collaborative research and technology transfer. This project has focused on identifying biomarkers for beneficial traits, mechanisms of muscle growth, and practices to reduce malodorous compounds; as well as developed new vaccines and food products. It has also developed new regional collaborative approaches in research and technology transfer involving land-grant and other universities, the Federal Government, and the private sector on priority areas of local needs and problems of regional/national scope.

Research projects supported by this grant began in fiscal year 2002 with an appropriation of $400,000. This was followed in fiscal year 2003 with $695,450; in fiscal year 2004, $626,283; in fiscal year 2005, $682,496; in fiscal year 2006, $675,180; in fiscal year 2007, $0; in fiscal year 2008, $502,458; and in fiscal years 2009 and 2010, $471,000 per year. The total amount appropriated is $4,523,867.

Research is conducted by member States of the Midwest Poultry Consortium Research, which are: Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Experts in other States collaborate on projects.

The progress under each project is reported yearly and found to be satisfactory. An annual merit review of projects is provided by staff.

MILK SAFETY, PENNSYLVANIA

The objective of this grant is to improve the safety of pasteurized fluid milk, addressing critical control points from pre-pasteurization contamination of milk from the distribution system to the consumer.

Researchers have gathered preliminary data that uses a general approach to identify single nucleotide polymorphisms which may lead to a rapid, cost effective method of differentiating E. coli O157:H7 strains. A bioreporter-based diagnostic test for detection of organic toxicants such as benzene, toluene, ethylbenzene, trichloroethylene, and xylene directly from milk and milk products was developed. The molecular beacon-based real-time Polymerase Chain Reaction assays for detection of foodborne pathogens, including Campylobacter jejuni, Escherichia coli O157:H7, Listeria monocytogenes, Salmonella, Staphylococcus aureus, and bioterrorism agent Bacillus anthracis, were developed.

Grants have been awarded for milk consumption and milk safety from funds appropriated as follows: fiscal years 1986–1989, $285,000 per year; fiscal year 1990, $281,000; fiscal year 1991, $283,000; fiscal year 1992, $284,000; fiscal year 1993, $184,000; fiscal years 1994–1998, $268,000 per year; fiscal year 1999, $250,000; fiscal year 2000 $297,500; fiscal year 2001, $374,175; fiscal year 2002, $600,000; fiscal year 2003 $745,125; fiscal year 2004, $667,041; fiscal year 2005, $703,328; fiscal year 2006, $780,120; fiscal year 2007, $0; fiscal year 2008, $586,863; fiscal year 2009, $771,000; and fiscal year 2010, $821,000. A total of $10,108,152 has been appropriated.

This research is conducted at the Pennsylvania State University, State College, Pennsylvania.

This project was evaluated in April 2009 by NIFA staff using Current Research Information System reports and the submitted proposal. This review by staff concluded that the Pennsylvania State University faculty and facilities are adequate for the successful completion of this project.

MINOR USE ANIMAL DRUGS

The objective of this grant is to facilitate the registration process for therapeutic compounds in minor food and fiber animal species. This cooperative effort between State, Federal and industry personnel will obtain minor and specialty animal drug clearances i.e. tolerances, exemptions, and registrations. The activities will include determining and prioritizing minor use needs and data requirements, reviews, analyzes and evaluations of minor use research proposals; developing and assembling data for minor use drug registrations; and preparing and submitting petitions for drug registrations.

Currently, data generated through this project has led to improved animal health and welfare due to new applications of drugs for minor species that are made available. This project will facilitate the safe and efficacious use of drugs to improve the health and welfare of minor animal species and facilitate use of drugs for minor uses in major animal species.

Fiscal year 2009 is the first year that funds were appropriated for this grant. However, this grant was previously funded starting in fiscal year 1982 through fiscal year 2006 with appropriations totaling $10,803,443. The fiscal years 2009 and 2010 appropriations are $429,000 per year for appropriations totaling $858,000.

The work is being carried out at Cornell University, the University of Florida, the University of California—Davis, and Iowa State University.

The fiscal year 2009 proposal was institutionally peer-reviewed at Cornell University, the University of Florida, the University of California—Davis, and Iowa State University. In addition, a NIFA National Program Leader reviewed the proposal and determined that the research project was appropriate and addresses important opportunities for better understanding of the need to obtain minor and specialty animal drug clearances. Furthermore, the feasibility, budget, time-frame, and facilities for the project were adequate. The National Program Leader noted that these ongoing research projects outline a program which builds upon established resources and responds to national research need for data on safe and effective drugs, such as are available for cattle, swine, and poultry.

MOLLUSCAN SHELLFISH, OREGON

The objectives of this grant are to establish a repository for molluscan shellfish germplasm, to establish breeding programs for commercial production of molluscan shellfish, and to establish a resource center for industry researchers and other interested parties in the United States and abroad.

The program has developed improved strains of oysters which have been evaluated by industry collaborators in Alaska, Washington, Oregon, and California. Several commercial oyster hatcheries have used the breeding program's broodstock to produce billions of spat for the west coast oyster industry and foreign markets. A repository has been established to conserve genetic materials from oyster lines with a redundant, second repository to protect the selected lines of oysters developed by this program and is co-administered and funded in partnership with industry collaborators.

The work supported by this grant began in fiscal year 1995 with an appropriation of $250,000; in fiscal year 1996, $300,000; in fiscal years 1997–2000, $400,000 per year; in fiscal year 2001, $399,120; in fiscal year 2002, $391,000; in fiscal year 2003, $392,433; in fiscal year 2004, $350,917; in fiscal year 2005, $348,192; in fiscal year 2006, $361,350; in fiscal year 2007, $0; in fiscal year 2008, $269,103; and in fiscal years 2009 and 2010, $253,000 per year. A total of $5,168,115 has been appropriated.

The work is being conducted by Oregon State University at their Hatfield Marine Science Center located in Newport, Oregon, in cooperation with commercial shellfish producers in California, Oregon, Washington, and Alaska.

The agency's National Aquaculture Program staff review the project annually as the proposals are submitted to the agency with details of planned research studies. The proposed research is consistent with the National Aquaculture Research and Development Strategic Plan. The Agency conducted a post-award management workshop in December 2009 that included reporting of progress and accomplishments with a focus on quality, performance, and relevancy.

MULTI-COMMODITY RESEARCH, OREGON

The objective of this grant is to provide agricultural market research and analysis to support Pacific Northwest producers and agribusinesses and to identify potential value-added markets and product opportunities in the Pacific Rim countries.

A couple examples of current work includes:

Marketing and Trade Economics.—The reinstatement of State slaughter and processing inspection programs could provide new opportunities for processing facilities and livestock producers in terms of value-added meat products and sales. For these and other reasons, ongoing work and surveys are being undertaken to assess interest in a State-Federal meat inspection program in Oregon and Washington.

Value-added Product Development.—A number of value-added projects were initiated over the past year, including product development activities, ingredient formulation, and shelf-life studies. There have been several ongoing laser technology projects to explore the benefits of laser scoring on fruits to increase infusion of high fructose corn syrup (HFCS) to produce a shelf stable product. An example is work

on blueberries where laser scoring followed by HFCS infusion provided a superior quality dehydrated product. However, preliminary test results of laser-scored frozen raspberries showed that laser scoring does not significantly improve the infusion rate, the dehydration rate, or the weight loss of the laser-scored raspberries compared to control raspberries. This is probably due to the more delicate skin of the raspberries compared to the harder outer core of blueberries.

The work supported by this grant began in fiscal year 1993. The appropriations amount to the following: fiscal year 1993, $300,000; fiscal year 1994, $282,000; fiscal years 1995–2000, $364,000 each year; fiscal year 2001, $363,199; fiscal year 2002, $356,000; fiscal year 2003, $397,400; fiscal year 2004, $354,894; fiscal year 2005, $353,152; fiscal year 2006, $349,470; fiscal year 2007, $0; fiscal year 2008, $260,166; and fiscal years 2009 and 2010, $244,000 per year. In total, this research project has received $5,688,281.

The work is being carried out at Oregon State University in Corvallis, and at the Food Innovation Center in Portland, Oregon.

NIFA conducted a merit review of the project in May 2001, as it evaluated the proposal submitted that year. This project was also assessed in 2005 in preparation for an external review of agricultural markets and trade as a portion of the Office of Management and Budget Performance Assessment Rating Tool. Furthermore, reports have been submitted to the Current Research Information System to reflect accomplishments for 2006, 2007, and 2008. Additionally, progress reports are being monitored for satisfactory accomplishments and timelines.

NATIONAL BEEF CATTLE GENETIC EVALUATION CONSORTIUM, COLORADO, GEORGIA, AND NEW YORK

The objective of this grant is to develop and implement improved methodologies and technologies for genetic evaluation of beef cattle to maximize the impact genetic programs have on the economic viability, international competitiveness, and sustainability of United States beef cattle producers, and to provide consumers with affordable and healthy beef products, and to develop one national system for the genetic evaluation for all breeds of beef cattle.

An outcome of this project is that producers will be able to alter nutrient composition of beef—for example, fatty acid composition, iron content, and others—through selection, which will enhance its nutritional value, thus improving human health. To achieve this outcome, Iowa State University researchers will determine nutrient composition of beef samples and evaluate any influence these nutrient components have on tenderness/sensory characteristics. For adaptation, researchers are developing phenotypic—reproduction and stayability—and Deoxyribonucleic Acid resources on populations of cattle at large ranches located around the United States. Stayability will be defined as the probability a female stays in the herd through three pregnancies. Cattle health is an important component to profitability. Over 2 years, 1,600 calves from a single large ranch will be owned by and fed at a cooperating feedlot. Data on incidence of disease, behavior, such as flight speed and chute behavior, and growth and carcass traits as well as Deoxyribonucleic Acid samples will be collected by Colorado State University. It is anticipated that 80 percent of the calves will be identified back to their sire through Deoxyribonucleic Acid parentage testing. Whole genome scans will be done on the sick calves and a representative sample of those identified as not being sick in the feedlot growing phase of the study. The National Beef Cattle Genetic Evaluation Consortium is involved in producer education through workshops and symposium and train-the-trainer educational events.

The work supported by this grant began in fiscal year 2001. The appropriation for fiscal year 2001 was $284,373; for fiscal year 2002, $343,000; for fiscal year 2003, $667,632; for fiscal year 2004, $671,018; for fiscal year 2005, $779,712; for fiscal year 2006, $871,200; for fiscal year 2007, $0; for fiscal year 2008, $655,380; for fiscal year 2009, $615,000; and for fiscal year 2010, $655,000. The total amount appropriated is $5,542,315.

Research is conducted at the three universities involved in the consortium: Colorado State University, Cornell University, and University of Georgia and three affiliates—Iowa State University, Kansas State University and University of Kentucky—which are collaborating in enhancing the national genetic evaluation system that producers widely use for making genetic improvements in their beef herds. Additionally, they collaborate with United States beef cattle breed associations and many purebred and commercial beef cattle operations in the United States.

The proposal was peer-reviewed at the university prior to submission. A merit review was conducted by the agency prior to funding. The NIFA National Program

Leader meets on a yearly basis with the project director and co-project directors to discuss and evaluate progress. It is concluded that this project is making progress.

NATIONAL CENTER FOR SOYBEAN BIOTECHNOLOGY, MISSOURI

The objective of this grant is to integrate basic and applied research to develop superior soybean cultivars that will help U.S. farmers maintain global competitiveness.

Researchers on have used the technique of fluorescence in-situ hybridization to create a karoytype of all soybean chromosomes. It has been difficult for researchers to map the physical locations of genes onto soybean chromosomes because soybean chromosomes are small, and all about the same size and shape. The new karyotype makes it possible for researchers to distinguish each distinct pair of soybean chromosomes. The results of this research were presented at an international conference in 2009 and will be submitted for publication in 2010. Using the new information from the karyotype, researchers have already detected a chromosome translocation in wild soybeans that is not present in domestic soybeans. This finding is of significance to soybean breeders who are working with wild soybeans to broaden the narrow genetic diversity of cultivated soybeans. It will help to predict and work around the loss of fertility that is often a barrier in crosses between wild and cultivated soybeans. Researchers are using information from the newly available soybean genome sequence to identify genetic markers for important, hard-to-select soybean traits. This year, they have identified quantitative trait loci, a type of linked genome markers, for Asian soybean rust and for soybean cyst nematode. They are particularly excited about the nematode resistance gene because it appears to be a different gene from the nematode resistance presently used in soybean breeding throughout the United States. The availability of different resistance genes will help protect this valuable crop.

The work supported by this grant began in fiscal year 2004. The appropriation for fiscal year 2004 was $894,690; for fiscal year 2005, $940,416; for fiscal year 2006, $977,130; for fiscal year 2007, $0; for fiscal year 2008, $734,820; and for fiscal years 2009 and 2010, $690,000 per year. A total of $4,927,056 has been appropriated.

Research is conducted at the University of Missouri at Colombia.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission.

NEMATODE RESISTANCE GENETIC ENGINEERING, NEW MEXICO

The objective of this grant is to provide an alternative approach for the control of plant parasitic nematodes and insects through the use of molecular biology to transfer pesticide resistance to plants.

Previous accomplishments include enhancing the genetic expression of natural pesticides, development of genetic constructs with improved effectiveness, adaptation of genetic promoters for specific crop plants, and molecular characterization of targeting sequences. Recent work has focused on development of engineered nematode resistance, development of molecular tools for rapid and highly accurate pest detection, and development of resistance genes to viral plant pathogens. Continuing work includes: cloning of a collagenase gene for nematode resistance from the model nematode C. elegans and creating transgenic plants that express this novel collagenase; development of transgenic plants that express novel Bt toxins which have shown promise as nematode resistance genes; development of molecular identification technology for rapid high accuracy identification of pests. Results of this research have been used to differentiate endemic and exotic species of fire ants, differentiate specific strains of alfalfa weevil which are morphologically indistinguishable but have different behaviors in the field, identify the occurrence of Pierce's disease, a highly important disease of grapes, in New Mexico, and for the continued development of genes that confer broad spectrum resistance to multiple plant viruses. During the coming year, researchers will focus on developing additional sequences that can be used to distinguish these and other hard to differentiate Meloidogyne species. This assay will be valuable for rapid identification of nematodes in the field, especially for Meloidogyne spp. that cannot be identified beyond the genus level using morphological characteristics of juveniles.

The work supported by this grant began in fiscal year 1991, and the following amounts have been appropriated: in fiscal years 1991–1993, $150,000 per year; in fiscal year 1994, $141,000; in fiscal years 1995–2000, $127,000 per year; in fiscal year 2001, $126,721; in fiscal year 2002, $147,000; in fiscal year 2003, $146,045; in fiscal year 2004, $130,227; in fiscal year 2005, $138,880; in fiscal year 2006,

$137,610; in fiscal year 2007, $0; in fiscal year 2008, $223,425; and in fiscal years 2009 and 2010, $209,000. A total of $2,820,908 has been appropriated.

Research is being conducted at New Mexico State University and at collaborating universities in the region.

Project proposals are subjected to peer review at the submitting institution and merit review by senior agency technical staff.

NEVADA ARID RANGELANDS INITIATIVE

The objectives of this grant are: (1) healthy rangelands for multiple uses; (2) improved campus-based range management education programs; (3) healthy economies at the ranch, community, and county level; and (4) public land decisionmaking models that value and support public inputs.

The project initiated a mini-grant program that is stakeholder-driven, integrated with Cooperative Extension as well as Federal and State agencies, and peer and stakeholder reviewed to address critical issues for the multiple uses of the Nevada arid rangelands and support for rural economies. Considerable progress has been made in invasive weed management, fuel load reduction, fire management and restoration of Great Basin rangelands; assessment of pinyon-juniper expansion; restoration of sagebrush, woodland, and riparian ecosystems; rangeland management/wildlife interactions including sage grouse and pygmy rabbit habitats, persistence of native plant species, disease transfer between bighorn and domestic sheep; the production of water efficient alternative crops such as native seed; and policies that affect the sustainability of agriculture and rural economies.

The work supported by this grant began in fiscal year 2000, and the appropriation for fiscal year 2000 was $255,000; fiscal year 2001, $299,340; fiscal year 2002, $400,000; fiscal year 2003, $521,588; fiscal year 2004, $467,227; fiscal year 2005, $480,128; fiscal year 2006, $498,960; fiscal year 2007, $0; fiscal year 2008, $365,424; fiscal year 2009, $376,000; and for fiscal year 2010, $500,000. A total of $4,163,667 has been appropriated.

Research is conducted at the University of Nevada Main Station Field Lab in Reno; the Gund Range Research Ranch outside of Austin in Eureka County, Nevada; Bureau of Land Management allotments near Elko and Winnemucca; and at selected ranches and other often remote offsite locations. Part of the project helps to fund student exchange with Turkmenistan.

NIFA expects to conducts a site visit in 2010. The institution conducts a mini-grant program that sends the proposals out for peer and stakeholder review and provides funding for the highest quality relevant projects that address the most critical issues facing their stakeholders. They instituted an annual review process where the project investigators provide a written and oral presentation regarding the progress the project is making toward obtaining its goals and plans for continuation. The NIFA National Program Leader for Rangeland and Grassland Ecosystems is in close contact with the project director and several of the mini-grant project directors for this research.

NEW CENTURY FARM, IOWA

An objective of this grant is to improve the cost-effectiveness of producing biofuels, bioenergy, industrial chemicals, and biobased products from corn and soybeans, and alternative cellulosic feedstocks such as corn grain fiber, corn cobs, corn stover, switch grass, and other sources of biomass. Another objective is to develop microbial co-products that are desired by the monogastric (swine and poultry) and ruminant livestock feed industry.

Progress to date has demonstrated opportunities to improve the energy and water balances in dry-grind ethanol plants and to produce a high-protein feed product for non-ruminants by cultivating the fungal organism Rhizopus microsporus on excess thin stillage. The fungi remove waste products from yeast fermentation. Waste products include glycerol, lactic, and acetic acids. Their removal resulted in the ability to recycle recovered water and enzymes. This greatly reduced energy input into the ethanol process by avoiding the need for evaporating thin stillage. A provisional patent has been filed for five strategies to recover corn germ, during or after fermentation to improve ethanol yield, recover edible oil, and improve quality of ethanol feed coproducts. Laboratory-scale work has shown that oleaginous yeast grows well and accumulates oil when cultivated on glycerol, a byproduct of biodiesel production; therefore, the glycerol byproduct serves as a feedstock for biodiesel.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $223,425; $282,000 in fiscal year 2009; and $350,000 in fiscal year 2010. A total of $855,425 has been appropriated.

The research is conducted at Iowa State University.

A report of progress in fiscal year 2009 has been evaluated, and it has been determined that progress is being made.

NEW CROP OPPORTUNITIES, KENTUCKY

The objective of this grant is to develop, demonstrate, and assist in the adoption of more profitable production and marketing systems for horticultural crops and specialty grains.

Accomplishments include the establishment of a Web site to provide information to farmers and extension agents about the Center's research, and to provide information on additional crops. The Web site now includes profiles of 123 crops with production, marketing, and budget information to help farmers determine if a particular crop is right for them. The Web site also offers links to decision aids available through the University of Kentucky's Department of Agricultural Economics, crop budgets, and price reports from farmers markets and produce auctions around the State. Kentucky's farmers markets have grown steadily for the past 5 years, and growers throughout the State use the New Crops price reports as guidelines for pricing their produce and value-added products. The State's farmer's market vendors totaled more than 2,000 in 2009. Training sessions have been offered around the State to help extension agents learn how to aid farmers in their counties who want to try new crops. Sweet sorghum research led to the release of the male-sterile hybrid KN Morris. In 2009, more than 1,000 pounds of KN Morris seed was sold. This indicates that more than 300 acres and over 100 producers are growing the variety. A recent budget for sweet sorghum estimated that net profits of more than $2,500 per acre are possible. In addition, the sweet sorghum improvement project has produced and distributed seed of several varieties for which there is a demand for small quantities worldwide, primarily for ethanol research. Breeding triple-null soybean cultivars was among the original New Crops research projects in 2000. In 2009, the Kentucky Agricultural Experiment Station Seed Commodity Committee approved the release of KY04-ns-309, a soybean with a black seed coat and yellow cotyledons that is a triple seed lipoxygenase null. Evaluation of flax and chia as potential new crops for Kentucky began in 2006. A patent is being pursued for development of early flowering chia (Salvia hispanica) varieties. Research has included projects on improved production techniques that will benefit organic vegetable, fruit and grain farmers, and a training session on organic production and irrigation was offered to extension agents in 2009. Research has also included projects on conventional produce, as well as floriculture and nursery crops. Flowering dogwood research has saved producers $3,250 per acre. Eight years ago, the value of all horticulture cash receipts in Kentucky was $78.6 million. Kentucky's vegetables, fruit, nursery and greenhouse industries have grown steadily, and current industry sales trends point toward 2009 gross sales of approximately $115 to $120 million.

The work supported by this grant began in fiscal year 2000, and the appropriation for fiscal year 2000 was $595,000; for fiscal year 2001, $723,405; for fiscal year 2002, $735,000; for fiscal year 2003, $737,177; for fiscal year 2004, $659,088; for fiscal year 2005, $724,160; for fiscal year 2006, $752,400; for fiscal year 2007, $0; for fiscal year 2008, $559,059; and for fiscal years 2009 and 2010, $525,000 per year. The total amount appropriated is $6,535,289.

The work is being conducted at the University of Kentucky, its research centers in Eastern and Western Kentucky, at arboreta and botanical gardens, and on cooperating farms across the State.

A peer review of the proposal has been conducted by the submitting institution. Additionally, senior agency technical staff conducted a critical review of the proposal prior to awarding the grant. Based on the peer review, the agency's review, and the grantee progress reports, the project has been successful in meeting its objectives of developing and assisting in the adoption of more profitable production and marketing systems for horticultural crops and specialty grains.

NEW SATELLITE AND COMPUTER-BASED TECHNOLOGY FOR AGRICULTURE, MISSISSIPPI

The objective of this grant is to evaluate site-specific technologies and develop recommendations for management decisions related to fertilization, pest control, and other cultural practices for agricultural crop production in the mid-South.

Yield monitors and variable-rate fertilizer applications have been evaluated, both operationally and economically, and are being commercially adopted by farmers. Research projects have resulted in new decision support systems and have led to new agricultural production systems that are being marketed by small businesses. Thirteen invention disclosures, and an equal number of patent applications, are in process at the institution.

The work supported by this grant began in fiscal year 1997 under the former project title Advanced Spatial Technologies with an appropriation of $350,000; for fiscal year 1998, $600,000; for fiscal years 1999–2000, $1,000,000 per year; for fiscal year 2001, $997,800; for fiscal year 2002, $978,000; for fiscal year 2003, $982,572; for fiscal year 2004, $879,778; for fiscal year 2005, $935,456; for fiscal year 2006, $926,640; and for fiscal year 2007, $0. In fiscal year 2008, $697,086 was appropriated under the current project title New Satellite and Computer-Based Technology for Agriculture; and in fiscal years 2009 and 2010, $654,000 per year. The total amount appropriated is $10,655,332.

The research is being conducted on various Mississippi Agricultural Experiment Station facilities and farmer fields around the State.

The project is subject to a thorough institutional peer review during preparation of the grant proposal. In addition, individual experiments comprising the project are subject to a year-end assessment of progress by project staff. Submitted proposals undergo merit review by one or more agency scientists. A comprehensive review by a panel of outside experts was conducted following the 2001 crop season. This review provided suggestions to strengthen and sharpen the focus beginning with the 2002 fiscal year, including establishment of an advisory board. A strategic planning effort to identify priorities and improve management was initiated and now guides the focus of current work. To better delineate initiation-completion cycles for individual experiments, beginning in fiscal year 2007, individual experiments have been reviewed and funded in total at initiation, rather than allocating continuation funding on an annual basis.

OIL RESOURCES FROM DESERT PLANTS, NEW MEXICO

The objectives of this grant are to examine the expression patterns of 12 putative wax synthases in the wild plant of the mustard genus of oilseeds, and to use bioinformatics approaches to identify numerous candidate genes for wax and oil synthesis in other species such as grapes, rice poplar trees, and others.

The expression of industrial oils in plants through genetic engineering has proven difficult due to several characteristics of the oil-producing process in plants. The genes for specialty oils are difficult to isolate, and successful expression of desired oils involves complex interactions of several metabolic pathways and biochemical support components.

This research began in fiscal year 1989 with a $100,000 grant under the Supplemental and Alternative Crops program. Grants have been awarded under the Special Research Grants program as follows: for fiscal year 1990, $148,000; for fiscal years 1991–1993, $200,000 per year; for fiscal year 1994, $188,000; for fiscal years 1995–1996, $169,000 per year; for fiscal years 1997–2000, $175,000 per year; for fiscal year 2001, $174,615; for fiscal year 2002, $196,000; for fiscal year 2003, $223,538; for fiscal year 2004, $200,808; for fiscal year 2005, $211,296; for fiscal year 2006, $208,890; for fiscal year 2007, $0; for fiscal year 2008, $186,684; and for fiscal years 2009 and 2010, $176,000 per year. A total of $3,827,831 has been appropriated.

The research is being conducted by the Plant Genetic Engineering laboratory at New Mexico State University at Las Cruces.

The project is evaluated by senior agency technical staff based on the annual progress report. A site visit was made in April 2005. Progress in the metabolic engineering of target organisms was determined to be satisfactory and meets the mission of the agency.

ORGANIC CROPPING, OREGON

The objectives of this grant are to develop a fertilizer calculator for cover crop systems; investigate biological pest management strategies to encourage beneficial predator; screen onion and broccoli varieties for suitability in organic systems; and identify weed control strategies for forage systems and cereal crop systems.

Accomplishments to date include establishing plots, collecting data and disseminating information on organic cereal crops, an organic fertilizer calculator for cover crops, vegetable variety trials, and beneficial ground beetle activities.

The project began in fiscal year 2008 with an appropriation for of $148,950; in fiscal year 2009, $140,000; and in fiscal year 2010, $149,000. A total of $437,950 has been appropriated.

The work is being carried out at Oregon State University and on working farms in the State.

Fiscal year 2008 is the first year that funds were appropriated for this grant so NIFA has not conducted an evaluation of this project.

ORGANIC CROPPING, WASHINGTON

The objective of this grant is to address multiple areas of interest identified by the organic industry including organic seed protection and production, understory management in tree and vine crops, organic weed control for annual crops, organic pest and nutrient management, and analysis of economic and marketing trends.

Organic seed treatments were tested for their ability to control soil-borne diseases in vegetables, and several show promise. After evaluating vegetable varieties, several new varieties were released. Research on integrating organic grain and livestock production in dryland farming is being conducted on two organic farms has shown that after alfalfa take-out, organic grains yielded similarly to the conventional local average as long as the alfalfa was successfully taken out. Integration of organic crops with livestock was economically successful in 2008 both for livestock producers adding a grain component and for grain producers adding a livestock component. Results have been shared in 29 presentations at conferences and field days and on the Web site of Washington State University's Center for Sustaining Agriculture and Natural Resources. Five scientific journal articles and three non-refereed reports have been published. The systems, methods, and products evaluated by this program are used not only by certified organic and transitional organic farmers but also increasingly by conventional producers as economic, environmental, safety, and market pressures increase. Several of these subprojects have the potential to advance sustainable agriculture on a national scale. New wheat varieties will be developed and selected in organic systems and will be available to wheat growers throughout the United States. Organic vineyard management techniques will be relevant to growers in other regions of the country with similar wet growing conditions. Organic seed treatment results will be relevant to all growers regardless of location. Orchard management for nitrogen and cover crops will be relevant to orchard growers with similar dry growing conditions.

The work supported by this grant began in fiscal year 2003, and the appropriation for fiscal year 2003 was $124,188; for fiscal year 2004, $223,673; for fiscal year 2005, $359,104; for fiscal year 2006, $355,410; for fiscal year 2007, $0; for fiscal year 2008, $264,138; for fiscal year 2009, $248,000; and for fiscal year 2010, $264,000. A total of $1,838,513 has been appropriated.

The work is being carried out at university research farms, laboratories, greenhouses, and other facilities at Washington State University, and on the farms of cooperating growers in Washington State.

Annual proposals and progress reports are reviewed by senior agency technical staff. The research is addressing industry needs and shows good stakeholder involvement and responsiveness.

ORGANIC WASTE UTILIZATION, NEW MEXICO

The objective of this grant is the qualification of the effects of applying dairy-derived compost as a soil amendment, relating nutrient availability, plant growth, irrigation requirements, and heavy metal uptake when compared to applications of raw dairy waste.

Compost application regarding soil fertility, plant growth, water retention, and salinity is on-going. The new composting technology has little to no investment in specialized equipment materials for the bio-reactor process cost less than $35.00/unit, produces no odors or commonly associated insects problems, amenable to scaling up, reduces volatilization and leaching of nutrients to minimal amounts, reduces the composting time cycle up to 75 percent, reduces water usage by a factor of 6, and results in a low salinity 2–3 mS/cm^2, nutrient rich, high-microbial-biodiversity compost. Standards for the use of compost for land reclamation are being developed in collaboration with State agencies.

The work supported by this grant began in fiscal year 1996, and the appropriation for fiscal year 1996 was $150,000; for fiscal years 1997–2000, $100,000 per year; for fiscal year 2001, $99,780; for fiscal year 2002, $100,000; for fiscal year 2003, $99,350; for fiscal year 2004, $88,475; for fiscal year 2005, $93,248; for fiscal year 2006, $92,070; for fiscal year 2007, $0; for fiscal year 2008, $74,475; and for fiscal years 2009 and 2010, $69,000 per year. A total of $1,355,398 has been appropriated.

This work is being carried out in New Mexico under the direction of Waste-management Education and Research Consortium: A Consortium for Environmental Education and Technology Development in collaboration with Canon Consulting. Other collaborators include the Composting Council, N-Viro in Ohio, Plains Electric, and McKinley Paper in New Mexico.

This project has been evaluated based on the annual progress report and discussions with the principal investigator in the winter of 2009. The NIFA National Program Leader for Animal Manure Management has reviewed the project and deter-

mined that progress is satisfactory and that the research is conducted in accordance with the mission of this agency.

PEACH TREE SHORT LIFE RESEARCH, SOUTH CAROLINA

The objective of this grant is to find a long-term solution to a disease syndrome known as Peach Tree Short Life by development and testing of Guardian rootstocks. These rootstocks have been introduced in 22 States and their performance has been good for the most part. However, they report an unacceptable amount of genetic variation in seedlings produced by clones of the original resistant parents. The investigators are using molecular marker-assisted techniques to improve the seedling selection process. Practical field strategies for control of the infectious nematodes, based on non-chemical and biological methods are also being developed. The efficacy of a wide variety of fungicides with different modes of action was determined under lab conditions for control of Armillaria tabescens. A replicated research trial investigating pre-plant practices to manage Armillaria root rot was established on a commercial replant site near Ridge Spring, South Carolina.

Grants have been awarded from funds appropriated as follows: fiscal year 1981, $100,000; fiscal years 1982 to 1985, $192,000 per year; fiscal years 1986 to 1988, $183,000 per year; fiscal year 1989, $192,000; fiscal year 1990, $190,000; fiscal years 1991 to 1993, $192,000 per year; fiscal year 1994, $180,000; fiscal years 1995 to 2000, $162,000 per year; fiscal year 2001, $178,606; fiscal year 2002, $175,000; fiscal year 2003, $260,297; fiscal year 2004, $232,619; fiscal year 2005, $264,864; fiscal year 2006, $275,220; fiscal year 2007, $0; fiscal year 2008, $207,537; and fiscal years 2009 and 2010, $195,000 per year. A total of $5,511,143 has been appropriated.

This research is being conducted at the South Carolina Agricultural Experiment Station.

The last agency evaluation of this project was a merit review completed in April 2005. This evaluation concluded that the evaluation of peach rootstocks with resistance to peach tree short life is of continued importance in managing this disease. Integrated management practices are currently being evaluated. Results with "BY520–9" have been so encouraging that a program has been implemented with commercial nurseries to provide peach growers this rootstock on an experimental basis, while testing progresses in the southeastern United States. Guardian® Brand "BY520–9" is not resistant to ring nematodes, but peach trees on this rootstock thrive for many years in nematode-infested soil.

PERENNIAL WHEAT, WASHINGTON

The objectives of this grant are the development of perennial wheat lines, to test promising lines for agronomic and grain quality characters, and to develop a management system for their use on erodible land in the Pacific Northwest.

Results indicate that there is no relationship between grain yield and regrowth among wheat lines exhibiting a perennial habit. The significance of this data is that it should be possible to develop perennial wheat lines that yield as much as annual wheat.

The research began in fiscal year 2003, and the appropriation for fiscal year 2003 was $149,025; for fiscal year 2004, $133,209; for fiscal year 2005, $140,864; for fiscal year 2006, $139,590; for fiscal year 2007, $0; for fiscal year 2008, $104,265; and for fiscal years 2009 and 2010, $98,000 per year. A total of $862,953 has been appropriated.

This research is conducted at the Washington State University research farm and on fields of participating farmers.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission. A site review was conducted in 2003, which found the project to be well organized and managed.

PEST MANAGEMENT ALTERNATIVES

The objective of this grant is the development and implementation of pest management alternatives when regulatory action by the Environmental Protection Agency, voluntary action by the registrant, or other circumstances results in the unavailability of certain pesticides or pesticide uses.

These activities have pertained to pesticides identified for possible regulatory action under the Food Quality Protection Act of 1996. Through these grants, new pest management tools and techniques are being developed to address critical pest problems identified by pest managers and other stakeholders. This program has initiated a process to address regional priorities established by these stakeholders.

Grants have been awarded from funds appropriated as follows: fiscal years 1996 through 2000, $1,623,000 per year; fiscal year 2001, $1,619,429; fiscal year 2002, $1,619,000; fiscal year 2003, $1,608,477; fiscal year 2004, $1,448,404; fiscal year 2005, $1,436,416; fiscal years 2006 and 2007, $1,421,640 per year; fiscal year 2008, $1,412,046; fiscal year 2009, $1,412,000; and fiscal year 2010, $1,434,000. A total of $22,948,052 has been appropriated.

All State agricultural experiment stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals are eligible to compete for this funding. This research is currently being carried out by State agricultural experiment stations and other research organizations located in several States.

Each new request for applications and all submitted project proposals are evaluated annually by a regional panel for relevancy and a national panel for scientific merit. Reviews are held annually to evaluate the progress and scope of this program. The conclusions continue that the program is on course and making good progress. The projects supported by this special research grant program have consistently provided key knowledge needed in developing new approaches to pest management.

PHYTOPHTHORA RESEARCH, GEORGIA

The objective of this grant is to reduce the loss of vegetable crops due to Phytophthora capsici, evaluating efficacy and economics of the following practices: Remediation of infected sites, containment of Phytophthora and limit spread, development and testing of new control measures including soil treatments, rotational crops, and testing and treating water sources used for irrigation.

Information on preventive and containment measures will be distributed and recommendations will be demonstrated with research plots on grower farms. Integrated management practices are being moved into the farm sector and on-going monitoring techniques are being developed.

The work supported by this grant began in fiscal year 2006 with an appropriation of $255,420; for fiscal year 2007, $0; for fiscal year 2008, $189,663; and for fiscal years 2009 and 2010, $178,000 per year. A total of $633,083 has been appropriated.

The research is being conducted at facilities operated by the University of Georgia College of Agricultural and Environmental Sciences in Tifton, Georgia.

The project proposal will be peer reviewed at the submitting institution where it will be evaluated for technical quality and relevance to regional goals by experts with the scientific knowledge and technical skills to conduct the proposed research work. The reviewers will read and make comments that will be incorporated into the proposal by the project director. The agency national program staff with expertise in plant pathology will evaluate the submitted proposal. Progress reports will be submitted each year. Additional merit review is conducted annually by senior agency technical staff prior to making a funding recommendation.

PHYTOPHTHORA RESEARCH, MICHIGAN

The objective of this grant is to reduce the loss of vegetable crops due to Phytophthora capsici by: developing new techniques to prevent Phytophthora contamination of irrigation sources because the disease can spread through water; identifying and developing Phytophthora-resistant varieties; developing new techniques for Phytophthora control, including soil additives, mulches, crop rotation and water management; testing fungicides, biological controls and other new agents that might control Phytophthora; conducting on-farm research trials and hands-on grower workshops; and investigating the Fraser fir as a host to the Phytophthora capsici that historically has only affected vegetable crops.

Five surface water sites used for vegetable irrigation were monitored for Phytophthora in two regions of the State. Phytophthora was recovered from all five sites from mid-June to mid-August. Nearly 4,000 acres of vegetable production were impacted by our findings. In response, six wells have been drilled and will be used as a source of clean irrigation water that is free of Phytophthora. Using clean irrigation water will protect Michigan's vegetable crops and reduce the spread of Phytophthorato clean fields. Research was also focused on developing Phytophthora-resistant varieties. The fruit of 31 cucumber cultigens were screened for resistance to Phytophthora. None of the 31 cultigens exhibited complete resistance, however, six were identified that reduced spore production. Fruit from a variety of cucurbit crops was tested for age-related loss in susceptibility to Phytophthora. For those crops with age-associated increase in resistance, protection by fungicides will be most critical at the early stages of fruit development. Efforts was also directed toward the development of new techniques for Phytophthora control, including soil ad-

ditives, mulches, crop rotation and water management. Field experiments were conducted on a commercial farm to test the effects of cover crops and raised plant beds on the management of Phytophthora. The cover crops including oilseed radish, brown mustard, and oriental mustard, provided some control of the disease but would need to be combined with other management tools. In some regions of the State where vegetable and Christmas tree production occur in the same regions, growers will need to be especially aware of this pathogen's ability to infect vegetables and Fraser fir as our current research identifies Fraser fir as a host of Phytophthora capsici. Resources were also focused on testing fungicides, biological controls and other new agents that might control Phytophthora. Twenty-five products, including three biopesticides, three reduced-risk, and five experimental fungicides, were tested alone and in combination in six field trials during 2006 for management of Phytophthora on squash, cucumber, and bell peppers with up to 75 percent increased yield compared to controls. The original objectives were expanded to integrate control techniques and then to conduct on-farm research trials and hands-on grower workshops. Fungicide and water management trials were conducted on commercial farms and 21 presentations were made to growers.

The work supported by this grant began in fiscal year 2006 with an appropriation of $495,000; for fiscal year 2007, $0; for fiscal year 2008, $368,403; and for fiscal years 2009 and 2010, $346,000 per year. A total of $1,555,403 has been appropriated.

The work is being conducted at Michigan State University with field research and demonstration plots with commercial growers in Michigan.

The project proposal is peer reviewed at the submitting institution where it is evaluated for technical quality and relevance to regional goals by experts with the scientific knowledge and technical skills to conduct the proposed research work. The reviewers read and make comments that will be incorporated into the proposal by the project director. Senior agency technical staff evaluate the submitted proposal and also conduct merit reviews. Progress reports are submitted each year.

PHYTOSENSORS FOR CROP SECURITY AND PRECISION AGRICULTURE, TENNESSEE

The objective of this grant is to develop a biodetection system that can sense and report the presence of plant pathogens prior to symptom appearance and spread. The project will combine state-of-the-art technologies in biotechnology and photonics to produce crop plants that can be used as early warning sentinels for the detection of plant diseases.

Current research has focused on developing this biodetection system, showing proof-of-concept, and initiated preliminary studies of the biodetection system. Research work is underway to reach this goal. In 2009, the proposed work has resulted in seven publications with two additional manuscripts in preparation.

Fiscal year 2009 was the first year that funds were appropriated for this grant with an amount of $700,000; and for fiscal year 2010, $1,000,000. A total of $1,700,000 has been appropriated.

The work is being carried out at the University of Tennessee at Knoxville.

The agency has not evaluated this project, since fiscal year 2009 is the first year that funds were appropriated for this research.

PIERCE'S DISEASE, CALIFORNIA

The objective of this grant is to control Pierce's Disease, through the development of resistant grape clones, supplemented with integrated management methods.

Recent research has revealed both conventional and transgenic approaches to creating grapevines with resistance to the causative agent. Other research is exploring new and conventional methods to controlling the sharpshooter vectors. Other supported research has identified proteins contributing to the pathogenicity and virulence of the causative agent.

The work supported by this grant began in fiscal year 2001, and the amount appropriated was $1,895,820; in fiscal year 2002, $1,960,000; in fiscal year 2003, $2,235,375; in fiscal year 2004, $2,013,053; in fiscal year 2005, $2,071,296; in fiscal year 2006, $2,188,890; in fiscal year 2007, $0; in fiscal year 2008, $1,630,506; in fiscal year 2009, $1,531,000; and in fiscal year 2010, $2,000,000. The total amount appropriated is $17,525,940.

The research is being carried out by the University of California Division of Agriculture and Natural Resources. Funds are awarded competitively to scientists in California and from other universities in the United States with pertinent expertise in research on Pierce's disease.

The agency evaluated the project in August 2009. In December 2009, senior agency technical staff also evaluated individual research projects competitively awarded

in 2009. Research projects from this grant are addressing the research objectives for scientific advances to control Pierce's disease and are integrated and complementary with other research programs on Pierce's disease.

POLICY ANALYSES FOR A NATIONAL SECURE AND SUSTAINABLE FOOD, FIBER, FORESTRY AND ENERGY PROGRAM, TEXAS

The objective of this grant is to conduct quantitative policy analysis of food, farm, fiber, forest, and international economies. The model estimates the aggregate economic impacts of exogenously specified bio-fuel production on all endogenous variables in the model, including price, utilization by category, regional acreage planted and harvested, and production for each crop for each year simulated dynamically starting with historically data and simulating into the future as far as the 2030/31 crop year.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $148,950; in fiscal year 2009, $140,000; and in fiscal year 2010, $200,000. A total of $488,950 has been appropriated.

The research will be conducted at Texas A&M University and Auburn University.

Fiscal year 2008 was the first year that funds were appropriated for this grant so NIFA has not conducted an evaluation of this project. However, the principal investigator and the National Program Leader maintain regular contact.

POTATO CYST NEMATODE, IDAHO

The objectives of this grant are to develop an understanding of potato cyst nematode reproduction, evaluate bio-fumigants to eradicate nematodes and cysts, and evaluate the use of microbial, fungal and plant bio-control approaches to reduce the level of viable cysts in the field.

Thus far, reproduction research has involved developing informational resources on nematode production, equipping facilities for processing and collecting cysts, and developing protocols for producing new generations of cysts from field harvested nematodes. This project has facilitated establishing contacts with research programs in Scotland and Northern Ireland, leveraging the understanding of this pest and how to manage it as we deal with issues of global food security. The rearing protocol has been established and cysts are being produced for use in controlled studies. Isolation and identification of potential microbial and fungal bio-control agents of G. pallida have been isolated from field samples that could explain the initial low hatching rate of the field cysts. Eleven fungal species and four bacteria were isolated from the field derived G. pallida cysts, based on DNA sequence evaluation. These microbes may have value as biological control agents. Initial successes have been achieved on the cyst viability question. Staining techniques are being perfected, but initial results indicate that shorter staining periods, as little as 2 days may be sufficient without contributing to nematode mortality due to the test. Extracts from Brassica juncea and Sinapsis alba seed meal is being evaluated as potential biofumigants to control G. pallida. Hatching and viability studies indicate that the extracts do affect nematode egg and juvenile viability, but studies on cysts will be conducted in 2010. Potato germplasm screening for potential resistance to G. pallida has been initiated in association with Agricultural Research Service potato breeders in Idaho and Washington. Several potential candidate genotypes were identified with most being products of interspecific crosses with wild potato relatives. A second study using germplasm from the National Plant Germplasm System is currently underway to evaluate less adapted genotypes as potential sources of resistance to G. pallida. The research program is providing G. pallida cysts and facilities for work by other G. pallida related programs. The research program facilitated Agricultural Research Service weed host studies which resulted in the identification of one nightshade species that could serve as an alternative host for G. pallida. The program supplied cysts and laboratory facilities for diffusate fractionation studies that resulted in the potential isolation of a fraction that induces a higher rate of hatching. This work could lead to the development of a method to induce hatching of G. pallida in the field without an adequate host. G. pallida cysts and DNA from J2 juveniles was sent to Agricultural Research Service researchers in New York for molecular studies of G. pallida. To facilitate eradication efforts by the Animal and Plant Health Inspection Service in southern Idaho, G. pallida cysts were supplied to serve as controls in viability studies for potential deregulation of fumigated G. pallida fields. One additional project was efficacy testing of several fumigants on G. pallida cysts. Field trials were conducted under controlled conditions and found all tested fumigants to be effective.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $372,375; and $349,000 per year in fiscal years 2009 and 2010. A total of $1,070,375 has been appropriated in the 3 years of the project.

An evaluation of this project has not been conducted since funds were first appropriated and provided late in fiscal year 2008.

POTATO BREEDING RESEARCH PROGRAM

The objective of this grant is to improve production and quality of potatoes for processing and fresh market by breeding new potato varieties that are high yielding, disease and insect resistant, and adapted to the growing conditions in their particular areas, both for fresh market and processing.

Potato breeders must provide farmers with outstanding levels of performance in more different traits than perhaps any other crop. A farmer typically needs a potato variety with resistance to 6 to 10 diseases and pests, and 3 to 5 types of tolerance to stresses such as drought, heat, and frost, and adaptation to sustainable and region-specific production practices; and even more qualities for processing or cooking quality and tuber appearance. In the northeastern region, grower demand for three promising experimental varieties outstripped seed production capacity, and adoption of two specialty varieties by small-scale fresh market growers increased. An advanced variety with good late blight and nematode resistance is ready for use as a parent, to reduce use of pesticides and reduce growers' loss to pests. Area planted to a recent release, the heat-necrosis resistant variety Harvey Blackwell, increased significantly this year. The North Central region has a large number of novelty potatoes, over 100 selections, in advanced trials. In the Northwest region, three new varieties were released. One of these uses 10 to 25 percent less water than standard older varieties and is expected to replace the older varieties over much of the acreage. An earlier release, Alturas, requires only half the nitrogen of standard varieties; this variety was grown on 14,000 acres this past year, with a total savings to producers of about $1.7 million. A molecular marker was developed and is in use to select for resistance to a prevalent virus that is difficult to detect visually. In the Western region, about 60 percent of production acres and a similar percentage of certified seed acres were planted to varieties developed by this project.

Grants have been awarded from funds appropriated as follows: fiscal year 1983, $200,000; fiscal year 1984, $400,000; fiscal year 1985, $600,000; fiscal years 1986 and 1987, $761,000 per year; fiscal year 1988, $997,000; fiscal year 1989, $1,177,000; fiscal year 1990, $1,310,000; fiscal year 1991, $1,371,000; fiscal years 1992 and 1993, $1,435,000 per year; fiscal year 1994, $1,349,000; fiscal years 1995–1998, $1,214,000 per year; fiscal years 1999 and 2000, $1,300,000 per year; fiscal year 2001, $1,446,810; fiscal year 2002, $1,568,000; fiscal year 2003, $1,573,704; fiscal year 2004, $1,408,640; fiscal year 2005, $1,496,928; fiscal year 2006, $1,482,030; for fiscal year 2007, $0; for fiscal year 2008, $1,104,216; for fiscal year 2009, $1,037,000; and for fiscal year 2010, $1,436,000. A total of $30,369,328 has been appropriated.

The work is being conducted at State agricultural experiment stations in Idaho, Oregon, Washington, Michigan, Wisconsin, Minnesota, North Dakota, New York, Maine, Pennsylvania, Virginia, North Carolina, Ohio, Florida, New Jersey, Colorado, Texas, and California.

The agency publishes a request for proposals each year for this project. Funds are awarded after a national-level scientific peer review. Comments from these agency-managed reviews have resulted in increased collaboration among States and among stakeholder groups, and improved technical quality of the research.

PRECISION AGRICULTURE, ALABAMA

The objective of this grant is to evaluate and demonstrate the utility of geospatial applications to crop and forest production in Alabama.

Research has begun to develop improved relationships between dynamic soil processes and soil hydraulic properties; develop and evaluate variable-rate application technologies, e.g., fertilizer, pesticides; improve sub-stand-level management in forestry operations; and develop precision irrigation technologies. Adoption of precision agriculture tools and technologies has increased in Alabama, with demonstrated economic savings of $2 to $8 per acre for spraying operations. In 2009, there was a 15 percent increase in the adoption of subsurface drip irrigation, which provides yield benefits over rain-fed crops.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $445,857; and for fiscal years 2009 and 2010, $419,000 per year. A total of $1,283,857 has been appropriated.

The research will be conducted at Auburn University, on experiment station farms, and in producer fields in Alabama.

The project is subject to a thorough institutional peer review during preparation of the grant proposal. Submitted proposals undergo merit review by one or more agency scientists.

PRECISION AGRICULTURE, KENTUCKY

The objective of this grant is to develop and evaluate precision agriculture technologies and provide producers with guidelines for adoption. Research focuses on agricultural practices and forestry and natural resources.

Mini-grants are awarded that address both economic and environmental issues related to soil variability and the application of precision technologies. To date, more than 80 research papers have been produced that highlight advances in nitrogen management, soil mapping, Global Positioning System use and performance, crop yield monitoring sensors and mapping, remote sensing platforms, variable-rate technologies, wildlife tracking, delineating field management zones, and economics-based decision support systems.

The work supported by this grant began in fiscal year 1999. The appropriation for fiscal year 1999 was $500,000; for fiscal year 2000, $850,000; for fiscal year 2001, $748,350; for fiscal year 2002, $733,000; for fiscal year 2003, $737,177; for fiscal year 2004, $659,088; for fiscal year 2005, $674,560; for fiscal year 2006, $668,250; for fiscal year 2007, $0; for fiscal year 2008, $502,458; for fiscal year 2009, $471,000; and for fiscal year 2010, $671,000. A total of $7,214,883 has been appropriated.

The research is conducted at the Kentucky Agriculture Experiment Station, University of Kentucky laboratories, and selected producer field locations.

This project is composed of mini-grants within the institution, each of which is peer reviewed, and the combined proposal is subjected to the institution's project approval process. Submitted proposals undergo merit review by one or more agency scientists. This program has not been subjected to on-site review by the agency.

PREHARVEST FOOD SAFETY, KANSAS

The objective of this grant is to identify means to control E. coli O157 at the farm level through research to develop and validate improved methods for the detection of E. coli O157:H7 in cattle feces and environmental samples, to improve the understanding of the natural ecology of E. coli O157 in cattle operations, and to identify and test on-farm intervention strategies for control of E. coli O157.

Researchers have completed a study to determine the effects and interactions of distillers grain and dry-rolled corn supplementation of steam flaked corn-based finishing diets on fecal shedding of E. coli O157:H7. Their findings indicate that distillers grain, with or without dry-rolled corn supplementation, has no effect on fecal E. coli O157:H7 shedding. Other research results suggest that using pre-evisceration carcass testing to reduce the effect of high shedders within a truck load of animals may be effective. The researchers have recently developed a multiplex Polymerase Chain Reaction (PCR) method to detect six major virulence genes of E. coli O157:H7, which has strengthened the identification protocol for isolates from fecal and food samples.

The work supported by this grant began in fiscal year 1996 with appropriations through fiscal year 2000 of $212,000 per year; for fiscal year 2001, $211,534; for fiscal year 2002, $208,000; for fiscal year 2003, $206,648; for fiscal year 2004, $184,903; for fiscal year 2005, $191,456; for fiscal year 2006, $199,980; for fiscal year 2007, $0; for fiscal year 2008, $150,936; $142,000 for fiscal year 2009; and $500,000 for fiscal year 2010. A total appropriation of $3,055,457 has been appropriated.

The research is being conducted at Kansas State University, College of Veterinary Medicine, in the Department of Diagnostic Medicine/Pathiobiology.

An agency evaluation was conducted in November 2009 and the work was found to be progressing satisfactorily.

PRESERVATION AND PROCESSING RESEARCH, OKLAHOMA

The objective of the grant is to identify the major limitations for maintaining quality of harvested fruits, vegetables, tree nuts, herb and spice crops, and prescribe appropriate harvesting, handling and processing protocols to extend shelf life and enhance marketability for horticultural commodities.

The focus has been to maintain and improve profitability of integrated production and postharvest handling systems to assure an economic market niche for Oklahoma producers and food processors. Crop biosensors developed earlier in this project are being commercialized in Oklahoma for precision agriculture applications,

and efforts to improve precision and expand utility of new generation sensors are underway. A systematic approach to develop complementary cropping, harvesting, handling, and processing operation has resulted in development of improved handling systems for cucurbit, tree fruit, and nutraceutical crops. Non-destructive processing systems for partial oil reduction of tree nuts have been developed to extend shelf life and lower the calorie content for the raw or processed product. A new food drying and extraction facility started operations in Oklahoma. Systems for maintenance of high active ingredients in sage, pepper, and watermelon crops are under development to extend efforts toward profitable value-added extraction of foods, and expansion of marketing opportunities for current and potential Oklahoma horticultural crops.

This work has been underway since 1985. Funds have been appropriated as follows: fiscal year 1985, $100,000; fiscal year 1986, $142,000; fiscal year 1987, $242,000; fiscal years 1988 and 1989, $267,000 per year; fiscal year 1990, $264,000; fiscal year 1991, $265,000; fiscal year 1992, $282,000; fiscal year 1993, $267,000; fiscal year 1994, $251,000; fiscal years 1995–2000, $226,000 per year; fiscal year 2001, $225,503; fiscal year 2002, $221,000; fiscal year 2003, $222,544; fiscal year 2004, $199,814; fiscal year 2005, $198,400; fiscal year 2006, $247,500; fiscal year 2007, $0; fiscal year 2008, $184,698; and fiscal years 2009 and 2010, $174,000 per year. A total of $5,550,459 has been appropriated.

This work is being conducted at the Oklahoma State Agricultural Experiment Station, in conjunction with ongoing production research at the Wes Watkins Agricultural Research and Extension Center and the South Central Agricultural Research Laboratories.

An agency scientist conducts a merit review of the proposal submitted in support of the appropriation annually. Last review of the project was conducted on June 25, 2009. The specific researches progressed well and the results were satisfactory.

PROTEIN PRODUCTION FOR RESEARCH TO COMBAT VIRUSES AND MICROBES, CONNECTICUT

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

PROTEIN UTILIZATION, IOWA

The objective of this grant is to utilize industrial enzymes in enhancing the value of soybean by creating new protein products.

To date, microscopic observations have shown that High Pressure Processing was efficient in releasing oil from soybean aggregates. Adding methanol was equally effective, offering the potential for incorporating EAEP with biodiesel production. Researchers evaluated strategies to produce high-protein feed and determined the potential of the skim milk fraction as a food source. Membrane filtration produced protein that could be spray-dried and had greatly reduced content of anti-nutritional factors. Researchers discovered hydrolyzing soy sugars with a-galactosidase increased sweetness and decreased bitterness of protease-modified soy protein. Industry partners adopted this hydrolysis procedure in their processing plant to produce hydrolysate, and their potential customer, an adhesives compounder, utilized the product in adhesives. The hydrolysate was compatible with non-phenol formaldehyde resins. Polyamine-epichlorohydrin can be used in soy adhesive systems as the primary reactant or as a crosslinker. Researchers discovered that chemical treatment of EAEP proteins with a reducing agent improved growth parameters in broiler chicks.

This project began in fiscal year 2001 with an appropriation of $189,582; $186,000 for fiscal year 2002; $422,238 for fiscal year 2003; $671,018 for fiscal year 2004; $804,512 in fiscal year 2005; $836,550 in fiscal year 2006; $0 in fiscal year 2007; $623,604 in fiscal year 2008; $586,000 in fiscal year 2009; and $600,000 in fiscal year 2010. The total appropriation was $4,919,504.

Research is being conducted at Iowa State University in Ames, Iowa, and Genencor International in Rochester, New York.

The last agency evaluation of the project was September 2009. Work toward the project objectives appeared to be adequate and progressing according to the projected timetable.

RANGELAND ECOSYSTEMS DYNAMICS, IDAHO

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $300,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

REGIONAL BARLEY GENE MAPPING PROJECT, OREGON

The objective of the grant is to establish a cooperative project from molecular genetics to breeding that will locate and use new genes to add value, maximize grain quality, and ensure a more productive and competitive barley industry.

A multi-institutional approach has been taken, with research being conducted at institutions in 17 States. Experimental lines developed by these researchers are being grown and tested in Colorado, Idaho, Kansas, Minnesota, Montana, Ohio, Oregon, Washington, and Wisconsin. The first major accomplishment of this research was a barley linkage map that was the considered the best crop plant linkage map at that time. The map laid the foundation for breeders and statistical geneticists to produce the first comprehensive genomic analysis of agronomic and quality traits in a crop of economic importance.

Grants have been awarded from funds appropriated as follows: fiscal year 1990, $153,000; fiscal year 1991, $262,000; fiscal years 1992–1993, $412,000 per year; fiscal year 1994, $387,000; fiscal years 1995–1998, $348,000 per year; fiscal year 1999, $400,000; fiscal year 2000, $425,000; fiscal year 2001, $586,706; fiscal year 2002, $760,000; fiscal year 2003, $755,060; fiscal year 2004, $675,988; fiscal year 2005, $682,496; fiscal year 2006, $675,180; fiscal year 2007, $0; fiscal year 2008, $502,458; and fiscal years 2009 and 2010, $471,000 per year. A total of $9,422,888 has been appropriated.

Research is being conducted in numerous State agricultural experiment stations. In recent years, research has been conducted at experiment stations in Oregon, Colorado, Washington, Montana, Idaho, North Dakota, Minnesota, New York, Virginia, Oklahoma, Utah, Wisconsin, and California.

Senior agency technical staff conduct a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission. The research supported by this project is competitively awarded by a panel formed by the National Barley Improvement Committee; panel members include researchers, growers and industry. Researchers supported by this project regularly report their results for peer scrutiny at the annual International Conference on the Status of Plant and Animal Genome Research, which is co-organized by this agency.

REGIONALIZED IMPLICATIONS OF FARM PROGRAMS, MISSOURI AND TEXAS

The objective of this grant is to provide the farm community, agribusiness groups, and public officials information about farm, trade, and fiscal policy implications by developing regionalized models that reflect farming characteristics for major production regions of the United States.

Aggregate level impacts as well as those for all 102 representative farms were analyzed. The financial conditions of these farms over the next 5 to 7 years are presented in the 2009 Food and Agricultural Policy Research Institute (FAPRI)—United States and World Agricultural Outlook Baseline data.

The work supported by this grant began in fiscal year 1990 and the appropriation for fiscal year 1990 was $346,000; in fiscal years 1991–1993, $348,000 per year; $327,000 in fiscal year 1994; $294,000 per year in fiscal years 1995 through 2000; $293,353 in fiscal year 2001; $287,000 in fiscal year 2002; $317,920 in fiscal year 2003; $536,814 in fiscal year 2004; $759,872 in fiscal year 2005; $851,400 in fiscal year 2006; $0 in fiscal year 2007; $633,534 in fiscal year 2008; and $595,000 per year in fiscal years 2009 and 2010. A total of $8,350,893 has been appropriated.

Research is being conducted by the Texas A&M University and the University of Missouri at Columbia.

A formal evaluation of this project has not been carried out; however, the NIFA representative is in frequent communication with the principal investigator concerning policy analysis procedures and studies.

RENEWABLE ENERGY AND PRODUCTS, NORTH DAKOTA

The objectives of this grant are to: determine the potential yield of selected perennial grass varieties for biomass and biofuel production, evaluate weed control strategies for biomass crops, examine the impacts of corn-based ethanol production on markets and communities, and analyze the availability of nanofibers from crop residues to be used for biocomposites.

Biomass production plots were seeded at four sites in May 2008. Initial yields on the dryland sites were lower than expected, but switchgrass yields at an irrigated site were 26 percent higher than projected. A total of 4 pre-emergent and 23 post-applied herbicides have been evaluated for efficacy on switchgrass, quackgrass, and smooth bromegrass. Switchgrass yield increased two-fold after glyphosate was ap-

plied to an old stand to control cool season grassy weeds. Of these, nine were chosen for further evaluation of weed control in an established switchgrass field. Herbicides for most effective control for quackgrass and smooth bromegrass were identified. Additional experiments included evaluating potential biomass yield from kenaf, sunnhemp, sorghums, and millets. Initial results found sorghum and kenaf have the potential to produce above 10 tons per acre of dry matter in one season and could be used as annual feedstocks for cellulosic ethanol production. Sugargbeet pulp is being used as a feedstock for ethanol production using yeast and E. coli K011. A solids-fed batch approach has shown that loadings up to 12 percent solids resulted in maximum yields. A pre-pilot scale pretreatment facility capable of processing 300 pounds of wheat straw feedstock per hour has been developed and is in the testing phase. Samples of cellulose nanofibers and of nanocomposite materials based on these fibers have been produced. A transportation model has been developed to optimize shipment of biomass from producing regions to preselected biofuel-producing plants in the northern plains region and ethanol from processing plants to blending locations. The model includes over 184 biomass producing regions, approximately 25 predetermined processing plants and several blending locations. In addition, the model contains several feedstock storage areas where biomass is converted into pellets for shipments. An empirical model has been developed to determine the optimal number, location, and size of cellulose ethanol plant. The optimal number of plants was determined to be 10 in North Dakota with an optimal size of production capacity of 110 million gallons.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $744,750; $939,000 in fiscal year 2009; and $1,000,000 in fiscal year 2010. A total of $2,683,750 has been appropriated.

The research is conducted at North Dakota State University, and the nanofiber research is conducted in collaboration with Michigan State University and Michigan Biotechnology Institute.

Fiscal year 2008 is the first year that funds were appropriated for this grant. The report of progress for fiscal year 2009 has been evaluated, and progress is being made.

RICE AGRONOMY, MISSOURI

The objective of this grant is to increase yield and quality of rice, reduce the cost of production, and protect the environment in the rice producing area in the upper Mississippi River Delta Region.

The research has found that growing rice with pivot irrigation required a higher level of management for irrigation, fertilizer, and weed control than conventional flood irrigated rice. Possible advantages to the system are the ability to grow rice in fields unsuitable for flooding. This type of rice production may have a positive impact on air quality because of reduced methane emissions and help conserve energy. Rice production without flooding has the potential to reduce methane gas production. By reducing irrigation water use with center pivot systems compared to flooding less electricity was consumed for pumping. Additionally, the research has yielded particularly useful information about the efficacy and environmental impact new pest control systems, sustainable irrigation and fertilization practices, and the systematic interplay between new practices. Results were communicated to growers and rice industry officials through electronic media, as well as the Delta Research Center field day in September 2009.

The work supported by this grant began in fiscal year 2003, and the appropriation for fiscal year 2003 was $198,700; fiscal year 2004, $177,944; fiscal year 2005, $212,288; fiscal year 2006, $247,500; fiscal year 2007, $0; fiscal year 2008, $184,698; and fiscal years 2009 and 2010, $174,000 per year. A total of $1,369,130 has been appropriated.

The work is conducted at the University of Missouri's Delta Research Center in Portageville.

The annual proposals were peer reviewed at the institution and by senior agency technical staff. An onsite review is planned for 2011.

RUMINANT NUTRITION CONSORTIUM, MONTANA, NORTH DAKOTA, SOUTH DAKOTA, WYOMING

The objective of this grant is to enhance economic development in the four-State area of Montana, North Dakota, South Dakota, and Wyoming by strengthening and capturing value from the ruminant livestock industry.

To date, five 15 large research trials have been initiated. Extensive collaborations have been established among researchers, making all of these projects multi-investi-

gator and multi-institutional. While the progress reports for these projects are not yet available, excellent research outcomes are expected from all five projects.

This grant began in fiscal year 2002 with an appropriation of $400,000. In fiscal year 2003, the appropriation was $447,075; in fiscal year 2004, $447,345; in fiscal year 2005, $470,208; in fiscal year 2006, $489,060; in fiscal year 2007, $0; in fiscal year 2008, $465,717; and in fiscal years 2009 and 2010, $563,000 per year. A total of $3,845,405 has been appropriated to support this project.

This work is being carried out at South Dakota State University, North Dakota State University, Montana State University, the University of Nebraska, and the University of Wyoming.

This project was last reviewed by agency National Program Leaders in 2008. The results of the evaluation revealed that the research is timely, well-designed, and addresses issues of local, regional, and national importance.

RURAL POLICIES INSTITUTE, NEBRASKA, IOWA, AND MISSOURI

The objective of the grant is to create a new model for providing timely, unbiased estimates of the impacts of policies and new policy initiatives on rural people and places. That model was developed. Policy analysis research and dissemination activities expanded in response to emerging issues in rural America. Rural Policies Institute (RUPRI) facilitates panels of researchers who collaborate on topical areas and form the fabric of its research capacity.

In fiscal year 2009, RUPRI expanded its capacity to provide support to Federal programs and initiatives including developing regional approaches to rural development, economic targeting analysis, and collaborations across agencies to enhance rural innovation, nutrition and wellness, and food systems analysis. It continued the interactive mapping application that allows USDA to visualize investments in relation to economic, social, and demographic indicators. It expanded its capacity to conduct policy analyses in emerging rural development issues, including broadband deployment and adoption, implications of climate change and energy independence, and the urban-rural interdependence import for policy framing. It joined discussions about the collaboration between philanthropy and government in rural and regional development and begun research on wealth creation in rural America. With the Aspen Institute, it convened meetings around food systems, ecosystem services, and alternative energy. It continued its communications and outreach efforts, working with State capitols, public interest groups, trade associations, foundations, nonprofit intermediaries, and higher education.

The work supported by these grants began in fiscal year 1991 with an appropriation of $375,000; fiscal year 1992, $525,000; fiscal year 1993, $692,000; fiscal year 1994, $494,000; fiscal years 1995–2000, $644,000 each year; fiscal year 2001, $822,000; fiscal year 2002, $1,040,000; fiscal year 2003, $1,261,745; fiscal year 2004, $1,129,298; fiscal year 2005, $1,205,280; fiscal year 2006, $1,192,950; fiscal year 2007, $0; fiscal year 2008, $888,735; fiscal year 2009, $835,000; and fiscal year 2010, $889,000. A total of $15,214,008 has been appropriated.

The Institute's member universities are: the University of Missouri—Columbia; the University of Nebraska—Lincoln; and Iowa State University, Ames.

NIFA performed an external review of the Social Science Unit at the University of Missouri—Columbia in fall 2002, and this included a review of RUPRI. Since 2005 there has been an ongoing process of strategic review and priority setting. This has resulted in a set of programmatic and organizational objectives approved by the RUPRI Board of Directors in 2008. The National Advisory Board provides analysis of directions, priorities, and outcomes.

RURAL RENEWABLE ENERGY RESEARCH AND EDUCATION CENTER, WISCONSIN

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

RUSSIAN WHEAT APHID, COLORADO

The objectives of the grant are the: (1) discovery of new crop genes that provide resistance to the Russian wheat aphid and rapid incorporation into wheat varieties; (2) identification and characterization of wheat genes involved in the defensive response to the Russian wheat aphid; (3) determination of mechanisms of Russian wheat aphid toxicity; (4) establishment of a program for rapid assessment of wheat quality characteristics using near-infrared reflectance spectroscopy; (5) development of methods to identify valuable wheat quality factors in a rapid manner; (6) location and characterization of the genetic factors controlling drought tolerance and end-use quality in two mapping populations; and (7) evaluation of promising lines of wheat

for stress tolerance using field, greenhouse and growth chamber screening techniques.

Progress is being made using the techniques of molecular genetics to reach the goal of identifying new genes for resistance to Russian wheat aphid and incorporating them into commercially acceptable wheat varieties. Specific accomplishments during the past year included development of experimental lines that combined resistance to the C-biotype-two with acceptable agronomic performance, and suitable end-use. One or more of these lines will be developed for seed increase and further testing in the 2011 State dryland variety trials. Gene silencing results from the past year indicate that the tested genes that were highly expressed in resistant plants are both involved in host plant response to Russian wheat aphid. Manipulation of the gene that was highly expressed in susceptible plants may provide a means to develop broad spectrum resistance to Russian wheat aphid. Results from the water use efficiency studies suggest that some of the selected synthetic wheat lines may be a useful source of additional variation for developing drought resistant wheat cultivars.

The work supported by this grant began in fiscal year 1998, and the appropriation for fiscal years 1998–2000 was $200,000 per year; for fiscal year 2001, $249,450; for fiscal year 2002, $320,000; for fiscal year 2003, $317,920; for fiscal year 2004, $284,313; for fiscal year 2005, $289,664; for fiscal year 2006, $302,940; for fiscal year 2007, $0; for fiscal year 2008, $228,390; for fiscal year 1990, $214,000; and for fiscal year 2010, $250,000. A total of $3,056,677 has been appropriated.

Research is conducted on the campus of Colorado State University, at Colorado State University research stations, and in a collaborator's laboratory at Kansas State University and on the farms of cooperators throughout Colorado. Outreach and extension activities are shared with scientists and wheat growers in Colorado, Nebraska, Wyoming, Kansas, New Mexico, Texas, and Oklahoma through a Western region Hatch Act supported multi-State research and extension project.

This project was evaluated during a site visit by senior agency technical staff in February 1999; the project has been evaluated using annual progress reports since that time.

SEED TECHNOLOGY, SOUTH DAKOTA

The objective of this grant is to develop and deliver new seed that will help agricultural producers enhance crop value and farm profitability.

The seed technology center has been established and is providing training and developing seed technology and biotechnology methods needed to support the safe delivery of specific traits to agricultural producers. Traits currently available in crops include herbicide tolerance and insect resistance. Progress has been made on assessing the physiological responses of crops to stress and developing tools that can be used to assess the impact of stress on current genotypes. Research in corn has focused on improving our understanding of the physiological impacts of stress on corn growth and development. In rice and wheat, research was focused on developing a mechanistic understanding of seed dormancy. Findings from rice and wheat research will be used to reduce pre-harvest sprouting and increase seedling quality. Soybean research was conducted to determine if genes from wild soybean can be used to improve resistance to biotic and abiotic stress. A workshop was held to promote dialogue between producers and scientists concerning the importance of this research. Commodity representatives including those promoting corn, soybeans, and wheat were in attendance.

The work supported by this grant began in fiscal year 2004, and the following amounts have been appropriated: in fiscal year 2004, $313,142; in fiscal year 2005, $354,144; in fiscal year 2006, $356,400; in fiscal year 2007, $0; in fiscal year 2008, $265,131; in fiscal year 2009, $282,000; and in fiscal year 2010, $350,000. A total of $1,920,817 has been appropriated.

The research is being conducted at South Dakota State University, Brookings, South Dakota.

Senior agency technical staff review proposals and accomplishment reports to ensure technical quality and relevance to needs.

SMALL FRUIT RESEARCH, OREGON, WASHINGTON, AND IDAHO

The objective of this grant is to fund studies that would enhance the profitability and sustainability of the small fruit industry in the Pacific northwest through research in genetics, pest management, small fruit processing, production/physiology, and wine grape production.

This grant supports research using genetic material from national germplasm collections and the discovery of new isolates, which expand these genetic holdings.

Studies supported by this project use advanced selections in breeding programs and approaches that utilize genetic engineering. Another industry wide-goal of this program is to identify new potentially harmful virus disorders in nursery stock and eliminate them prior to introduction into small fruit production systems. The selection and development of new small fruit varieties is essential to maintaining the competitiveness of the United States in the world market and in maintaining export advantages required for our international balance of trade.

The initial support for this grant was an appropriation in fiscal year 1991 for $125,000. The fiscal appropriation for fiscal years 1992 and 1993 was $187,000 each year; fiscal year 1994, $235,000; fiscal years 1995–1998, $212,000 each year; fiscal years 1999 and 2000, $300,000 each year; fiscal year 2001, $324,285; fiscal year 2002, $392,000; fiscal year 2003, $397,400; fiscal year 2004, $354,894; fiscal year 2005, $421,600; fiscal year 2006, $438,570; fiscal year 2007, $0; fiscal year 2008, $326,697; and fiscal year2 2009 and 2010, $307,000 per year. A total of $5,451,446 has been appropriated since the project was initiated in 1991.

The research is conducted at 10 research sites across the Pacific Northwest, managed by Oregon State University, Washington State University, and the University of Idaho. Research on projects under this grant is also conducted at several Agricultural Research Service laboratories and experiment stations in the Pacific Northwest.

Senior agency technical staff conducted an on-site review in December 2009. In addition, evaluation of this project is conducted annually based on the annual progress report and discussions with the principal investigator.

SOIL-BORNE DISEASE PREVENTION IN IRRIGATED AGRICULTURE, NEW MEXICO

The objective of this grant is to produce safe and nutritious foods by developing strategies for prevention of soil-borne diseases in irrigated agriculture. Research includes focusing on genetic improvement of cultivars of chile pepper, determining the race structure of the fungal pathogen Phytophthora capsici, and understanding the molecular basis of resistance and virulence.

To date, the scientists have developed genetically improved cultivars and produced seeds that they continue to test for disease resistance. They will continue this cycle of events until the desired horticultural and agronomic traits needed by industry and consumers are acceptable. They have also developed a more reliable and rapid screening method to hasten the selection for disease resistance breeding stock. The new method allows them to screen numerous races of foliar blight in a single plant. Further, this method allows them to distinguish between resistant and susceptible plants in a 3-day period which is much faster than with the traditional method. They have distributed recombinant inbred lines of chile pepper to researchers in several countries including China, Peru, Brazil and India, in addition to several States in the United States. They continue gain further insight and knowledge into the host-pathogen interaction and therefore, are gaining a foothold on reaching their ultimate goal.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $186,684; for fiscal year 2009, $176,000; and for fiscal year 2010, $187,000. A total of $549,684 has been appropriated.

The research is being conducted at New Mexico State University research facilities.

Fiscal year 2008 was the first year that funds were appropriated. A new proposal, including a progress report, was submitted, reviewed and approved for fiscal year 2009 funding.

SOUTHERN GREAT PLAINS DAIRY CONSORTIUM, NEW MEXICO

The objective of this grant is to investigate the economic and environmental impacts of the dairy industry on local economies, air quality, carbon footprint, and water use in the Southern Great Plains region.

The formation of multi-disciplinary, university faculty research teams to address identified issues has been accomplished. Work toward the determination of the effects of dairies on local economies—air quality, carbon footprint, and water use—has been implemented by the multi-disciplinary, university faculty research teams and is currently underway.

Fiscal year 2009 was the first year that funds were appropriated for this grant with an amount of $235,000; and in fiscal year 2010, $350,000. A total of $585,000 has been appropriated.

The work is being carried out at New Mexico State University and on farms in New Mexico and Texas.

Fiscal year 2009 was the first year that funds were appropriated for this grant, so NIFA has not yet conducted an evaluation of this project.

SOUTHWEST CONSORTIUM FOR PLANT GENETICS AND WATER RESOURCES, NEW MEXICO

The objectives of this grant are to understand tolerance to biological and chemical stresses in plants and the impact of these stresses on susceptibility of plants to pests and pathogens and on symbiotic beneficial organisms. An additional objective is to develop and evaluate genetically transformed plants for better adaptability to stresses of arid and semi-arid environments and the problems of water use efficiency and water quality.

Researchers have used chromosome translocation to create bread wheat lines that can be selected for increased root size and branching. Many of these selected plants have been shown to exhibit increased drought tolerance and higher grain yields in the greenhouse, and are now being moved into field trials. Several families of drought-tolerant alfalfa have been identified using biomass markers. They have been successfully field tested and are now being introduced into cultivars for commercial application. New insight into how plants regulate their stress genes, including the regulation of saline and heat stress has been gained in tomato and in the model plant Arabidopsis.

The work supported by this grant began in fiscal year 1986 and has been provided with appropriations of the following amounts: fiscal year 1986, $285,000; fiscal years 1987–1989, $385,000 per year; fiscal year 1990, $380,000; fiscal years 1991–1993, $400,000 per year; fiscal year 1994, $376,000; fiscal years 1995–2000, $338,000 per year; fiscal year 2001, $368,188; fiscal year 2002, $392,000; fiscal year 2003, $389,452; fiscal year 2004, $350,917; fiscal year 2005, $372,992; fiscal year 2006, $388,080; fiscal year 2007, $0; fiscal year 2008, $288,963; and fiscal years 2009 and 2010, $271,000 per year. A total of $8,516,592 has been appropriated since fiscal year 1986.

The research teams are formed from researchers at five participating southwestern institutions: New Mexico State University, Texas Tech University, Los Alamos National Laboratory, University of Arizona, and the University of California in Riverside.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission. Research funding is awarded to researchers at five participating institutions through a mini-grant program. Projects are selected for funding based on a competitive external peer review and a project committee review. A progress report is submitted for review by each funded mini grant project prior to the award of second year funds. An annual symposium is held for researchers to present and discuss results.

SOYBEAN CYST NEMATODE, MISSOURI

The objective of this grant is to develop new management strategies for managing soybean cyst nematode including research on soybean host resistance and Soybean cyst nematode variability.

Since 2003, several nematode resistant soybean lines were released, and many experimental lines with resistance to soybean cyst nematode and glyphosate herbicide have been evaluated. The pathogen has continued to become increasingly variable genetically and in virulence, increasing the need for more locally adapted high-yielding soybean breeding lines to develop resistant varieties with a broad spectrum of resistance. Over 500 new resistant soybean lines resulting from this program were tested in 2008 and many of these were tested again in 2009. Two of the 120 lines screened in 2008 were identified with broad spectrum resistance to soybean cyst nematode and also have resistance to other pests of soybean, the reniform nematode, the root knot nematode and a fungal leaf disease called frogeye leafspot. More lines with similar pest resistance spectra are continuing in evaluation. Tolerance to glyphosate herbicide has been incorporated into some of these new lines which offer great promise for producers. More fundamental research involves the utilization of new molecular technologies to identify genes responsible for resistance. Genetic fingerprinting of soybean lines has identified several multiple genes for soybean cyst nematode resistance. This team has increased output of soybean cyst nematode resistant cultivars in recent years through use of marker assisted selection to screen over 15,000 soybean lines annually and has developed markers to better identify lines with resistance to race three of the nematode. As the project has developed, the objectives have been grouped into two priority research areas, soybean resistance to SCN and the variability of the pathogen. Under the resistance priority, the following goals as currently being pursued, to continue to develop breeding material,

to improve the marker assisted selection used in the breeding programs, to expand the gene maps for SCN resistance, to identify new sources of SCN resistance, to better understand the genetics of SCN resistance, and to educate the public about SCN through the Cooperative Extension Service. The variability priority area is examining population genetics to better understand the pathogen and its relationship with the soybean plant, determine the number of virulence genes in the nematode and their heritability, to use molecular biology methods to differentiate SCN variants, and to educate the public about the variability of the pathogen.

Grants have been awarded from funds appropriated as follows: fiscal year 1979, $150,000; fiscal years 1980–1981, $250,000 per year; fiscal year 1982, $240,000; fiscal years 1983–1985, $300,000 per year; fiscal years 1986–1989, $285,000 per year; fiscal year 1990, $281,000; fiscal year 1991, $330,000; fiscal years 1992–1993, $359,000; fiscal year 1994, $337,000; fiscal years 1995–1997, $303,000 per year; fiscal year 1998, $450,000; fiscal years 1999–2000, $475,000 per year; fiscal year 2001, 598,680; fiscal year 2002, $686,000; fiscal year 2003, $688,496; fiscal year 2004, $616,342; fiscal year 2005, $702,336; fiscal year 2006, $793,980; fiscal year 2007, $0; fiscal year 2008, $591,828; and fiscal years 2009 and 2010, $556,000 per year. The total amount appropriated to date is $12,694,662.

This research is being conducted at the Missouri Agriculture Experiment Station locations and at the University of Missouri.

The last evaluation of this project was an external review in September 2008. The review indicated satisfaction with processes followed in administering the grant and the progress made in addressing this insidious problem in soybean production fields.

SOYBEAN RESEARCH, ILLINOIS

The objective of this grant is to use biotechnology to identify and create improved mechanisms of disease tolerance and resistance to contribute to the reduction of yield losses from plant diseases.

In the past year, significant progress has been achieved including the completion of a comparative analysis of soybean defense responsive genes to provide a defense-specific promoter for high-throughput disease screens; the development of markers for a novel source of soybean aphid resistance; combining the primary genes conveying resistance to soybean cyst nematode in one soybean genotype, providing broad based soybean cyst nematode resistance; developing a new method for marker discovery that has detected between 3,500 and 15,000 informative markers for in four tested soybean cultivars; discovering a physiological pathway that can be exploited for engineering soybean cyst nematode resistance in soybean; developing an improved serological test to detect soybean rust spores and developed a way to differentiate living and dead soybean rust spores; identifying as many as 40 new potential genes for resistance to soybean rust from a wild relative of soybean, Glycine tomentella and producing hybrids from Glycine tomentella and soybean that appear to be resistance to soybean rust; developing a novel software program, Global Food in 3D, to help policy makers, analysts, and students understand the changing global demand for protein and showed that markets for soy products from the United States are dramatically shifting to the fast growing Asia region.

The work supported by this grant began in fiscal year 2002, and the appropriation for fiscal year 2002 was $800,000; $844,475 in fiscal year 2003; $755,516 in fiscal year 2004; $955,296 in fiscal year 2005; $1,065,240 in fiscal year 2006; $0 in fiscal year 2007; $793,407 in fiscal year 2008; $745,000 per year in fiscal years 2009 and 2010. The total amount appropriated is $6,703,934.

The work is conducted by researchers at the Soybean Disease Biotechnology Center on the campus of the University of Illinois.

Each proposal is peer reviewed by the submitting institution and senior agency personnel technically review the research proposal and provide oversight.

SPECIALTY CROPS, ARKANSAS

The objective of this grant is to assist growers, producers, and processors in the development of profitable production systems to provide wholesome, safe, and nutritious specialty crops that promote human health.

Identification of new value-added products and development of affordable processing techniques that maintain or enhance their sensory and nutritional characteristics can enhance the viability and sustainability of the small and medium-sized farms. Addressing food safety concerns and optimizing the health-promoting aspects of products are critical. The work with blueberries can serve as a template for use with other specialty crops. Other research has demonstrated value for environmentally friendly, sustainable uses of specialty crop waste.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $74,475; and fiscal year 2009, $164,000; and for fiscal year 2010, $175,000. A total of $413,475 has been appropriated.

The research will be conducted at the University of Arkansas.

Senior agency technical staff evaluated the research each year, and satisfactory progress has been made.

SPECIALTY CROPS, INDIANA

The objective of this grant is to conduct research on gummy stem blight, a fungal disease of melons, and to expand off-season production of vegetable crops employing high-tunnel growth facilities.

This research will contribute to the establishment of a specialty crops research, teaching, and extension program at the Southwest Indiana Purdue Agricultural Center. The initial phase involves assembling the research facilities needed to pursue the research on fungal diseases of melons and on off-season production of specialty crops.

A wide variety of horticultural production techniques will be evaluated with the goal of increasing productivity and maximizing yield potential. The geographic and climatic conditions in southwest Indiana make the area ideal for fruit and vegetable production as well as for greenhouse production of floricultural and nursery crops. This area fills a production niche between crops grown in the South and those from colder climates to the north. A well-educated workforce and effective strategies to combat diseases of the principal crops are needed to support and expand an already significant contributor to the economic activity of southern Indiana; melons alone are a $34 million crop from the region. Because approximately 40 percent of the Nation's population lives within a 500-mile radius of Vincennes and Evansville, Indiana, same-day distribution of fresh produce and floricultural crops is feasible.

Fiscal year 2009 was the first year that funds were appropriated for this grant. An amount of $235,000 per year was appropriated for this grant in fiscal years 2009 and 2010. The total amount appropriated is $470,000.

The work is being carried out at Purdue University.

The proposal was subjected to peer review by the submitting institution. Additionally, senior agency technical staff conducted a critical review of the proposal prior to awarding the grant.

STEEP-WATER QUALITY IN PACIFIC NORTHWEST

The objectives of this grant are to: (1) determine the impact of farming practices and systems on soil, water, and air quality; (2) develop new technologies and increase efficiency of inputs which improve profitability of conservation farming systems; (3) assess the profitability of conservation systems; and (4) accelerate grower evaluation and adaptation of profitable conservation farm systems. Substantial progress has been made toward meeting the objectives.

The work supported by this grant began in fiscal year 1991, and the appropriations for fiscal years 1991–1993 were $980,000 per year; in fiscal year 1994, $921,000; in fiscal year 1995, $829,000; in fiscal years 1996–2000, $500,000 per year; in fiscal year 2001, $498,900; in fiscal year 2002, $588,000; in fiscal year 2003, $665,645; in fiscal year 2004, $595,466; in fiscal year 2005, $639,840; in fiscal year 2006, $633,600; in fiscal year 2007, $0; in fiscal year 2008, $472,668; and in fiscal years 2009 and 2010, $444,000 per year. A total of $12,172,119 has been appropriated.

This project is hosted by Washington State University. However, the research activities are conducted on farmlands across Idaho, Oregon, and Washington with cooperation from researchers and educators at the University of Idaho, Oregon State University, and Washington State University.

The Project Director met with the National Program Leader in the summer of 2009 as part of a regional water quality program review. The project leadership team meets every year to evaluate the overall project and contributing projects. Overall, the project is meeting the goals and remains on schedule as indicated in their plan of work. A comprehensive review of project accomplishments is being planned for 2010, and an overall evaluation will be conducted in conjunction with that review.

SUSTAINABLE AGRICULTURE, CALIFORNIA

The objective of the grant is to improve the sustainability of the food and agriculture system along the Central Coast of California by: developing economically viable strawberry and vegetable crop management systems that emphasize crop health, reduce environmental impacts, and contribute to regional biodiversity con-

servation; enhancing ecosystem health in multiple-use watersheds through innovative partnerships; examining ways to increase participation in the development of sustainable food systems; and examining social and economic factors affecting the development of sustainable food systems in communities.

The work supported by this grant began in fiscal year 2000, and the appropriation for fiscal year 2000 was $255,000; in fiscal year 2001, $392,135; in fiscal year 2002, $400,000; in fiscal year 2003, $496,750; in fiscal year 2004, $444,363; in fiscal year 2005, $514,848; in fiscal year 2006, $509,850; in fiscal year 2007, $0; in fiscal year 2008, $380,319; and in fiscal years 2009 and 2010, $357,000 per year. The total appropriation is $4,107,265.

The work is being carried out in the Monterey Bay area of California by the Center for Agroecology and Sustainable Food Systems at the University of California at Santa Cruz.

Progress reports are submitted annually and are reviewed by the NIFA scientific staff. The latest review, in June 2009, found the procedures reasonable and recommended funding.

SUSTAINABLE AGRICULTURE, MICHIGAN

The objective of the grant is the development of production ecology information for use in farm management decisionmaking.

Researchers have discovered methods of compost and gypsum application that improve quality and yield of sweet corn, learned that there is a high demand for pasture-raised livestock products, and developed outreach programs for organic growers. They have also tested such soil-building techniques as cover crops and low-till weed control and worked with Michigan farmers to develop packaging and labeling for their products. Results have been summarized in a variety of research reports as well as a series of practical manuals for field crops, fruit crops, pest management, and farming systems.

The work supported by this grant began in fiscal year 1994 with an appropriation of $494,000; $445,000 per year in fiscal years 1995 through 2000; $444,021 in fiscal year 2001; $435,000 in fiscal year 2002; $432,173 in fiscal year 2003; $386,705 in fiscal year 2004; $383,904 in fiscal year 2005; $380,160 in fiscal year 2006; $0 in fiscal year 2007; $283,005 in fiscal year 2008; and $266,000 per year in fiscal years 2009 and 2010 bringing total appropriations to $6,440,968.

This work is being carried out at research stations and other locations at Michigan State University and on cooperating farms around the State.

Reports are submitted annually and are reviewed by the NIFA scientific staff. The most recent review, in June 2009, determined that the procedures were thoroughly described and scientifically sound.

SUSTAINABLE AGRICULTURE AND NATURAL RESOURCES, PENNSYLVANIA

The objective of this grant is to assist farmers in developing strategies to address issues related to the production, profitability, and sustainability of organic and conventional production systems.

A study is being conducted to determine if seeding rates can be reduced without reducing the harvest yield of grain soybeans. Studies will continue on commercially available products that claim to reduce loss of surface applied nitrogen. Investigations will continue into improved cover cropping in the Eastern United States.

Sustainability of various production systems has been improved. On-farm Soybean network is being developed for use by the farmers.

The work supported under this grant began in fiscal year 1993. The appropriation for fiscal year 1993 was $100,000; $94,000 per year in fiscal years 1994 through 1998; $95,000 per year in fiscal years 1999 and 2000; $99,780 in fiscal year 2001; $123,000 in fiscal year 2002; $149,025 in fiscal year 2003; $133,209 in fiscal year 2004; $190,464 in fiscal year 2005; $188,100 in fiscal year 2006; $0 in fiscal year 2007; $141,999 in fiscal year 2008; $133,000 in fiscal year 2009; and $142,000 in fiscal year 2010. A total of $2,060,577 has been appropriated.

Research is being conducted by the Pennsylvania State University on farms throughout the State of Pennsylvania. Additional work is being undertaken by county-based or statewide specialists in Cooperative Extension, Rodale Institute, Pennsylvania Association for Sustainable Agriculture, Pennsylvania Certified Organic, and farmer commodity groups.

Annual proposals for funding are peer reviewed for relevance and scientific merit. The NIFA contact is also in regular contact with the principal researcher at the key institution to discuss progress towards meeting project objectives. Agency evaluation of this project has not been conducted.

SUSTAINABLE BEEF SUPPLY, MONTANA

The objectives of this grant are: (1) development and delivery of educational programs aimed at providing research-based information and meeting beef quality assurance standards; (2) certification of feeder calves that have met defined beef quality assurance management protocols; (3) information feedback from the feedlot and packing plant to the cow-calf producer showing if the feeder calves met industry requirements for quality, consistency, and red meat yield; (4) age and source certification of weaned calves for the export market such as Japan; (5) development and delivery of educational materials associated with biosecurity of the ranch to prevent disease; and (6) development of material for an interactive television program on Global Beef Production.

Research aimed at measuring phenotypic and genetic effects of reducing feed intake in beef heifers and cows will be measured. Reducing feed intake without negatively impacting reproduction, calf weaning weights, and bull fertility is the main focus with measurements of greenhouse gas—methane, carbon dioxide and nitrous oxide—production the secondary focus. The hypothesis is that feed intake can be reduced 15 percent and greenhouse gases can be reduced 17 percent without affecting productivity. By using county extension agents to assist with producer training, beef producers are educated on methods to reduce beef quality defects; age and source verify weaned calves; and subsequently improve the value of cattle and carcasses. As part of a regional project, carcass data collected over the past 5 years will be analyzed to determine if production practices have changed with regard to carcass quality and yield. The starting point for this research is accomplished by a series of hands-on courses demonstrating best management practices. The Montana Stockgrowers Association and Montana State University will provide beef quality assurance education throughout the State. Finally, as a component of the educational focus, a cooperative effort between Montana State University, Montana Stockgrowers Association, and Montana Grain Growers Association, the Montana MarketManager Web site will be implemented.

The work supported by this grant began in fiscal year 1999. The appropriation for fiscal year 1999 was $500,000; for fiscal year 2000, $637,500; for fiscal year 2001, $742,363; for fiscal year 2002, $1,000,000; for fiscal year 2003, $993,500; for fiscal year 2004, $889,720; for fiscal year 2005, $937,440; for fiscal year 2006, $974,160; for fiscal year 2007, $0; for fiscal year 2008, $725,883; and for fiscal years 2009 and 2010, $682,000 per year. The total amount appropriated is $8,764,566.

The work is a joint project that is being carried out at Montana State University in Bozeman and the Montana Stockgrowers Association in Helena. In addition, various beef cattle ranches in Montana and cooperating beef processing facilities are located in more than 10 States throughout the Midwest.

NIFA National Program Leaders evaluated this project in June 2009. The NIFA review found that progress has been made. The goals and objectives of the project are relevant to the mission of the USDA and NIFA.

SUSTAINABLE ENGINEERED MATERIALS FROM RENEWABLE RESOURCES, VIRGINIA

The objectives of the grant are to: (1) develop a methodology and a database for assessing alternative forest management practices consistent with future demand for wood products; (2) develop methodology for designing, evaluating, and deploying new composite products based on principles of materials science; and (3) assess the economic viability of developing a new wood-based composite products and alternative forest management practices.

In 2009, Virginia Tech's Sustainable Engineered Materials Institute provided a hotbed for material innovation through exploration and creation of new competitive biobased products and materials that can enter new markets, create economic recovery, and enhance U.S. competitiveness. One of its research efforts created a natural fiber that is substantially less susceptible to destruction from natural sources such as insects and microorganisms. Current estimates show that utilizing this process to create a natural durable fiber could result in saving U.S. homeowners over $1 billion annually in preventative and remedial treatments currently required to repair damage caused by insects and decay fungi. Engineered wood and fiber products being created in this research offers the opportunity for dramatic reduction in the need for petroleum products, less waste of our Nation's natural resources, superior product performance, and new economic development opportunities. By utilizing engineered wood and fiber products rather than solid wood, we could save approximately 50 percent of the U.S. wood resources for other uses such as biofuels and bioenergy.

The work supported by this grant began in fiscal year 2002 with an appropriation of $400,000; $596,100 for fiscal year 2003; $532,838 for fiscal year 2004; $603,136

for fiscal year 2005; $693,000 in fiscal year 2006; $0 in fiscal year 2007; $516,360 in fiscal year 2008; and $485,000 per year in fiscal years 2009 and 2010. A total of $4,311,434 has been appropriated.

Research is being conducted at Virginia Tech in Blacksburg, Virginia.

An evaluation on this project is planned for 2010.

SUSTAINABLE PRODUCTION AND PROCESSING RESEARCH FOR LOWBUSH SPECIALTY CROP, MAINE

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $200,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

SWINE AND OTHER ANIMAL WASTE TREATMENT, NORTH CAROLINA

The objective of this grant is to establish a poultry and livestock air quality research and education initiative that will foster growth of research programs in agricultural air quality that provide the basis for effective outreach and educational programs, locally and nationally.

A porous windbreak wall and a biofilter for the exhaust air from the swine facility have been constructed. Twelve environmentally controlled poultry chambers have been used to measure the effect of various manure management practices, ventilation systems, and animal diets on the air emissions from the chambers. The vermicomposting pilot unit at Lake Wheeler Research Farm revealed that this pilot system works comparatively better for reducing bacteria fecal coliform, Escherichia coli, and enterococci than two previously studied conventional lagoon/sprayfield systems.

The work supported by this grant began in fiscal year 1997, and the appropriation for fiscal year 1997 was $215,000; for fiscal year 1998, $300,000; for fiscal years 1999 and 2000, $500,000 per year; for fiscal year 2001, $498,900; for fiscal year 2002, $489,000; for fiscal year 2003, $491,783; for fiscal year 2004, $440,386; for fiscal year 2005, $466,240; for fiscal year 2006, $484,110; for fiscal year 2007, $0; for fiscal year 2008, $372,375; and for fiscal years 2009 and 2010, $349,000 per year. A total of $5,455,794 has been appropriated.

This work is being conducted at North Carolina State University in Raleigh and with linkages throughout the country.

The NIFA conducted an evaluation of the progress of this work during 2009. The project has made progress towards meeting the original goals.

TECHNOLOGY FOR IRRIGATED VEGETABLE PRODUCTION, NORTH CAROLINA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

TEXAS OBESITY RESEARCH PROJECT

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

TICK BORNE DISEASE PREVENTION, RHODE ISLAND

The objective of this grant is to develop the predictive model framework and Geographic Information System tools for communicating changes in risk and a comprehensive community-based public health action plan for tick-borne disease prevention.

Accomplishments include annual Rhode Island-wide tick surveillance data collection for development of a risk model for the northeastern States; continued progress on evaluating environmental parameters including direct measurement of relative humidity duration for refinement of a climate-based model for tick and disease risk; development of tools for the health information delivery and decision support system; enhancements to the public Internet Tick Encounter Resource Center; and interactive workshops with citizens of Rhode Island to provide practical information on reduction of risks to tick-borne diseases.

The work supported by this grant began in fiscal year 2003 with an appropriation of $99,350; for fiscal year 2004, $88,475; for fiscal year 2005, $142,848; for fiscal year 2006, $148,500; for fiscal year 2007, $0; for fiscal year 2008, $297,900; and for fiscal years 2009 and 2010, $280,000 per year. A total of $1,337,073 has been appropriated.

The research is being performed by the University of Rhode Island at Kingston and at more than 61 field locations throughout the State.

Senior agency technical staff evaluated this project in August 2009. This year's review found the progress on the stated research objects is on schedule, and the research is answering the overall objectives of this grant.

TILLAGE, SILVICULTURE, WASTE MANAGEMENT, LOUISIANA

The objective of this grant is improve conservation tillage systems for Louisiana crops and to address manure issues from dairy and poultry operations, as well as reduce stream pollution from livestock and forestry.

Practices to promote greater efficiency of crops within and among cropping systems and to reduce production costs are being incorporated to maintain crop productivity with fewer negative effects on the environment. Continued work on maintaining forest soil fertility and quality where pine straw is annually removed further supports poultry litter as superior to inorganic fertilizer. This project is serving as a foundation for future water quality research in other regions of the country. Techniques, procedures and expertise learned in the planning and implementation of this project will be used to guide continuing research on water quality and waste management in this area. A biomass gasifier was designed and built at Louisiana State University (LSU). A non-provisional patent was filed in June 2008. A larger—500 lb/hr—gasifier unit will be constructed by an investor in early 2010. A novel technique of producing crude-type oil from wet dairy slurries was also researched. Tests in 2008 were severely impacted by flooding and winds of Hurricane Gustav that lowered overall yields by 30 to 50 percent, and require caution in interpreting recent results.

The work began in fiscal year 1994. The appropriation for fiscal year 1994 was $235,000; for fiscal years 1995–2000, $212,000 per year; for fiscal year 2001, $211,534; for fiscal year 2002, $400,000; for fiscal year 2003, $422,238; for fiscal year 2004, $377,758; for fiscal year 2005, $424,576; for fiscal year 2006, $495,000; for fiscal year 2007, $0; for fiscal year 2008, $368,403; for fiscal year 2009, $188,000; and for fiscal year 2010, $200,000. This sums to $4,594,509.

The work is being conducted on the main campus at Louisiana State University and at LSU's Experiment Stations at Calhoun, Crowley, Chase, Winnsboro, St. Joseph, and Washington Parishes.

An on-site review is planned for 2010.

TRI-STATE JOINT PEANUT RESEARCH, ALABAMA

The objective of this grant is to increase peanut yields through sod-based rotations and conservation tillage cropping systems by developing and comparing the economic and environmental benefits of conventional and sod-based farming systems using conservation tillage, quantifying the positive impact that sod-based rotations have on soil health, pest reduction and sustainable farm production, and identifying production practices that result in significant yield increases with decreased inputs in a sod-based rotation.

Researchers are currently monitoring disease, insect, and nematode levels in different phases of the sod-based cropping system in Alabama, Florida and Georgia for peanuts and cotton with Bahia grass. Economic returns from these systems are being evaluated through the economic model developed for this system. Soil health factors such as penetrometer measurements have been taken in the field. Crop growth parameters and nitrate levels are being monitored in each cropping system to determine the value of conservation tillage and of perennial grasses in rotation. Economic models developed thus far through this research indicate that a 200 acre farm can increase its net profit from less than $10,000 per year under the present peanut, cotton, cotton rotation to over $40,000 per year with the bahiagrass rotation. A reduction in pesticide costs is also projected of over $6,000 on the farm practicing the rotation. A simple spreadsheet business model is now available for bahiagrass, cattle, peanuts and cotton rotation.

The work supported by this grant began in fiscal year 2002, and the following amounts have been appropriated: in fiscal year 2002, $600,000; in fiscal year 2003, $596,100; in fiscal year 2004, $532,838; in fiscal year 2005, $562,464; in fiscal year 2006, $585,090; in fiscal year 2007, $0; in fiscal year 2008, $439,899; and in fiscal years 2009 and 2010, $413,000 per year. A total of $4,142,691 has been appropriated since fiscal year 2002.

The research is being conducted at Auburn University, the University of Florida, and the University of Georgia.

Senior agency technical staff reviewed the accomplishment reports submitted for each fiscal year since 2004 and have determined that the investigators are making

progress toward the achievement of their stated objectives for each proposal. A review of recent progress will be conducted upon the submission of a progress report to be included in a new proposal solicited for 2010.

TROPICAL AQUACULTURE, FLORIDA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an appropriation of $300,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

TROPICAL AND SUBTROPICAL RESEARCH/T STAR, FLORIDA, USVI, PUERTO RICO, AND GUAM

The objectives of the grants are to: (1) provide research that maintains and enhances production of established tropical and subtropical agricultural products; (2) develop agricultural practices in the tropics and subtropics that are environmentally acceptable through an agro-ecosystems approach; (3) enhance the role of value-added agriculture in tropical island ecosystems; (4) expand and diversify presently unexploited food and fiber products which have potential for commercial production in tropical and subtropical regions; (5) expand linkages of tropical and subtropical agriculture to related industries and economic sectors; (6) develop and deliver user-friendly decision support packages to help client needs; (7) address invasive species issues affecting agriculture in the Pacific Basin; and (8) enhance the linkages of agricultural and food production and consumption by designing foods and intervention strategies that lead to healthy and productive citizens in the tropical and sub-tropical regions.

Participants of T STAR program are the University of Florida, the University of Puerto Rico and the University of the United States Virgin Islands. These three institutions make up the T STAR Caribbean basin, while the Pacific basin is comprised of the University of Hawaii and the University of Guam. The Administrative group of the Caribbean basin includes State Agricultural Experiment Station staff from Florida, Puerto Rico and the Virgin Islands. The Administrative group of T STAR Pacific basin includes State Agricultural Experiment Station staff from Hawaii and Guam. The Executive Director of the Association of the Southern Region Agricultural Experiment Station Directors is a participating non-member of the T STAR Caribbean, while the Executive Director of the Association of the Western Region Agricultural Experiment Station Directors is a participating non-member of the T STAR Pacific basin. The Agricultural Research Service of the United States Department of Agriculture is also represented in each basin. Oversight for the T STAR program is provided by two National Program Leaders in the National Institute of Food and Agriculture. Along with funding, responsibilities for each basin are divided equally between the Administrative groups.

T STAR participants also collaborate with food and agricultural scientists throughout the region including all Ministers of Agriculture in the Caribbean region, French Overseas Departments, the Dutch Republic and the State of Florida. These relationships are critical in the battle against pests and diseases that are either affecting and or predicted to become problematic in the region

In Guam, funds were used to study the genetic structure of cycads, which are important ecologically but also as ornamentals. The work is being coordinated on a global scale with cooperators located from Thailand to New York State.

T STAR scientists have been successfully meeting these goals over the life of the program. However, new and emerging issues continue to present new challenges, many times, on an annual or even monthly basis. The Administrative group, in consultation with their stakeholders, identifies the most pressing needs of the food and agricultural sectors for focusing their research efforts. For example, in the Caribbean basin, funds are being focused on invasive aquatic and terrestrial invasive pests and diseases of animals and plants. The goal is to reduce, eliminate and or prevent the entry of organisms, all while protecting and conserving the natural resources and ecosystem of the basin. All the funded projects address important local, regional and national needs, for example, the effect of climate change on the pests and diseases, improving meat and fish production efficiency, quality of foods like coffee, and invasive woody plants and their impact on the ecosystem.

The operation of the Tropical and Subtropical Research program was transferred from the Agricultural Research Service to the agency in fiscal year 1983. Funds were appropriated as follows: fiscal years 1983 and 1984, $2,980,000 per year; fiscal year 1985, $3,250,000; fiscal years 1986–1988, $3,091,000 per year; fiscal year 1989, $3,341,000; fiscal year 1990, $3,299,000; fiscal years, 1991–1993, $3,320,000 per year; fiscal year 1994, $3,121,000; fiscal years 1995–1996, $2,809,000 per year; fiscal years 1997–2000, $2,724,000 per year; fiscal year 2001, $3,853,504; fiscal year 2002,

$8,000,000; fiscal year 2003, $8,941,500; fiscal year 2004, $8,946,900; fiscal year 2005, $9,398,208; for fiscal year 2006, $9,452,520; fiscal year 2007, $0; fiscal year 2008, $7,110,873; and fiscal years 2009 and 2010, $6,677,000 per year. A total of $123,775,505 has been appropriated.

Research projects submitted to the T STAR Caribbean program for funding undergoes a thorough peer-review process, which is then subject to approval by the Administrative group. The Administrative group is comprised of administrators from the respective institutions in each basin, and an Agricultural Research Service and an Executive Regional Research Administrator from that basin. The projects deemed worthy by the Administrative group are then submitted to the National Institute of Agriculture, which conducts its own review to determine whether these projects will be recommended for funding. Each Administrative group also meets twice per year to review the program and plan ahead for future endeavors. In addition, the National Program Leader for T STAR Caribbean is also the National Institute of Agriculture's liaison to the University of Florida and through this relationship, communicates frequently with the Administrator of the T STAR program regarding all related issues and progress. Success of the program is also tracked through annual and termination reports that are required by the agency. The National Program Leader is therefore able to determine impacts, outcomes and outputs resulting from the conduct of these projects.

VIRTUAL PLANT DATABASE ENHANCEMENT PROJECT, MISSOURI

The objective of this grant is to develop the complete database for plants of Central America by capturing half a million new specimen records, bar coding and georeferencing the specimens for analysis, and providing Web access to these data for scientific and agricultural research.

Since work on this project was initiated in 2004, a user-friendly data capture program for the project was developed and deployed. Twenty new data entry people were trained to interpret and enter data from herbarium specimens. Data from 356,287 specimens at the Missouri Botanical Garden and 34,367 specimens in Honduras have been added to TROPICOS. In 2009, the project exceeded its original estimate of geo-referencing 500,000 specimens by over 200,000. The final total was 718,354 specimens with new coordinates. The information gathered by the project was made immediately available on the Web to scientists, researchers, and the informed public.

This project was begun in fiscal year 2004. In fiscal year 2004, $671,018 was appropriated; in fiscal year 2005, $705,312; in fiscal year 2006, $697,950; in fiscal year 2007, $0; in fiscal year 2008, $625,590; and in fiscal years 2009 and 2010, $588,000 per year. A total of $3,875,870 has been appropriated.

This research is being conducted at the Missouri Botanical Garden.

Senior agency technical staff completed a merit review of this project in April 2008 and concluded that the objectives of the research were of value and that the collaborative agreements with various collection owners and technology are in place. The annual proposals undergo an internal, institutional review prior to submission to the agency, where they are again reviewed for merit. Consistent, high-quality data are being added daily to the database and made available to researchers worldwide. The Missouri Botanical Garden is making satisfactory progress.

VIRUS-FREE WINE GRAPE CULTIVARS, WASHINGTON

The objective of this grant is to use virus-free grape clones to determine the best cultivars to use in the Pacific Northwest.

Funds have been used to establish, expand, and maintain a foundation block of virus-free commercial grape cultivars from worldwide sources. These vines have been used to evaluate growth, yield, cold hardiness, and fruit and wine quality of grape scions and rootstocks. Data on the interactions of plant diseases with environmental effects are also being analyzed.

The work supported by this grant began in fiscal year 2005 with an appropriation of $322,400; for fiscal year 2006, $318,700; for fiscal year 2007, $0; for fiscal year 2008, $237,327; for fiscal year 2009, $223,000; and for fiscal year 2010, $260,000. A total of $1,361,427 has been appropriated.

Research is being conducted at the Washington State University Irrigated Agriculture Research and Extension Center.

Each year, the proposal undergoes a peer review at the recipient institution and a merit review is conducted by senior agency technical staff.

VITICULTURE CONSORTIUM, NEW YORK, CALIFORNIA, AND PENNSYLVANIA

The objective of this grant is to maintain or enhance the competitiveness of the United States viticulture and wine industry in the global market by doing research on: varietal responses of grapes; modeling of water requirements; management of diseases and insects, including Phyloxera; and other cultural aspects of grape production.

Each year, researchers meet with stakeholder advisory boards to determine research priorities, and these priorities are incorporated into subsequent request for applications. To date, an effective competitive research program has been established and is addressing priorities in the eastern and western regions of the country.

Grants have been awarded from funds appropriated as follows: fiscal years 1996 and 1997, $500,000 per year; fiscal year 1998, $800,000; fiscal years 1999 and 2000, $1,000,000 per year; fiscal year 2001, $1,496,000; fiscal year 2002, $1,600,000; fiscal year 2003, $1,788,300; fiscal year 2004, $1,599,507; fiscal year 2005, $1,835,200; fiscal year 2006, $2,079,000; fiscal year 2007, $0; fiscal year 2008, $1,548,087; and fiscal years 2009 and 2010, $1,454,000 per year. A total of $18,654,094 has been appropriated.

Research is conducted in as many as 12 different States in any 1 year. Research funds are distributed through the competitive grants processes administered by Cornell University and the University of California. Each year a request for applications is distributed to all States in which there is a viable grape industry.

In addition to scientific peer review of the competitive grant process and the relevancy review of the regional guidance committees, the overall process of the Viticulture Consortium underwent review and recommended changes in 2006. Annually, senior agency technical staff participates in the review process used to select research projects. Funded research is addressing the objectives of the grant.

WATER CONSERVATION, KANSAS

The objective of this grant is to determine the feasibility of subsurface drip irrigation and other alternative irrigation systems in western Kansas to sustain irrigated corn production to support the beef feedlot industry.

Primary experimental activities were the continuation of field studies examining the agronomic relationship of crop yield and water supply as affected by irrigation technology, tillage and residue management, nitrogen management and plant density for use in evaluating limited irrigation strategies.

Differences in soil water evaporation between bare soil and residue treatments were 0.50 to 0.75 mm/day which for seasonal basis might be 55 to 58 mm. The impact of this change in knowledge is that producers might be able to obtain much as 2.7 Mg/ha additional corn yield.

Tests indicated that gross irrigation savings of 25 to 100 mm per year are realistic when weather-based irrigation scheduling is practiced. In addition to the conserved water resource, energy savings of $10 to $40/acre are possible. Economic comparison of center pivot sprinklers and subsurface drip irrigation (SDI) indicated that SDI can be more profitable than sprinklers with good corn yields and current crop prices provided the system can last at least 20 years.

The work supported by this grant began in fiscal year 1993 with an appropriation of $94,000; $88,000 in fiscal year 1994; $79,000 per year in fiscal years 1995–2000; $78,826 in fiscal year 2001; $79,000 in fiscal year 2002; $78,487 in fiscal year 2003; $70,581 in fiscal year 2004; $74,400 in fiscal year 2005; $73,260 in fiscal year 2006; in fiscal year 2007, $0; in fiscal year 2008, $74,475; in fiscal year 2009, $69,000; and in fiscal year 2010, $500,000. The total funds appropriated are $1,754,029.

The research is being conducted at Kansas State University. The field portion of the research is being conducted on Research Centers at Colby and Garden City, Kansas. Additional work is being carried out in the Departments of Agronomy and Agricultural Economics of Kansas State University in Manhattan, Kansas.

The agency scientist met with the principal researcher in October 2008 to discuss the project progress and accomplishments. The researchers continue to make accomplishments in their research and dissemination of findings.

WATER USE EFFICIENCY AND WATER QUALITY ENHANCEMENTS, GEORGIA

The objective of this grant is to develop and expedite the implementation of new technologies to improve water use efficiency and water quality at both a State and watershed scale by determining the environmental impact of these systems on water quality.

Detailed information on several variable rate irrigation systems was collected on several Georgia farms, and water quality data on several sites has been collected

with the goal of optimizing yield, water quality, and field cropping patterns with a minimum of water use. Research to tie the current and future controller systems to wireless soil moisture sensors is making good progress, using soil moisture sensors which transmit data through a mesh network. A second generation commercial system that makes the nozzle system self-powering and controlled though a wireless ZigBee link to the controller at the pivot point is now being evaluated. This second generation system simplifies installation and maintenance by using water pressure to close the Bermod valve instead of air. This eliminates the need for air compressors and air holding tanks on the pivot. Commercial systems, both first and second generation, have been installed in Georgia, Alabama, Florida, South Carolina, North Dakota and Alaska with over 50 cooperating growers. These sites show an average water savings of 12 to 16 percent coupled with equal or better production. Additional systems are now being installed in Nebraska for the 2010 season. Growers in California and Maryland are likely to order in 2010 or 2011. Work has also progressed on a solar powered drip irrigation system, particularly valuable for remote sites. Work continues to simplify the system and to add additional information including images and temperature and moisture data and also to add control signals and alerts. Soil moisture sampling systems, developed by the project team, use a battery powered watermark sensor connected to a wireless data transmission system and promises to be significantly cheaper than all systems now commercially available. Results of a dissertation funded by this project and increased water quality monitoring have lead to recommendations for riparian buffers as crucial landscape Best Management Practices for reducing herbicide runoff from agricultural production on Georgia's coastal plain. The number of test sites for the variable rate center-pivot irrigation system was expanded to over 50 last year. The project is now investigating micro turbines that might be used to power the system with the goal of coupling the nozzle system and the micro turbine into a single prototype piece that will be rugged, reliable, accurate and reasonably priced.

The work supported in this grant began in 2002. The appropriation for fiscal year 2002 was $480,000; for fiscal year 2003, $536,490; for fiscal year 2004, $447,345; for fiscal year 2005, $470,208; for fiscal year 2006, $489,060; for fiscal year 2007, $0; for fiscal year 2008, $368,403; and for fiscal years 2009 and 2010, $346,000 per tear. A total of $3,663,506 has been appropriated.

The development research is carried out in the Tifton laboratory of the University of Georgia. Testing sites are in several farms in the area.

The agency conducted a thorough review of the project in fiscal year 2002. All subsequent proposals related to this project have been reviewed both internally and by the agency. A second project review was carried out through a visit to the University of Georgia, reports, and telephone interviews. A visit from the research team for a review is tentatively scheduled for 2010. Results from this project have been reported annually in the USDA Current Research Information System and in Proceedings of the American Society of Agricultural Engineers. Results were also presented at a National Science Foundation workshop, multi-State committee meetings, and a special symposium on Emerging technologies for real-time integrated management at the American Society of Agronomy-Crop Science Society of America-Soil Science Society of America international annual meetings. Results of this project have also been reviewed through the project Web site, which can be found at http://www.nespal.org/vri.html. The review found that work has been in keeping with the project objectives, that progress is on schedule, and publication of results is appropriate.

WETLAND PLANTS, LOUISIANA

The objective of this grant is to develop an economically feasible approach to controlling coastal wetlands erosion that would use vegetation to retain threatened areas and to rebuild lost land. To accomplish this, a system that incorporates agricultural principles involved in crop production is required. Specifically, a seed-based system using appropriate planting material is required, and progress has been rapid in developing this seed-based system.

In 2008, the Louisiana State University AgCenter's Coastal Plants Program (CPP), which consists of geneticists, ecologists, and other scientists, developed improved restoration practices and genetically enhanced plant varieties of ecologically important native coastal plants. Cost-efficient seed-based sediment restoration was developed by the CPP and four smooth cordgrass and five sea oats varieties were developed that have superior performance in natural environments. These developments and findings will greatly increase the efficiency and success of restoration projects by providing improved planting material and methods that effectively stabilize restored coastal sites and create natural ecosystems. Louisiana's losses of

20,000 to 30,000 acres per year with long-term consequences on national security, energy production, navigation, fisheries, wildlife, and other economic and environmental resources will benefit from this research.

In 2009, genetically different smooth cordgrass and sea oats genotypes and clones were developed and tested for performance with traditional plant breeding methodologies by the Louisiana State University Agricultural Center's Coastal Plants Program. Four clones of smooth cordgrass and four clones of sea oats have been identified as superior clones after multiple years of evaluation in natural marsh or beach environments. These clones will be released to the public for use in restoration projects in 2010.

The work supported by this grant began in fiscal year 1999, and the appropriation for fiscal years 1999 and 2000 was $600,000 per year; for fiscal year 2001, $598,680; for fiscal year 2002, $587,000; for fiscal year 2003, $596,100; for fiscal year 2004, $532,838; for fiscal year 2005, $562,464; for fiscal year 2006, $557,370; for fiscal year 2007, $0; for fiscal year 2008, $415,074; for fiscal year 2009, $188,000; and for fiscal year 2010, $200,000. A total of $5,437,526 has been appropriated.

Research is being conducted at the Louisiana Agricultural Experiment Station at Louisiana State University.

This project was reviewed in August 2003. It was found to be progressing satisfactorily relative to the achievement of its original goals.

WHEAT GENETIC RESEARCH, KANSAS

The objective of this grant is to enhance the genetic diversity available to wheat breeders nationally and internationally by collecting, evaluating, maintaining, and distributing germplasm derived from wild relatives of wheat.

The Wheat Genetics Resource Center fills requests for seed from the germplasm collection from wheat breeders in the United States and in other countries. In 2009, this project identified genetic materials for screening for resistance to a new and threatening wheat stem rust referred to as Ug-99. Five new sources of resistance were identified and are now being used in germplasm enhancement programs.

Work supported by this grant began in fiscal year 1989. Appropriations for this project are as follows: fiscal year 1989, $100,000; fiscal year 1990, $99,000; fiscal year 1991, $149,000; fiscal years 1992–1993, $159,000 per year; fiscal year 1994, $196,000; fiscal years 1995–1997, 176,000 per year; fiscal years 1998–2000, $261,000 per year; fiscal year 2001, $260,426; fiscal year 2002, $255,000; fiscal year 2003, $263,278; fiscal year 2004, $235,602; fiscal year 2005, $244,032; fiscal year 2006, $340,560; fiscal year 2007, $0; fiscal year 2008, $256,194; fiscal year 2009, $240,000; and fiscal year 2010, $1,000,000. A total of $5,268,092 has been appropriated.

This research is being conducted at Kansas State University at the Wheat Genetics Resource Center. The Center also includes collaborative projects with other departments at Kansas State University, the Agricultural Research Service, and with other institutions in the United States.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation. The submitting institution conducts a peer review of the proposal prior to submission. The project was found to successfully address issues in the winter wheat industry in Kansas and other States. A senior member of the agency's technical staff conducted a site visit in March 2008.

WILDLIFE/LIVESTOCK DISEASE RESEARCH PARTNERSHIP, WYOMING

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $300,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

WOOD UTILIZATION RESEARCH

The objectives of the grant are to: (1) provide science that addresses the problems associated with harvesting, transporting, manufacturing, and marketing economical forest products in three regions, and (2) educate graduate students to be knowledgeable of wood as a renewable resource.

The program has been expanded to include additional university research locations—total = 13 universities. These have included new regions of indigenous forests and specific manufacturing techniques as well as new research emphases as specified in the Program's 5-Year Strategic Plan (2006) as follows:

—Domestic and global industrial competitiveness

—Sustainable environmentally acceptable operations and manufacturing

—Efficient use of renewable wood materials for the benefit of Americans

There are 13 locations. Forest products research centers at Michigan State University, Mississippi State University, and Oregon State University were the first centers supported in the program. The University of Minnesota—Duluth, North Carolina State University, and the University of Maine were added in fiscal year 1994. In 1999, two additional units were added: (1) a consortium made up of specific units at the Universities in Idaho, Montana, and Washington; and (2) the Forestry Department, University of Tennessee. The University of Alaska—Sitka was included in the program in fiscal year 2000, and West Virginia University was added in the program in 2004. Louisiana State University is the latest addition (2008).

The three original locations have expanded the objectives of their research as new information became available through ongoing research and continued responses to the completed studies. The newer programs have also been continued with new research objectives; some based on needs from consumers for additional work. The program in Alaska is working with institutions and organizations in Alaska to define research priorities. West Virginia University concentrates on the use of upland hardwoods. All of the programs are working to define environmentally benign products made of a renewable resource and procedures that are economically viable.

Grants have been awarded from funds appropriated as follows: fiscal year 1985, $3,000,000; fiscal years 1986–1989, $2,852,000 per year; fiscal year 1990, $2,816,000; fiscal years 1991 and 1992, $2,852,000 per year; fiscal year 1993, $4,153,000; fiscal year 1994, $4,176,000; fiscal years 1995 and 1996, $3,758,000 per year; fiscal years 1997 and 1998, $3,536,000 per year; fiscal years 1999 and 2000, $5,136,000 per year; fiscal year 2001, $5,773,271; fiscal year 2002, $5,670,000; fiscal year 2003, $6,129,895; fiscal year 2004, $6,069,975; fiscal year 2005, $6,234,720; fiscal year 2006, $6,370,650; fiscal year 2007, $0; fiscal year 2008, $4,840,875; fiscal year 2009, $4,545,000; and fiscal year 2010, $4,841,000. The total amount appropriated is $106,592,386.

Reviews are conducted when requested by a State institution. Reviews at Mississippi State University and Oregon State University were conducted in 2004. Both institutions have successfully achieved their set objectives. Center directors met in 1996, 1999, 2004, 2005, 2006, 2008 and 2009. Progress reports are reviewed each year. Each center has its advisory group or research committee to provide direction and the input of stakeholders into the program.

WOOL RESEARCH, MONTANA, TEXAS, AND WYOMING

The objective of this grant is to improve the efficiency and profitability of producing and marketing wool, mohair, and cashmere. Objectives at the three laboratories are continually revised to reflect the changing research priorities for the wool, mohair, and cashmere industries and to satisfy consumer demands for products from these fibers. It is anticipated that 5 years will be required to complete the current research.

Research conducted at the Texas A&M University station is examining and contributing to several approaches for making the United States animal fiber and sheep and goat meat industries more competitive and more profitable.

The Montana State University station uses the Optical Fiber Diameter Analyzer OFDA2000 instrument to provide producers an opportunity to test wool inexpensively and is developing an edge for marketing their wool clips.

The University of Wyoming effort supports improvement of the United States sheep industry through identifying and evaluating new technologies that enhance our abilities to objectively measure the physical properties of greasy wool and other animal fibers; and through promoting communication between research organizations, producer groups, both at the State and national levels, end-user groups, and regulatory groups.

Grants have been awarded from appropriated funds in the amount of $150,000 per year for fiscal years 1984–1985; $142,000 per year for fiscal years 1986–1989; $144,000 for fiscal year 1990; $198,000 for fiscal year 1991; $250,000 per year for fiscal years 1992–1993; $235,000 for fiscal year 1994; $212,000 per year for fiscal years 1995–1997; $300,000 per year for fiscal years 1998–2000; $299,340 for fiscal year 2001; $294,000 for fiscal year 2002; $292,089 for fiscal year 2003; $268,407 for fiscal year 2004; $297,600 for fiscal year 2005; $295,020 for fiscal year 2006; $0 for fiscal year 2007; for fiscal year 2008, $219,453; and for fiscal years 2009 and 2010, $206,000 per year. A total of $5,858,909 has been appropriated.

In 2008, the principal investigators from the three universities met with the NIFA National Program Leader responsible for the grant during a multi-State committee meeting where progress and direction of the grant was discussed. The research encompassed in this grant is a component of a multi-State research project; therefore, accomplishments are reported annually to scientific peers and representatives from

the sheep, goat, wool, mohair, and cashmere industries. Each multi-State research project is periodically peer reviewed to verify accomplishments and collaborative efforts among the participating institutions. In addition, research results are presented each year to the members of the American Sheep Industry Association during its annual convention.

WORLD FOOD AND HEALTH INITIATIVE, ILLINOIS

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $461,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

RESEARCH FEDERAL ADMINISTRATION GRANTS

AG-BASED INDUSTRIAL LUBRICANTS RESEARCH PROGRAM, IOWA

The Ag-Based Industrial Lubricants program was initiated to develop new non-food uses for soybean crop oil. Eighteen years of research and development has led to numerous patents or joint patents on soy-based lubricants, leading to successful commercialization of many soy-based grease and lubricant products. In 2007, this program transitioned to a Center of Excellence and became the National Agriculture-Based Lubricants Center. The research program continues to investigate improvements in biolubricants manufacturing efficiency using microwave energy as a replacement for traditional heating methods which cost more and cause oxidative break-down in vegetable oils. In addition, the project has conducted initial diesel engine testing to evaluate biolubricants in the engine crankcase—a direct result of improved technologies to control oxidative breakdown of vegetable oils through continuing research in both chemical and genetic modifications of vegetable oils to achieve unprecedented stability. Research continues to investigate nano-metals for control of bacteria which cause premature lubricant failure in machining equipment.

Federal funding for this project began with a 1998 appropriation of $200,000. Fiscal years 1999 and 2000 appropriations were $250,000 each year; for fiscal year 2001, $349,230; for fiscal year 2002, $360,000; for fiscal year 2003, $447,075; for fiscal year 2004, $402,611; for fiscal year 2005, $522,784; for fiscal year 2006, $543,510; for fiscal year 2007, $0; for fiscal year 2008, $405,144; for fiscal year 2009, $380,000; and for fiscal year 2010, $405,000. A total of $4,515,434 has been appropriated.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

AGRICULTURAL DEVELOPMENT IN THE AMERICAN PACIFIC, HAWAII

The Agricultural Development in the American Pacific (ADAP) goals are to develop human resources and information capacity within the institutions, to manage more effectively, agricultural programs within and among the institutions, and to focus available resources on critical agricultural issues of the Pacific. On-going projects include animal health surveys, livestock waste management, artificial insemination demonstration and education, market production information tracking systems co-developed with "State" Departments of Agriculture, and Web sites that contain relevant research information supported by ADAP and pacific-based information.

The ADAP Communications, Information and Publications Service (CIPS) project was created to coordinate and address the information needs of the ADAP institutions, communities and clientele on a regional basis. This project helped provide and made accessible appropriate information and materials that benefit the American Pacific region and encourage economic and agricultural sustainability. As a result of more open and immediate access to information, duplication of work in the region was reduced, leading to more efficient use of fiscal and human resources. The increased utilization of electronic communication capabilities greatly reduced travel costs for various meetings, training, and workshops.

The American Pacific Land-grant institutions and government agencies want to increase their levels of trained and competent staff in order to enhance the institution and government services and to advance local agricultural development or allied fields. One way to help increase the number of qualified employees is to provide high school and college students, specifically potential future employees, and current government or ADAP institution employees, with the opportunity to compete for educational scholarships. ADAP has developed programs targeted at different stages of educational development.

The work was funded for 7 years with an annual appropriation of $650,000 to the former Extension Service. In fiscal year 1994, an appropriation of $608,000 was

made to NIFA to continue the ADAP program. In fiscal year 1995, the appropriation was $527,000; for fiscal years 1996 through 2000, $564,000 each year; fiscal year 2001, $562,759; fiscal year 2002, $552,000; fiscal year 2003, $548,412; fiscal year 2004, $490,091; fiscal year 2005, $486,080; fiscal year 2006, $481,150; fiscal year 2007, $0; fiscal year 2008, $372,375; fiscal year 2009, $349,000; and fiscal year 2010, $400,000. The total appropriation is $8,196,867.

Work is carried out at American Samoa Community College, College of Micronesia, College of the Marshall Islands, Palau Community College, College of Micronesia—Federated State of Micronesia, Northern Marianas College, University of Guam, and the University of Hawaii at Manoa.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

AGRICULTURE WASTE UTILIZATION, WEST VIRGINIA

The original goal of this project was to determine the applicability of anaerobic digestion to convert organic waste materials to energy in the form of biogas, thereby reducing the amount of organic matter for disposal. The subsequent goal is to manage the remaining solids from anaerobic digestion in an environmentally sound manner. A model was developed that predicts the changes of temperature in a pilot plant anaerobic digester. An experiment has made excellent progress using a molecular approach to document microbial diversity in an anaerobic digester. A long-term experiment was begun in 2008 to investigate the capacity of thermophilic anaerobic digestion to recover additional energy from a variety of types of waste biomass including agricultural residues and ethanol manufacturing wastes. Metagenomics is a new field that has arisen as a result of technological advancements to understand how a microbial community functions.

The work supported by this grant began in fiscal year 1998, and the appropriation for fiscal year 1998 was $360,000; for fiscal year 1999, $250,000; for fiscal year 2000, $425,000; for fiscal year 2001, $494,909; for fiscal year 2002, $600,000; for fiscal year 2003, $685,515; for fiscal year 2004, $617,336; for fiscal year 2005, $648,768; for fiscal year 2006, $683,100; for fiscal year 2007, $0; for fiscal year 2008, $484,584; for fiscal year 2009, $455,000; and for fiscal year 2010, $500,000. A total of $6,204,212 has been appropriated.

Research is conducted at West Virginia State College, Institute.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

ANIMAL HEALTH RESEARCH AND DIAGNOSTICS, KENTUCKY

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $300,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

ANIMAL WASTE MANAGEMENT, OKLAHOMA

The goal of this research is to develop best management practices for the expanded animal industry that will protect ground water supplies from pollution of nutrients, salts, and pathogens; maintain air quality; and minimize odors derived from the swine operation to include: swine buildings, lagoon, land-application, soil-cropping, and/or rangeland production system, thus maintaining the quality of life in the rural sector. Long-term application of swine effluent in no-till cropping systems resulted in increasing levels of carbon sequestration and nitrogen in the soil profile following 9 years of an irrigated corn-wheat production. Reductions in protein content in swine feed has resulted in significant reductions in ammonia emissions from swine housing. The project has produced several educational videos for use by swine producers in Oklahoma and in the adjoining States. These videos describe how producers can reduce the environmental impact of managing swine manure to protect soil, water, and air. These videos are accessible by any producer through the Oklahoma State University Web site.

The work supported by this grant began in fiscal year 1998, and the appropriation for fiscal years 1998–2000 was $250,000 per year; for fiscal year 2001, $274,395; for fiscal year 2002, $320,000; for fiscal year 2003, $332,823; for fiscal year 2004, $298,230; for fiscal year 2005, $295,616; for fiscal year 2006, $392,040; for fiscal year 2007, $0; for fiscal year 2008, $291,942; and for fiscal years 2009 and 2010, $274,000 per year. A total of $3,503,046 has been appropriated for this project.

Some of the field work has been conducted at The Oklahoma Panhandle Research and Extension Center located in Goodwell, Oklahoma. Much of the laboratory analysis work was done at Oklahoma State University. The diet modification and eco-

nomic impact studies were conducted at the swine research facility at Stillwater, Oklahoma.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

APPLIED AGRICULTURE AND ENVIRONMENTAL RESEARCH, CALIFORNIA

California State University scientists are studying the air quality requirements of particulate matter from agriculture, race horse muscular injuries threatening the horse racing industry, managing drought on high value crops like pistachios, development of an avian flu immunization, and reducing crop processing costs and environmental impacts.

The project developed an eco-friendly lye peeling system with wide application in fruit and vegetable processing industries. The system has potential to significantly reduce fresh water use, wastewater discharge, and contaminant levels in wastewater. Research demonstrated that allowing weed growth in winter and vegetation removal in mid-spring using cultivation, prevented vine yield reductions, reduced production costs, and avoided pre-emergence herbicide use. Results show that a series of growth implants increased physiological growth and carcass attributes in Holstein Steers. Completion of the development of an Intelligent Mechanical Tomato Transplanter has increased the knowledge base leading to a new awareness that computer controlled robotic systems can potentially be used for transplanting tomatoes and similar crops. Genome mapping in lettuce has led to increased shelf life and nutrient quality. Wine grape quality and value are improved through abscisic acid treatments. The use of improved water management allowed nut orchards to survive through long periods of drought conditions.

The work for this project began in fiscal year 2006 with an appropriation of $990,000; for fiscal year 2007, $0; for fiscal year 2008, $737,799; and for fiscal years 2009 and 2010, $693,000 per year. A total of $3,113,799 has been appropriated.

The research is being carried out at California State at Fresno; the California State Polytechnic University at San Luis Obispo; California State University at Pomona; and California State University at Chico.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

AQUACULTURE, OHIO

The goal of the project is to establish a program in Ohio to foster the development of a statewide aquaculture industry. Research funded under the Aquaculture, Ohio program has led to: new information from muscle studies that will be useful in identifying gene products unique to enhanced muscle growth and development and will allow producers to develop useful breeding strategies for the production of yellow perch; the establishment of a marker-assisted breeding program in yellow perch that should improve growth rate by 15 to 20 percent per generation; unique protein expression patterns that were correlated with specific traits that can be used to examine muscle in fishes; sensory evaluation studies comparing wild versus farm-raised yellow perch that found that farm-raised yellow perch compares favorably to wild-caught perch; development of new pond fertilization regimes for yellow perch production that has led to a 30 percent increase of perch juveniles; establishment of XY female bluegill population that will allow for the development of a YY-male broodstock population. Progeny from these broodstock will be entirely male and are expected to grow 30 to 50 percent faster than mixed-gender population; genetic linkage mapping and identified sex-specific markers that should provide the basis for detection of important commercial traits; and that market-sized golden shiners can be raised in one growing season in Ohio's temperate climate. Recent accomplishments include but are not limited to: 10 improved lines of yellow perch were developed. These fish showed that the improved lines grew 28 percent to 54 percent faster than unimproved fish. Approximately 60,000 of these improved yellow perch fry and fingerlings were distributed to fish farmers in the State. A second generation of improved fish was created in 2008. Two mapping families have been developed and induced to produce second generation families for quantity trait loci mapping. About 15,000 all-male and 5,000 YY supermale bluegill populations, which would grow 40 to 50 percent faster than a mixed-gender population, have been generated for developing all-male broodstock. The Bowling Green Aquaculture Program established an algal and zooplankton culture lab and produced 50,000 yellow perch juveniles for grow-out trials with a private cooperator. The aquaponics variety trials in 2008 were successful in producing tomatoes, peppers, leaf lettuce, cucumbers, eggplant, as well as chives and basil. The Bowling Green Aquaculture Program organized a Baitfish Grower's Alliance and provided a Baitfish Culture manual and tech-

nical assistance to the growers. Largemouth bass and yellow perch were cultured together to market size in 1 year using indoor recirculating systems, substantially reducing production costs and traditional grow-out time by nine months. Methods have been developed to identify gene products associated with muscle growth due to genetic and nutritional selection and researchers have developed novel proteomic methodology combining electrophoretic, image, statistical, and primary protein sequence techniques to identify muscle proteins and enzymes associated with environmental impacts on muscle growth and meat quality. The fundamental findings from these studies demonstrate that muscle growth in meat animals is accomplished through the increase in those enzymes that are the gate keepers of the glycolytic pathway.

The appropriation for fiscal year 2002 was $400,000; for fiscal year 2003, $447,075; for fiscal year 2004, $849,955; for fiscal year 2005, $846,176; for fiscal year 2006, $891,000; for fiscal year 2007, $0; for fiscal year 2008, $663,324; and for fiscal years 2009 and 2010, $623,000 per year. A total of $5,343,530 has been appropriated.

The research is conducted at The Ohio State University in collaboration with the Ohio Agricultural Research and Development Center, the South Centers at Piketon, and the Agricultural Technical Institute.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

AQUACULTURE RESEARCH AND EDUCATION CENTER, PENNSYLVANIA

The goal of this project is to develop a program in aquaculture production and processing for urban areas. Research conducted by the program have: found that NuPro, a commercially available feed ingredient, can be an effective protein supplement for salmonid feeds; generated new information on the use of commercially available feed ingredients for salmonids including a study on four organic acids citric, fumaric, oxalic, and gluconic. In Atlantic salmon feeding trials, gluconic acid may be the most promising when used as a feed preservative and may also contribute to enhance growth. Recent studies have determined: methods for culturing local freshwater mussel species described and refined, and several native species of fish were tested as hosts for the parasitic larvae of the mussels. Tilapia can effectively utilize phytate phosphorus with supplemental phytase being added to the diet. Research on organic diets for tilapia indicate that appropriate feeds can be created to support an organic tilapia aquaculture program once the final regulation from USDA for organic standards have been finalized.

This project began in fiscal year 2003. The fiscal year 2003 appropriation was $248,375; for fiscal year 2004, $221,684; for fiscal year 2005, $220,224; for fiscal year 2006, $217,800; for fiscal year 2007, $0; for fiscal year 2008, $163,845; for fiscal year 2009, $154,000; and for fiscal year 2010, $300,000. A total of $1,371,928 has been appropriated.

Cheyney University of Pennsylvania located in Cheyney, Pennsylvania is conducting the research.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

BEST PRACTICES IN AGRICULTURE WASTE MANAGEMENT, CALIFORNIA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $300,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

BIOBASED POLYMER INITIATVE, KANSAS

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $750,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

BIOTECHNOLOGY RESEARCH, MISSISSIPPI

A goal of this research is to develop the capacity of Alcorn State University to conduct research in the area of plant biotechnology, train students for careers in biotechnology and biomedical sciences, and to utilize biotechnology techniques to improve the livelihood and viability of limited resource farmers in Mississippi and the Southeast. Another goal is to develop new sweet potato cultivars with disease tolerance, expanded industrial and food uses, and the potential for greater economic benefits for farmers. Several transgenic sweet potato lines have been developed with an anti-microbial peptide against various fungal pathogens.

The work supported by this grant began in fiscal year 2000, and the following amounts have been appropriated: in fiscal year 2000, $425,000; in fiscal year 2001, $589,700; in fiscal year 2002, $680,000; in fiscal year 2003, $745,125; in fiscal year 2004, $667,041; in fiscal year 2005, $661,664; in fiscal year 2006, $680,130; in fiscal year 2007, $0; in fiscal year 2008, $511,395; and in fiscal years 2009 and 2010, $480,000 per year. The total amount appropriated is $5,920,055.

The research is being conducted at Alcorn State University, in Lorman, Mississippi, and at field locations in Preston and Mound Bayou, Mississippi.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CELLULOSIC BIOMASS, SOUTH CAROLINA

The objective of this project is to determine which plants produce the highest energy yield per bushel among sugarcane, sugar-beets, and switchgrass for the production of bio-butanol. Specific objectives include: (1) establishment of field station; (2) contrasting organic versus traditional growth methods of feedstocks; and (3) educating the public through workshops and multimedia presentations in an effort to produce certified organic crop producers for bio-butanol feedstocks. Researchers are establishing the testing greenhouse on newly acquired land. Seeds of switchgrass, sugar beets, and vegetative cuttings of sugarcane are being planted and germinated. Students and researchers are collecting pertinent data on feedstock germination, establishment, and development.

Fiscal year 2009 was the first year that funds were appropriated for this grant. In fiscal years 2009 and 2010, $469,000 per year was appropriated. A total of $938,000 has been appropriated.

The work is being carried out by researchers at Claflin University and on the Agricultural/Biofuel Feed Stock Research Field Station in Orangeburg County, South Carolina.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CENTER FOR AGRICULTURAL AND RURAL DEVELOPMENT, IOWA

The objectives of this project are to assess and evaluate various proposals affecting agricultural trade, provide analytical support to the Office of the U.S. Trade Representative, and provide information to farmers and agribusiness firms on the competitive implications of trade agreements. Theoretical studies, empirical and descriptive analyses of policy issues and technical problems pertaining to the Uruguay round of negotiations were completed and provided to negotiators and the agribusiness community. Knowledge developed in this phase is now being used to monitor the effects of the Uruguay Round Agricultural Agreement (URA).

This grant supports six projects focusing on URA and the World Trade Organization (WTO) monitoring and implementation problems; implications of the URA and WTO for Eastern Europe, Baltic, and the Newly Independent States; development of a model to assess the North American Free Trade Agreement and its linkages with the General Agreement on Tariffs and Trade; trade implications of U.S. food and development aid in developing countries; integration of China into world agricultural markets; and special projects as requested for the U.S. Trade Representative's office. Major emphasis is placed on developing and improving international livestock and grain sector models.

This research program was initiated in fiscal year 1989. Grants have been awarded from funds appropriated as follows: fiscal year 1989, $750,000; fiscal years 1990 and 1991, $741,000 per year; fiscal years 1992–1993, $750,000 per year; fiscal year 1994, $705,000; fiscal year 1995, $612,000; fiscal year 1996, $655,000; fiscal years 1997–2000, $355,000 per year; fiscal year 2001, $427,058; fiscal year 2002, $600,000; fiscal year 2003, $670,613; fiscal year 2004, $600,436; fiscal year 2005, $595,200; fiscal year 2006, $589,050; fiscal year 2007, $0; fiscal year 2008, $438,906; and for fiscal years 2009 and 2010, $412,000 per year. A total of $11,869,263 has been appropriated.

The research program is carried out by the Center for Agriculture and Rural Development at Iowa State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CENTER FOR FOOD INDUSTRY EXCELLENCE, TEXAS

A goal of this research is to construct a mathematical simulation model based on real-world data that effectively compared E. coli O157:H7 and Salmonella movement through the farm-to-fork continuum in U.S. and Mexican beef processing plants. In

addition to the development of the model, researchers will identify drivers of microbial failures within this model that could be used to critically evaluate and compare interventions used in the United States and Mexico to optimize their ability to reduce the microbial failure rate. This data will be used to develop training modules for producers involved in the farm-to-fork continuum in the United States and Mexico. Industry workshops on topics such as HACCP (Hazard Analysis and Critical Control Points), Listeria Control, Beef 706 and Beef Baccalaureate have been conducted to reach several targeted audiences including food processors, the media, and food retailers.

The work supported by this grant began in fiscal year 2003, and the appropriation for fiscal year 2003 was $248,375; $221,684 in fiscal year 2004; $867,008 in fiscal year 2005; $1,353,330 in fiscal year 2006; $0 in fiscal year 2007; $1,007,895 in fiscal year 2008; and $946,000 per year in fiscal years 2009 and 2010. The total appropriation was $5,590,292.

Research is being conducted at the Center for Food Industry Excellence at Texas Tech University Meat Laboratory in Lubbock, Texas.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CENTER FOR INNOVATIVE FOOD TECHNOLOGY, OHIO

The goal of the program is to create a program that provided relevant solutions to technically challenging problems as defined by the industry. More than 64 industry-driven projects have been completed to date. The Center has encouraged innovation by leveraging private sector funding to underwrite projects designed to assess the feasibility of emerging technologies in specific applications, or traditional non-food technologies in specific food processing situations. The accomplishments in this last fiscal year include an evaluation performed at The Ohio State University on the efficiency of anti-microbial coatings for processing equipment, a demonstration of chemical thinning technology to increase the yields of processing vegetables, the establishment of a program to evaluate the technical and economic feasibility of electron beam processing of vegetables, the use of silver zeolite antimicrobial packaging for food products, the development of gluten-free pasta, wraps, and pizza dough, and the potential use of an organic substance to inhibit the browning of fresh cut fruits and vegetables.

The work has been supported since fiscal year 1995. The project received appropriations of $181,000 per year for fiscal years 1995–1997; $281,000 for fiscal year 1998; $381,000 per year for fiscal years 1999 and 2000; $759,326 for fiscal year 2001; $765,000 for fiscal year 2002; $760,028 for fiscal year 2003; $1,042,811 for fiscal year 2004; $1,144,768 for fiscal year 2005; $1,133,550 for fiscal year 2006; $0 for fiscal year 2007; $845,043 in fiscal year 2008; and $793,000 per year in fiscal years 2009 and 2010. A total of $9,622,526 has been appropriated.

Research is being conducted in the laboratories of the Ohio State University and at various participating companies in Ohio, Wisconsin, Texas, Tennessee, Colorado, Indiana, California, and Michigan.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CENTER FOR NORTH AMERICAN STUDIES, TEXAS

The goal of this project is to promote strong agricultural ties among the United States, Mexico, and Canada. The project is also designed to help ensure the continued competitiveness of U.S. agriculture. Current progress is addressing the following:

—Evaluate the trade impacts of alternative trade, macroeconomic, market, and farm policies in each of the three countries.
  —Ongoing throughout the existence of the Center for North American Studies (CNAS).
—Develop cooperative research programs to investigate priority issues related to growing North American trade in agricultural and food products.
  —Ongoing throughout the existence of CNAS.
—Develop training programs designed to prepare agricultural and agribusiness firms for international opportunities and competition.
  —Predominately performed during the spring and summer time period, but also somewhat ongoing throughout the year.
—Maintain and expand institutional linkages with internationally recognized agricultural programs in Mexico, Canada, and other countries important to North American agricultural trade.
  —Ongoing throughout the existence of CNAS.

Work supported by this grant which began 1994 are as follows: fiscal year 1994, $94,000; fiscal year 1995, $81,000; fiscal years 1996–2000, $87,000 each year; fiscal year 2001, $86,809; fiscal year 2002, $200,000; fiscal year 2003, $198,700; fiscal year 2004, $894,690; fiscal year 2005, $992,000; fiscal year 2006, $990,000; fiscal year 2007, $0; fiscal year 2008, $737,799; and for fiscal years 2009 and 2010, $693,000 per year. In total, this research has received $6,095,998 in appropriations.

The work is being carried out at Texas A&M University through the Texas Agricultural Experiment Station, and in other segments of the Texas A&M University System. In addition to Texas A&M University, other involved institutions are Texas Tech University, Louisiana State University Agricultural Center, and New Mexico State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CENTER FOR RENEWABLE TRANSPORTATION FUEL, MICHIGAN

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

CENTERS FOR DAIRY AND BEEF EXCELLENCE, PENNSYLVANIA

Please note that the Centers for Dairy and Beef Excellence are two separate organizations that function independently of one another.

The goal for the Center for Dairy Excellence in Pennsylvania is to continue to revitalize the dairy industry within the State and positively impact rural communities while strengthening the local economy with regard to jobs and income. The Center has made significant progress toward these goals through the development and successful implementation of the Dairy Profit Team Program. This program has become a central part of the decision-making process on progressive dairy farms in Pennsylvania.

The long-term efficiency goals set forth by the Center for Beef Excellence include increasing feed efficiency statewide by 10 percent, increasing cow reproduction by five percent, increasing cow efficiency by five percent and decreasing calf mortality by five percent. The Center also plans to increase research funding for beef-related research by 25 percent statewide.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $74,475; for fiscal year 2009, $319,000; and for fiscal year 2010, $340,000. The total amount appropriated is $733,475.

The research is conducted at the Center for Dairy Excellence in Harrisburg, Pennsylvania and on dairy farms throughout the State.

The Center for Beef Excellence is located in Harrisburg, Pennsylvania. A significant proportion of the work is conducted on-farm throughout the State.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CLEMSON UNIVERSITY VETERINARY INSTITUTE, SOUTH CAROLINA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $1,000,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

CLIMATE FORECASTING, FLORIDA

The goal of this research is to improve climate forecasting and crop models to reduce risk for agricultural producers and the crop insurance industry. This is being accomplished by designing and developing a climate forecast information component, a State and region-wide agricultural outlook component, a commodity-based component; and produce an Agriculture Climate Information and Decision Support system. Additional research at the Southeast Climate Consortium includes the integration of weather generators with climate models; the assessment of agricultural impact through the analysis of historical crop yields and simulated yield potentials; understanding forestry risk and its minimization; water quality assessment and policy analysis; and the development of crop management optimization toolkits and programs to explore optimal management options under different El Niño-Southern Oscillation conditions and optimization criteria.

The project accomplishments to date include: annual regional freeze forecasts; El Niño-Southern Oscillation phase assessment; historic weather data by county; weather generator; coupled climate-ocean-land surface-crop modeling: bimonthly wildfire and forest risk forecasts; crop simulation model; historic yield data by coun-

ty; assessments of yield response to climate; county level climate-crop yield forecasts; and cattle heat stress forecast.

The program has greatly improved its prototype crop yield risk tool which helps analyze yield potential based on climate forecast and planting dates. The Web-based system is a Climate-Related Tool for Agriculture and Natural Resources Management and referred to as AgroClimate Tools. The Climate Forecast Tool provides monthly climate forecasts of average precipitation and minimum and maximum temperatures at the county level; probabilities for these variables to help the analysis of risk and observed values for the past 5 years. The crop yield risk tool helps analyze yield potential based on climate forecast and planting dates. The results are based on crop model simulations and are only available for a limited number of counties, depending on the crop selected. Crops under implementation are: peanuts for selected counties in Alabama, Georgia, and Florida; potato for Suwannee County, Florida; and Fresh Tomato for South Florida.

The work supported by this grant began in fiscal year 2003 with an appropriation of $894,150; for fiscal year 2004, $3,131,415; for fiscal year 2005, $3,601,952; for fiscal year 2006, $3,565,980; for fiscal year 2007, $0; for fiscal year 2008, $2,656,275; and for fiscal years 2009 and 2010, $2,494,000 per year. A total of $18,837,772 has been appropriated.

Research is conducted at Florida State University, University of Florida, University of Miami, University of Georgia, Auburn University, and the University of Alabama—Huntsville.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

COTTON RESEARCH, TEXAS

The goal of this project was to provide comprehensive multi-disciplinary research to improve cotton production in west Texas and expand the demand for cotton grown in the area. The research has made improvements in cotton varieties through traditional genetics and genetic engineering aimed at improving seedling establishment, increasing photosynthetic efficiency and cotton yields, and developing resistance to pest and diseases. As a result of this research, many production areas have seen an improvement in overall yield and improved fiber length and strength. Cotton economic and marketing research projects have provided an analysis of feasibility and market impact of new production technologies, improvement of pricing and market reporting, understanding market behavior, and factors related to international competitiveness.

The work supported by this grant began in fiscal year 1998. The appropriation for fiscal years 1998 and 1999 was $200,000 per year; for fiscal year 2000, $170,000; for fiscal year 2001, $498,000; for fiscal year 2002, $880,000; for fiscal year 2003, $1,182,265; for fiscal year 2004, $2,236,725; for fiscal year 2005, $2,480,000; for fiscal year 2006, $2,475,000; for fiscal year 2007, $0; for fiscal year 2008, $1,843,008; and for fiscal years 2009 and 2010, $1,730,000 per year. A total of $15,624,998 has been appropriated.

The work is conducted in or near Lubbock, Texas, on the Texas Tech University Campus, Fiber and Biopolymer Research Center, Texas ArgiLife Research and Extension Center, USDA–ARS Cropping Systems Research Lab, and on area research and demonstration farms.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

COUNCIL FOR AGRICULTURE SCIENCE AND TECHNOLOGY, IOWA

The Council for Agriculture Science and Technology (CAST) is a nonprofit 501(c)(3) organization composed of scientific societies and many individual, student, company, nonprofit and associate society members. The goal of CAST is to compile and communicate objective, science-based information about agriculture.

During the current grant period, CAST published numerous issue papers, commentaries, and special publications on a wide variety of timely topics including Poultry and Ruminant Carcass Disposal Options for Routine and Catastrophic Mortality; Scientific Assessment of the Welfare of Dry Sows Kept in Individual Accommodations; Animal Productivity and Genetic Diversity; Considerations in Biodiesel Production; Food Safety and Fresh Produce; Fate and Transport of Pathogens in Swine Manure; and Sustainability of U.S. Soybean Production. These publications were distributed widely to both scientific and nonscientific audiences.

This project began in fiscal year 2004 with an appropriation of $134,203; in fiscal year 2005, $148,800; in fiscal year 2006, $147,510; in fiscal year 2007, $0; in fiscal

year 2008, $112,209; in fiscal year 2009, $105,000; and in fiscal year 2010, $110,000. A total of $757,722 has been appropriated.

This work is being carried out at the Council for Agriculture Science and Technology in Ames, Iowa.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

DATA INFORMATION SYSTEM—REEIS

The objective of the system is to enable users to measure the impact and effectiveness of research, extension, and education programs. REEIS is meeting this goal by incrementally incorporating data from more and more programs and continually expanding the data available for currently incorporated programs and disseminating information on current research programs. REEIS now contains over 10 major Data Marts—a subsection of a Data Warehouse—and resources of information.

In 2008, there was a continuation of enhancing program monitoring and reporting tools. The Leadership Management Dashboard (LMD) was developed and released in REEIS as a real time tool integrating information from multiple databases. The LMD links grant funding information with program information and provides an integrated view of how grant funds are allocated and spent by various USDA programs. The first audience for the LMD was the USDA National Program Leaders. In 2009, additional releases of this enhanced tool were made available to broader audiences including university partners. Also, data from the National Information Management and Support System (NIMSS) were incorporated into the LMD. The REEIS system also incorporated reports from the new Agricultural Research, Extension and Education Reform Act (AREERA) system which provides for the direct input by States of Plans of Work and Annual Reports.

Information from the system is provided for the following topics: current and historical agricultural research efforts; forestry research efforts; statistics about students, institutions, faculty, and degrees related to agriculture; partner institution snapshots; food and nutrition efforts; 4–H programs; information on families at risk; impact reports; agricultural snapshots of each State and outlying areas; agriculture-related patents and citations and state accomplishments and plans of work;

REEIS began in fiscal year 1997 when Congress appropriated $400,000 for planning and design. The subsequent appropriations by fiscal year are as follows: 1998—$800,000; 1999—$1,000,000; 2000—$2,000,000; 2001—$2,120,325; 2002—$2,078,000; 2003—$2,750,000; 2004—$2,444,492; 2005—$2,424,448; 2006—$2,561,130; 2007—$0; 2008—$2,703,939; and 2009 and 2010—$2,704,000 per year. The total appropriation for fiscal years 1997 through 2008 is $26,690,334.

This program is conducted at the NIFA headquarters in Washington, DC.

DIETARY INTERVENTION, OHIO

The goals of this research are to determine if freeze-dried berries can exert a preventive effect on the development of colon cancer in humans, and to identify dietary components mediating CEACAM1 levels for the prevention of and therapeutics against obesity, diabetes and secondary complications.

Ohio State University researchers have completed two clinical trials that provide evidence that freeze-dried black raspberries could be protective against colon cancer; one trial in patients diagnosed with colon cancer and the other in patients with familial adenomatous polyposis. In addition, biomarker studies in normal and polyp tissues taken from berry treated familial adenomatous polyposis patients showed that the berries are capable of demethylating tumor suppressor genes in rectal polyps taken from these patients.

Researchers at the University of Toledo have reported findings that show a correlation between reduction in hepatic CEACAM1 and obesity with insulin resistance; high fat diets reduce hepatic CEACAM1 levels and impact insulin clearance; and high fat diets cause insulin resistance via a CEACAM1 dependent gene-dose mechanism. Currently, researchers are investigating the reduction in hepatic CEACAM1 via a PPARa-depended pathway as an early mechanism of diet-induced insulin resistance and the premise that additional proteins are involved in the progression of frank diabetes.

For The Ohio State University the work supported by this grant began in fiscal year 2003 with an appropriation of $248,375; for fiscal year 2004, $894,690; for fiscal year 2005, $1,138,816; for fiscal year 2006, $1,237,500; for fiscal year 2007, $0; for fiscal year 2008, $922,497; and for fiscal years 2009 and 2010, $866,000 per year. A total of $6,173,878 has been appropriated.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

ELECTRONIC GRANTS ADMINISTRATION SYSTEM

The goal of the program is to enable the agency to advertise, accept, process, review and award grants and cooperative agreements electronically. The initial focus on advertising funding opportunities with electronic applications has been successful. The goal of receiving applications electronically has also been successful. In 2009, 99 percent of NIFA proposals were received electronically. Significant progress is being made on electronic review and evaluation of proposals, and the final elements of awarding grants electronically remain.

The work completed in fiscal year 2006 allowed the agency to begin accepting electronic grant applications. In fiscal year 2007, NIFA expanded the scope of the project to allow the submission of proposals in an electronic format for all programs.

In fiscal year 2009, NIFA required electronic submission via Grants.gov for all program areas eliminating paper-based submissions. Proposals were submitted through Grants.gov and processed by the Agency through the eGrants system. Over 5,000 applications were received and successfully processed through the system during this cycle. The percentages of problem categories were reduced from previous cycles. Significant improvements were made in components supporting proposal review and evaluation as well as other management functions that have led to significant improvement in overall processing efficiency.

This project began in fiscal year 2003 with an appropriation of $2,125,960; $1,944,460 in fiscal year 2004; $1,928,448 in fiscal year 2005; $2,030,490 in fiscal year 2006; $0 in fiscal year 2007; $2,135,943 in fiscal year 2008; and $2,136,000 per year in fiscal years 2009 and 2010. A total of $14,437,301 has been appropriated.

This program is conducted at the NIFA headquarters in Washington, DC, except the Grants USDA project, which is carried out at a USDA Rural Development facility in St. Louis, Missouri.

ETHNOBOTANICALS, MARYLAND

Research at the Appalachian Center for Ethnobotanical Studies is focusing on the multidisciplinary study and conservation of native plants.

This research will foster economic growth in the region through the managed development of the area's natural resources and the development of new local enterprises that explore the use of regional plants for health-related purposes. It will also help to document and preserve Appalachian culture as it relates to wild plant harvesting and herbal medicine through community outreach and education programs.

Black cohosh is one of the most important medicinal plants in the Appalachian region. The roots and rhizomes are harvested for commercial medicinal purposes because they contain bioactive secondary metabolites or natural products.

A number of natural product phytochemicals from black cohosh have been investigated to elucidate a principal agent and a mechanism of action. Early work suggested that black cohosh possessed estrogenic activity, and though a number of unique cinnamic acid esters and cycloartane-type triterpene glycosides were discovered, no reproducible evidence has yet to be reported to support that hypothesis. Subsequent studies demonstrated convincingly that many of the metabolites show antioxidant activity, bind serotonin and opiate receptors, inhibit osteoclastogenesis, and inhibit the growth of human breast and prostate cancer cells. Recent work identified a serotonin derivative from the plant that binds with high affinity to a cognate receptor, supporting an emerging model in which small-molecule agonists produced by black cohosh stimulate the serotonergic system, which is involved in thermoregulation, and which in turn could alleviate episodes of hot flashes during menopause.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $372,375; for fiscal year 2009, $469,000; and for fiscal year 2010, $550,000. The total amount appropriated is $1,391,375.

The research will be conducted at Frostburg State University, West Virginia University, and the University of Maryland Biotechnology Institute.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

FARMLAND PRESERVATION, OHIO

The objectives of the Ohio Center for Farmland Policy Innovation the Center are to: (1) Become an "action center" for farmland policy in Ohio, creating and delivering new information for communities who do not currently have the professional capacity to manage and balance growth and change; (2) Consider and test new policy instruments with communities seeking to retain farmland in Ohio through a Farmland Protection Partnership program; and (3) Consider ways to strengthen the eco-

nomic viability of Ohio farms as a necessary part of farmland protection. It achieves its mission by conducting research-based outreach and extension. Current progress is as follows:

Farmland Protection Partnership Program.—The Center conducts policy experiments with communities that are leaders in farmland protection in Ohio.

The main purpose of the policy experiments is to develop and convey information on likely performance land policy options for Ohio communities, as well as other techniques that should be available, to those who can use it.

Farmland Preservation Summit.—The Center co-hosts the annual Ohio Farmland Preservation Summit. This summit is the one opportunity of the year for farmland protection interests to gather and learn from each other and invited speakers. According to the national organization, American Farmland Trust, the summit is the largest statewide meeting of farmland preservationists across the country. The most recent Farmland Preservation Summits was held in November 2009. The next one is planned for the autumn of 2010. These are excellent opportunities to not only provide outreach on our partnership projects—number one above—but a time to bring in outside experts that we can access through the national network of farmland preservation.

State-level Assistance.—Staff of the Center are often called on to provide advice and expertise to State level efforts. These efforts have a direct impact on Ohio communities and their opportunities and options for farmland preservation. A few of the roles that staff is involved with include the Food Policy Council, Food Systems Assessment task force, Ohio Department of Agriculture, Office of Farmland Preservation advisory board, and Ohio Department of Agriculture Specialty Crop Block Grant Review Committee.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $112,209; for fiscal year 2009, $105,000; and for fiscal year 2010, $160,000. A total of $377,000 has been appropriated.

The research is being conducted at the Ohio State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

FLORIDA BIOMASS TO BIOFUELS CONVERSION PROGRAM, FLORIDA

The goal of this project is to optimize the use of waste biomass as a feedstock for ethanol production. Enzyme cocktails will be made to utilize a variety of waste biomass including corn stover, rye straw, wood pulp, switchgrass, sugarcane bagasse, and citrus peel. Three important enzymes have been expressed in significant quantities. Because of the enzyme activity observed in plant crude extracts, there is no need for purification; therefore, further reducing the cost below current commercial recombinant enzymes. Plant-derived enzyme cocktails enhanced the hydrolysis of wood and citrus peels, releasing more fermentable sugars than commercial cocktails.

Fiscal year 2009 was the first year that funds were appropriated for this grant with an amount of $235,000; and for fiscal year 2010, $300,000. A total of $535,000 is appropriated.

The work is being carried out at the University of Central Florida.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

GREENHOUSE NURSERIES, OHIO

This goal of this research is to identify and implement strategies to enhance the economic competitive position of Ohio greenhouse nurseries, especially those in northwestern Ohio.

Economic impact of the greenhouse industry has been estimated. Mapping of general industry trends has been completed, and economic barriers to competitiveness have been identified and strategies have been developed based upon a cluster-based economic model. This economic model was implemented in 2005 with the formation of a greenhouse cluster advisory board with representatives from northwestern Ohio greenhouse growers, Ohio Floriculture Association, Regional Growth Partnership, The Ohio State University Extension Office, the Agricultural Research Service, the University of Toledo, and Bowling Green State University. This board meets monthly to implement marketing and branding strategy. The use of controlled release fertilizers is being researched and implemented to reduce nutrient pollution. During the last 12 months, the major accomplishment of the grant has been progress on a sustainable greenhouse cluster in northwest Ohio. A Maumee Valley Growers cluster developed a positive brand identity. Two major challenges that have been successfully addressed by Maumee Valley Growers are the implementation of a coordinated marketing effort capitalizing on the growers' brand, and the implementa-

tion of a group buying program that will save the northwest Ohio greenhouse industry an estimated $250,000 in energy, workers compensation, and insurance costs during the next 12 months. The northwest Ohio natural gas savings program has been expanded to other parts of the State and southeastern Michigan and will continue to develop as will a group buying program for electricity modeled after the highly successful natural gas buying program. This electricity program will initially focus on 19 northern Ohio counties. A successful cluster emphasizes collaboration between the businesses, in this case greenhouses, in a cluster and community partners. Progress has been made in developing relationships with community partners since 2005, but efforts to develop long-term, sustainable, collaborative relationships with community partners will continue as will the work of nurturing and building on relationships between participating growers. This cluster strategy has the potential to be utilized in other areas, strengthening the links between growers and consumers.

The work supported by this grant began in fiscal year 2003, and the following amounts have been appropriated: in fiscal year 2003, $149,025; in fiscal year 2004, $712,770; in fiscal year 2005, $726,144; in fiscal year 2006, $718,740; in fiscal year 2007, $0; in fiscal year 2008, $535,227; in fiscal year 2009, $502,000; and in fiscal year 2010, $1,380,000. A total of $4,723,906 has been appropriated.

The research is being conducted at selected sites throughout Ohio and through subcontracts with the University of Toledo, Bowling Green State University, and Indiana State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

HIGH VALUE HORTICULTURAL CROPS, VIRGINIA

The goal of this grant is to build capacity in the area of renewable and sustainable resources at the Institute for Advanced Learning and Research. This effort was conducted in close collaboration with the Departments of Forestry and Horticulture at Virginia Polytechnic Institute and State University. Short-term objectives of this undertaking were to organize and equip the plant tissue culture/agricultural biotechnology laboratory and solicit sub-licenses for the production of polyploid orchids, for the production of landscape ornamentals and other unique, high value horticultural crops, as well as initiate research on new ornamental and vegetable cultivars.

In fiscal year 2003, the plant tissue culture/agricultural biotechnology laboratory was designed and equipped. Fast growing clones of loblolly pines that are to be used in Institute research were planted at the Reynolds Homestead. In fiscal year 2004, technicians were hired and participated in in-depth training at Virginia Tech University, the Georgia Institute of Technology, and North Carolina State University. A horticulture graduate student was employed to teach and document protocols for orchid propagation. Three Danville-based faculty positions were filled in 2005. These included two molecular breeding faculty and a Virginia plant introduction program coordinator. New ornamentals and trees developed through the program will be field tested in collaboration with the Virginia Nursery and Landscape Association. The Virginia Tech Department of Horticulture and the Institute was awarded a grant from the Virginia Tobacco Indemnification and Community Revitalization Commission to establish test sites for plant introductions. The Virginia Tech Department of Forestry has hired a new faculty member with expertise in forest tree genetics and functional genomics, to collaborate with researchers at the Institute. Collaborative meetings have been held with several potential partners, both educational and commercial, including North Carolina State University, CellFor, and HZPC. A new objective is to development and breeding of novel biofuel crops. Additionally, high value native ornamental crops are being propagated to replace commonly sold, but potentially invasive non-native ornamentals.

The work supported by this grant began in fiscal year 2003, and the following amounts have been appropriated: in fiscal year 2003, $248,375; in fiscal year 2004, $447,345; in fiscal year 2005, $567,424; in fiscal year 2006, $717,750; in fiscal year 2007, $0; in fiscal year 2008, $535,227; and in fiscal years 2009 and 2010, $502,000 per year. A total of $3,520,121 has been appropriated.

This work is being conducted at the Institute for Advanced Learning and Research, partnering with the Forestry and Horticulture Departments, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

INTERNATIONAL CENTER FOR GOOD TECHNOLOGY DEVELOPMENT TO EXPAND MARKETS, INDIANA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $750,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

MARICULTURE, NORTH CAROLINA

Projects funded under the fiscal year 2009 Mariculture, North Carolina grant were designed to develop and transfer to commercial users, safe and effective methods for marine food fish production. Current research focuses on three candidate species for aquaculture: southern flounder, Paralichthys lethostigma; black sea bass, Centropristis striata; and red porgy, Pagrus pagrus. Specific objectives include: (1) Compare performance of southern flounder and a southern flounder female by summer flounder male F1 hybrid; (2) optimize Artemia enrichment protocols for larval southern flounder and black sea bass using state-of-the-art products; (3) evaluate substitution limits of alternative proteins such as underutilized plant and animal by-products as a fish meal replacement in southern flounder diets under controlled laboratory conditions by replacing menhaden fish meal with: (a) poultry by-products and fermented poultry by-products; and (b) menhaden fish meal with dried distillers grain with solubles; (4) formulate cost-effective diets using a combination of different alternative protein sources such as soybean meal, poultry by-product meal, and meat and bone meal, and determine their effects on growth of black sea bass; and (5) determine the effects of these feeds on the biochemical composition of fish flesh.

Research conducted under the Mariculture, North Carolina program has led to information on the effects of temperature, salinity, and light intensity on embryos and early larval survival of black sea bass; fatty acid profile studies in southern flounder provided a better understanding of the biochemical basis of egg quality and requirements for natural spawning of southern flounder; culture requirements for larval rearing and grow-out culture studies have demonstrated that wild-caught black sea bass can be grown indoors from juvenile to marketable sizes in low-salinity, brackish water; black sea bass will undergo sexual maturation under artificial conditions within 1 year of capture; and using only female black sea bass for cost-effective grow-out indoors. These advances aid the development of microbound diets for replacing live feeds and the development of more cost-effective rearing protocols. Captive, wild-caught, red porgy broodstock produced up to 300,000 eggs per day from January through March, 2005. A total of 1,200 day 35 post-hatch juveniles were produced with 2.4 percent survival. The University of North Carolina at Wilmington is collaborating with the city of Jacksonville, North Carolina, to retrofit a defunct waste water treatment plant to install a state-of-the-art, pilot-scale recirculating aquaculture system for marine finfish. Southern flounder and black sea bass will be grown by a commercial practitioner to test economic viability and to integrate research, education, and technology transfer for these two species. The results of this project have advanced knowledge of private practitioners which are currently undertaking startup commercial companies in North Carolina. The Sturgeon City project has provided a unique opportunity for a commercial practitioner to produce marine finfish, specifically the southern flounder and black sea bass, in a state-of-the-art recirculating aquaculture system, while receiving training. This is an example of a public-private partnership for sustainable marine finfish culture development. The outcomes of the Sturgeon City project in Jacksonville, North Carolina, will be of significant interest to prospective commercial aquaculturists, government policy makers, and to researchers and educators.

The work supported by this grant began in fiscal year 1998. The appropriation for fiscal year 1998 was $150,000; for fiscal years 1999 and 2000, $250,000 per year; for fiscal year 2001, $324,285; for fiscal year 2002, $360,000; for fiscal year 2003, $357,660; for fiscal year 2004, $320,100; for fiscal year 2005, $317,440; for fiscal year 2006, $313,830; for fiscal year 2007, $0; for fiscal year 2008, $234,348; and for fiscal years 2009 and 2010, $220,000 per year. A total of $3,317,663 has been appropriated.

The work is being conducted at the Center for Marine Science Research at the University of North Carolina at Wilmington.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

MEDICINAL AND BIOACTIVE CROPS, TEXAS

The long-term goal of this project is to develop aesculiosides as novel primary and/or adjuvant therapy for cancers.

To date, over 1,000 species of vascular plants representing 138 families found in Texas have been collected and screened for the identification of bioactive agents since 1993. Over 600 pure compounds, including over 100 new compounds, have been isolated from 28 species, mostly native plants in Texas. Several aesculiosides have shown promising activity against 60 cell lines from 9 different human cancers including leukemia, non-small cell lung, colon, central nervous system (CNS), melanoma, ovarian, renal, prostate, and breast19. Further investigation indicated that active saponins are highly selective for tumor cells relative to normal cells.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $267,900; for fiscal year 2009, $280,000; and for fiscal year 2010, $300,000. A total of $847,900 has been appropriated.

The research will be conducted at Stephen F. Austin State University in Nacogdoches, Texas

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

MIDWEST AGRIBUSINESS TRADE AND INFORMATION CENTER, IOWA

The objective of this project is to continue work by the Midwest Agribusiness Trade Research and Information Center to promote expansion of foreign trade and investment by small and medium-size midwest agribusiness firms. Current progress is as follows: Topics for research to be conducted at Iowa State University include: (1) competitiveness and marketability of commodity and non-commodity agricultural products; (2) export opportunities for non-commodity products and methods of differentiating these products; and (3) emerging issues and trade-distorting events with significant potential to affect world trade patterns.

Under subcontract, the Greater Des Moines Partnership will provide technical assistance and information to agribusinesses, such as business climate and trade lead information, business contacts of potential buyers and partners, and other resources that benefit companies before and during the exporting process. The project objectives are to: (1) Study the competitiveness and marketability of commodity and non-commodity agricultural products in international markets, determine the potential size and value of specific markets, and evaluate opportunities and constraints faced by U.S. agribusiness firms conducting business in foreign countries. (2) Evaluate opportunities for non-commodity products and ways to differentiate these products, such as process verification, reputation- and location-based identification, branding, and traceability. (3) Analyze emerging issues such as trade agreements, trade-distorting events and animal disease outbreaks and their potential effects on U.S. agricultural exports and world supply and demand. (4) Disseminate research results and other relevant information about international business opportunities to help U.S. agribusiness firms initiate or increase agricultural exports.

The Greater Des Moines Partnership's objectives and expected outputs are to: (1) Offer professional consultation to midwest agribusinesses interested in penetrating international markets through trainings, one-on-one consultations/assistance, development of marketing materials and matching up of international delegations with potential midwest agribusiness partners. (2) Disseminate market research and information related to agricultural exports. (3) Publish an online quarterly newsletter to serve the needs of Iowa agribusiness exporters and create an online database listing Iowa agribusiness companies wishing to expand their presence in the international marketplace. (4) Develop expertise in Foreign Trade Zone (FTZ) provisions for the benefits of midwest exporters. Use two operating FTZs to serve export-oriented businesses.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $186,684; for fiscal year 2009, $176,000; and for fiscal year 2010, $187,000. A total of $549,684 has been appropriated.

The research will be conducted at the Midwest Agribusiness Trade and Information Center at Iowa State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

MISSISSIPPI VALLEY STATE UNIVERSITY

The goal of this project is to expose students, faculty, staff, community-leaders, and lay citizens to promote a healthier life style which will reduce obesity rate, encourage young people to stay in school, and pursue education beyond high school.

This is to be accomplished through curriculum enhancement and faculty research support.

The accomplishment report indicates that the goals described in the proposal are being achieved satisfactorily. The goal of the program is to enhance the various academic programs at Mississippi Valley State University.

This program was initiated in fiscal year 1987. Grants have been awarded from funds appropriated as follows: fiscal year 1987, $750,000; fiscal year 1988 and 1989, $625,000 per year; fiscal year 1990, $617,000; fiscal year 1991, $642,000; fiscal years 1992 and 1993, $668,000 per year; fiscal year 1994, $593,000; fiscal year 1995, $544,000; fiscal years 1996–2000, $583,000 per year; fiscal year 2001, $645,577; fiscal year 2002, $633,000; fiscal year 2003, $1,043,175; fiscal year 2004, $933,460; fiscal year 2005, $925,536; fiscal year 2006, $1,418,670; fiscal year 2007, $0; fiscal year 2008, $1,067,475; and for fiscal years 2009 and 2010, $1,002,000 per year. A total of $17,317,893 has been appropriated.

The work is being carried out at Mississippi Valley State-University campus and off-campus in Leflore County. Other counties in Mississippi may also be involved.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

MONITORING AGRICULTURAL SEWAGE SLUDGE APPLICATION, OHIO

The University of Toledo, along with Bowling Green State University and Central State University, will determine the human health and environmental impacts associated with the application of sewage sludge on agricultural fields. Researchers will analyze physical, chemical and biological impacts of sewage sludge application and the impacts of pharmaceutical and personal care products, pathogens and nutrients on soil and water. The project will include epidemiological studies, pathogens, and residual drugs within the sludge.

Researchers have incorporated data into a geographic information system (GIS) to create layers of parcel data including roads, waterways, schools, soil data, biosolids permitted fields, and biosolids application rates for the project. A health survey was completed in Wood County that examined whether an association existed between self-reported health effects and distance from fields where application of Class B biosolids was permitted. Researchers have also identified approximately 50 compounds in wastewater influent, effluent, and biosolids that are classified as antibiotics, anti-depressants, anti-coagulants, and anti-psychotics. New methods of testing for these contaminants have developed as a result of the conduct of these studies and have been published in national scientific journals.

The work supported by this grant began in fiscal year 2004 with an appropriation of $1,073,628; for fiscal year 2005, $1,276,704; for fiscal year 2006, $1,274,130; for fiscal year 2007, $0; for fiscal year 2008, 893,700; for fiscal year 2009, $839,000; and for fiscal year 2010, $500,000. A total of $5,857,162 has been appropriated.

Research is being conducted at the University of Toledo; Bowling Green State University; and at field locations in Lucas and Green counties as appropriate.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

NE CENTER FOR INVASIVE PLANTS, CONNECTICUT, VERMONT, AND MAINE

The goal of this project is to develop a multi-State, interdisciplinary research program to address the problems caused by invasive species and to develop methods for sterile, non-invasive cultivars. There have been a number of achievements including:

The development of methods in the creation of non-invasive euonymus and Japanese barberry plants as a first step in developing sterile, non-invasive cultivars in the next 5 years.

Predictive models to predict future spread of invasive plants in the New England region.

The analysis of economic impacts of invasive plants in New England as useful information to policy makers, nursery industry and scientific community.

Development of outreach education activities to make the public aware of the problems of invasive plants and the importance of adopting native, non-invasive plants for ornamental purposes.

Sponsoring an international symposium August 10–14, 2009, entitled "Invasive Plants in the Northeast of Asia and America: Trading Problems, Trading Solutions," that brought together experts of from the United States, China, Japan, Korea, and eastern Russian for a week of presentations, field trips, and workshops dealing with the ecology of invasives, biotechnology and horticultural approaches to control, and regulatory hurdles and opportunities. Over 80 people attended the conference, parts

of which were broadcast by the Connecticut Public Broadcasting Network. Agency representatives—USDA and the National Science Foundation; Chinese Forestry—attended and contributed to discussions of potential future joint research activities.

There also have been some scientific publications including: "Detecting the influence of ornamental Berberis thunbergii var. atropurpurea in invasive populations of Berberis thunbergii—Berberidaceae—using Amplified Fragment Length Polymorphism—AFLP" published in American J. Botany 95(6):1–7; "AFLP identification of Berberis thunbergii cultivars, inter-specific hybrids, and their parental species" published in J. Horticultural Science & Biotechnology 83(1):55–63.

The work under this project began in fiscal year 2006 with an appropriation of $420,750; for fiscal year 2007, $0; for fiscal year 2008, $313,788; and for fiscal years 2009 and 2010, $295,000 per year. A total of $1,324,538 has been appropriated.

Research is being conducted at the University of Connecticut, the University of Vermont, and the University of Maine.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

NUTRITION RESEARCH, NEW YORK

The goal of this research is to evaluate City Harvest's work in the Melrose neighborhood-in-the South Bronx in order to increase access to high quality fresh produce and other nutrient-dense foods; to increase awareness as to the causes and effects of nutrition-related diseases while providing the information and tools necessary to enable residents to improve their dietary health; and to measure the change in dietary behavior exhibited by clients assessing these services.

City Harvest helps feed 260,000 New Yorkers each week by rescuing high-quality surplus food and distributing to a network of 600 soup kitchens, food pantries and other community food programs. This program provides immediate hunger relief and helps New Yorkers gain access to affordable, local, nutritious food, with the goal of creating sustained long-term food security. City Harvest has been developing and testing measurement tools for the collection of data from users of the Melrose Mobile Market on fresh produce access. In addition, nutrition education courses on healthy planning, shopping and cooking for families have been offered in 6- or 8-week series at strategic locations within the community.

Fiscal year 2009 was the first year that funds were appropriated for this grant with an amount of $188,000 under the Special Research Grants. In fiscal year 2010, this grant was moved to the Research Federal Administration Grants with an appropriation of $188,000. A total of $376,000 has been appropriated.

The work is being carried out by City Harvest, New York City and Cornell University Cooperative Extension, New York City.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

NUTRITION AND DIET RESEARCH, CALIFORNIA

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $925,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

PASTEURIZATION OF SHELL EGGS, MICHIGAN

The goal of this project is the commercialization of this innovative and patented process that addresses the potential food safety problem of microbial contamination of eggs and the possible transfer of pathogenic bacteria to humans. Research on this microwave and heating process is progressing toward a commercial product. Work is being conducted in collaboration with government, industry, and university personnel.

Grants have supported this research grant beginning in fiscal year 2003. The appropriation for fiscal year 2003 was $248,375; for fiscal year 2004, $1,093,510; for fiscal year 2005, $1,237,024; for fiscal year 2006, $1,336,500; for fiscal year 2007, $0; for fiscal year 2008, $995,979; and for fiscal years 2009 and 2010, $935,000 per year. A total of $6,781,388 has been appropriated to this time.

The Michigan Research Institute facility is the research site, which is coordinated with industry or university sub-contractors.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

PM–10 STUDY, WASHINGTON

The PM–10 study object is to address the effects of emissions of PM–10 and PM–2.5-sized particulates, or dust, from agricultural land on air quality and development of control strategies to (1) develop a geographic information system (GIS) database for simulating wind erosion and transport of fugitive dust; (2) quantify and predict wind erosion; (3) create a PM emission inventory; (4) develop PM dispersion models; (5) develop alternate tillage and cropping systems to control PM emissions; (6) document changes in farming practices that have led to reduced emissions; (7) identify sustainable farming practices that control erosion; and (8) help farmers adopt best management practices.

The project has developed an undercutter tillage tool that has proven effective in reducing erosion. Scientists have reported a 50 percent reduction in dust using the undercutter compared to conventional tillage. The USDA Wind Erosion Prediction System (WEPS) has recently been tested and improved for the Columbia Basin in addition to GIS databases that will drive atmospheric and global circulation models in the region. On-going work will attempt to couple WEPS with these advanced circulation models to predict regional wind erosion events.

The project is in its fifth year of cropping system studies to evaluate conservation tillage against traditional wheat-fallow systems for controlling wind erosion. One more cropping season is needed to evaluate all of their treatments.

The project has documented increases in soil organic carbon from using no-till versus conventional tillage practices. The chemical signatures in organic carbon are being utilized to predict sources of wind-blown sediment. In addition to carbon, the impact of these practices on soil quality is being documented.

Economic analysis of various farming practices are being performed to document which practices are the most cost-effective for producers in controlling erosion. For example, the economic analysis showed that the undercutter tillage method was profitable, and 50 growers have adopted the practice through a cost-share program with Natural Resources Conservation Service (NRCS).

The project is transferring direct-seeding technologies to producers through workshops and on-farm demonstrations.

The work supported by this grant began in March 1994 at the University of California—Davis and at Washington State University. The appropriation for fiscal year 1994 was $940,000; for fiscal year 1995, $815,000; for fiscal years 1996 through 2000, $873,000 per year; for fiscal year 2001, $435,041; for fiscal year 2002, $426,000; for fiscal year 2003, $435,153; for fiscal year 2004, $389,687; for fiscal year 2005, $386,880; for fiscal year 2006, $383,130; for fiscal year 2007, $0; for fiscal year 2008, $284,991; and for fiscal years 2009 and 2010, $268,000 per year. California has not received funding under this grant since fiscal year 2000 and has had its own funding stream since 2002. A total of $9,396,882 has been appropriated.

Scientists at Washington State University are leading the efforts, but additional work is being done at the Agricultural Research Service's laboratory in Pullman, the University of Idaho, and Oregon State University through subcontracts.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

POLYMER RESEARCH, KANSAS

The goals of the project are the development of new monomers and polymers based on vegetable and crop oils and the study of the effects of structure on the properties of novel polymers. Various processing methods will be examined. The physical and chemical properties of the new polymers will be systematically characterized.

Five specific tasks have been completed to date. They include preparation of pure polyricinoleic acid methyl esters by transesterification of castor oil and distillation; preparation of hydroxyl acid methyl ester with secondary hydroxyl groups from oleic acid by epoxidation and hydrogenation; preparation of polyester diols of molecular weight 700–4000 transesterification of methylricioleate and diethylene glycol; preparation of polyurethanes from diols having soft segment concentration from 40–80 percent; and ozonolysis of vegetable oils and preparation of methyl esters of hydroxynonanoic acid. A new class of seven elastomers with well-defined structures and excellent properties was created suitable for medical and athletic applications. The new elastomers varied in hardness from soft rubbers having 70 percent of bio-based content to hard rubber with 50 or 40 percent bio content. The original goal is nearly its completion.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $1,117,125; for fiscal year 2009, $1,284,000; and for fiscal year 2010, $2,000,000. A total of $4,401,125 has been appropriated.

The research will be conducted at the Pittsburg State University in Kansas.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

RURAL AGRICULTURE SMALL BUSINESS DEVELOPMENT PROGRAM

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $500,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

RURAL SYSTEMS, MISSISSIPPI

The goal of the National Center for Bio-defense Communications for Rural America (Center) is to bring to bear Internet-based technologies for early detection of significant human and animal health events and to issue authorized, secure, non-public, bio-terror alerts and notifications to authorized and appropriate policymakers, healthcare, and first-responder recipients.

The Center is proposing to develop and implement more projects designed to address several problems that became evident as a result of Hurricane Katrina. The Center has just completed a major revision of the State Vet System. This revision has materially enhanced performance, removed unnecessary steps and key strokes, streamlined the user interface, and brought several disconnected tasks into the main body of the application. In partnership with the Mississippi Emergency Management Agency, the Mississippi State Veterinarian's Office and the Mississippi Department of Human Services, the Center has developed an integrated online Mississippi Emergency Evacuation Shelter System. The Center has begun work on a new goal to design, create, and host a Mississippi, rural-centric Web portal to personalize, deliver, and track the review of updated and newly available training materials on photogrammetric and geospatial analysis.

The work supported by this grant began in fiscal year 2003 and the appropriation for fiscal year 2003 was $347,725; for fiscal year 2004 is $311,153; for fiscal year 2005, $308,512; for fiscal year 2006, $304,920; for fiscal year 2007, $0; for fiscal year 2008, $229,383; and for fiscal years 2009 and 2010, $215,000 per year. A total of $1,931,693 has been appropriated.

The program is conducted at the Institute of Epidemiology and Health Services Research at the e-Center of Jackson State University, and the Jackson Medical Mall, Jackson, Mississippi.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

SHRIMP AQUACULTURE, ARIZONA, HAWAII, LOUISIANA, MASSACHUSETTS, MISSISSIPPI, SOUTH CAROLINA, AND TEXAS

The goal of this program is to increase domestic production of marine shrimp through aquaculture. Research funded through past awards to the program has led to: development of a computerized database for the shrimp breeding program; providing improved seedstock to industry that have been developed from the breeding program; improved shrimp disease diagnostics, prevention, and treatment protocols; advanced marine shrimp farming technologies, products, and services by providing high-quality, specific pathogen-free, and genetically improved shrimp stocks; environmentally and economically viable marine shrimp production systems that produce a quality product at competitive prices; improved biosecurity protocols that will provide protection for cultured and wild shrimp stocks; improving shrimp culture systems that reduce effluents; identifying and developing diagnostic protocols for many shrimp diseases that have affected world shrimp production; developing and using bioeconomic models to guide research and development efforts for the super-intensive production systems developed under this program; developing and evaluating disease-resistant lines of shrimp by selective breeding; elucidating molecular mechanisms of disease resistance; developing monoclonal antibodies that have been licensed for rapid field diagnosis of a common bacterial disease in shrimp; developing new shrimp feeds that have lower inclusion rates of fish meal and fish oil; establishing a bioinformatics database with search capabilities to identify genes associated with traits of economic importance; training students in shrimp disease diagnostics and prevention; and improving feeds and feeding strategies using domestically produced grains that reduce our dependence on marine fish-derived protein and oils.

Recent accomplishments include but are not limited to: production of approximately 50 shrimp families which are resistant to Taura Syndrome Virus and exhibit rapid growth and high survival at super-intensive stocking densities; three new diseases appeared on the list of Crustacean Diseases in the 2008 Aquatic Code of the

Office International des Epizooties as a direct result of this work. These were Necrotizing Hepatopancreatitis, Hepatopancreatic Parvovirus Disease, and Mourilyan Virus Disease. Following review of the global status of these diseases by the Crustacean ad hoc group at the University of Arizona, only Necrotizing Hepatopancreatitis was recommended for full listing by the Office International des Epizooties. The draft Code chapters on Hepatopancreatic Parvovirus Disease and Mourilyan Virus Disease were withdrawn in 2008 by the Crustacean ad hoc group as diseases recommended for listing by the Office International des Epizooties. The University of Arizona offers training in shrimp pathology and shrimp disease diagnostic methods to members of the Consortium, to United States and foreign governments, and to the domestic and foreign shrimp culture industries. The University of Arizona's Shrimp Pathology Short Course has been operational since 1989 as a mostly self-supporting, annually offered course, and is one of the University of Arizona's functions in the Consortium.

Grants have been awarded from funds appropriated as follows: fiscal year 1985, $1,050,000; fiscal year 1986, $1,236,000; fiscal year 1987, $2,026,000; fiscal year 1988, $2,236,000; fiscal year 1989, $2,736,000; fiscal year 1990, $3,195,000; fiscal year 1991, $3,365,000; fiscal years 1992–1993, $3,500,000 per year; fiscal year 1994, $3,290,000; fiscal year 1995, $2,852,000; fiscal year 1996, $3,054,000; fiscal years 1997–2000, $3,354,000 per year; fiscal year 2001, $4,167,811; fiscal year 2002, $4,214,000; fiscal year 2003, $4,186,609; fiscal year 2004, $3,745,769; fiscal year 2005, $3,941,216; fiscal year 2006, $4,158,000; fiscal year 2007, $0; fiscal year 2008, $3,097,167; and for fiscal years 2009 and 2010, $2,908,000 per year. A total of $78,782,572 has been appropriated.

The research is conducted through the United States Marine Shrimp Farming Consortium. Individual projects are administered and conducted by the University of Southern Mississippi's Gulf Coast Research Laboratory in Ocean Springs, Mississippi and by the Oceanic Institute in Hawaii. Other Consortium members conducting the research include: Tufts University in Massachusetts, the Waddell Mariculture Center in South Carolina, the Texas A&M Agricultural Experiment Station, the University of Arizona, and Nicholls State University in Louisiana.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

SUSTAINABLE AGRICULTURE FRESHWATER CONSERVATION, TEXAS

The goal of this research is to develop a sustainable water use model for a part of the Rio Grande basin through the identification and analysis of constraints to the sustainable use of the trans-boundary Rio Grande water system. With agricultural water use being a major focus, other relevant project elements include: characterization, quantification, and modeling of basin surface and groundwater resources; water supply-demand issues throughout the Rio Grande drainage basin; human health-related water pollution issues; agricultural water use practices; identification and characterization of biological integrity and aquatic habitats as well as wastewater characterization and treatment options to extend/renew available supplies. The project seeks to identify the root causes and obstacles to sustainable use of limited resources and explore the socioeconomic potential of integrated solutions that are acceptable to stakeholders throughout the Rio Grande Basin. A focal point of the research is the identification of organizations and agencies doing water-related research in the three U.S. States and five Mexican States comprising the Rio Grande/Rio Bravo drainage basin. The development of a comprehensive and easily accessible Web-based clearinghouse of information will enable policy-makers, stakeholders, and the public to locate critical information throughout the Rio Grande and is intended to facilitate informed decisionmaking. A Trans-boundary Diagnostic Analysis Framework (TDA) has been developed specifically for the Rio Grande drainage basin and is actively used as the outline for identifying objectives and integrating the results of research conducted by researchers. The TDA is intended to be a resource in the subsequent development of a management action plan for Rio Grande Basin resources.

The work supported by this grant began in fiscal year 2004, and the appropriation for fiscal year 2004 was $1,789,380; for fiscal year 2005, $1,805,440; for fiscal year 2006, $1,831,500; for fiscal year 2007, $0; for fiscal year 2008, $1,527,234; and for fiscal years 2009 and 2010, $1,434,000 per year. A total of $9,821,554 has been appropriated.

Much of this work is being conducted in the area of the Big Bend National Park on the Rio Grande River. The institution which provides leadership of the project is Sul Ross State University in Alpine, Texas. Subcontracts on the project also exist for Texas State University at San Marcos.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

UNIVERSITY OF WISCONSIN—STEVENS POINT INSTITUTE FOR SUSTAINABLE TECHNOLOGIES

The goal of the project is to develop a self-sustaining center that will provide education, training, and research support for government and industry in Wisconsin. The Research Division of the institute will focus on establishing a biofuels research lab to support new alternative fuel development; a statewide biofuels scientific and economic conference is under development to provide practical information to the citizens of Wisconsin; the University of Wisconsin, Stevens Point Paper Science and Engineering Department is working with the institute on developing sustainable technologies for the paper industry; and researchers are collaborating with others in education and laboratory sciences to develop criteria for sustainability. A draft curriculum for an alternative energy minor has been developed and will process through university governance spring semester.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $1,843,008; for fiscal year 2009, $1,408,000; and for fiscal year 2010, $1,400,000. A total of $4,651,408 has been appropriated.

The research will be conducted at the University of Wisconsin—Stevens Point.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

VIRAL HEMORRHAGIC SEPTICEMIA, MICHIGAN

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $150,000. Since this is a new grant, no information is available regarding the program's research goals and objectives.

VIRAL HEMORRHAGIC SEPTICEMIA, OHIO

The goal of the project is to investigate the emerging Viral Hemorrhagic Septicemia disease outbreaks in Lake Erie and in the Great Lakes region by developing a molecular genetic test to enhance the rapid and cost-effective detection of the virus and to map the distribution of VHS in yellow perch, walleye, smallmouth bass, and other Great Lakes fish populations. Results will be compared to the cell culture method, and results are currently being used as a confirmatory test for VHS detection to determine sensitivity, reliability, and accuracy. A positive outcome from this effort will result in a less-expensive and more-sensitive VHS test kit to be placed on the market providing time-efficient testing for aquaculture facilities and lake managers.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $223,425; for fiscal year 2009, $209,000; and for fiscal year 2010, $500,000. A total of $932,425 has been appropriated.

The research is being conducted at the University of Toledo in Ohio.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

VITIS GENE DISCOVERY, MISSOURI

The original goal of this research was to identify powdery mildew responsive genes in healthy and infected grapes and to obtain complete clonal DNA sequences of these genes as expressed in both berries and leaves.

Molecular genetics will be used to elucidate resistance to powdery mildew and other fungal diseases in Vitis aestivalis, a grape species that is native to North America. An efficient gene silencing strategy will be developed. In addition, research will determine grape components that are beneficial to human health with the goal of increasing the content of those components in grapes.

The research began in 2004. The amount appropriated for fiscal year 2004 was $357,876; in fiscal year 2005, $603,136; in fiscal year 2006, $601,920; in fiscal year 2007, $0; in fiscal year 2008, $448,836; and in fiscal years 2009 and 2010, $422,000 per year. A total of $2,855,768 has been appropriated to date.

The research is being conducted by the Missouri Agricultural Experiment Station.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

WATER POLLUTANTS, WEST VIRGINIA

This project goal is aimed at characterizing the potential for bacterial contamination of water in West Virginia by providing a comprehensive database of bacteria

against which samples can be compared to determine sources of E. coli contamination in waters. The database continues to grow as samples are acquired from surrounding States. Recent work in this project focuses on improving methods for detecting pathogens and using these detection methods to determine the potential health hazard posed by bacteria.

The project is being carried out at Marshall University in West Virginia. Marshall University has one of the Nation's leading forensic laboratories. As the project has developed, water samples from a broader geographic region have been included in the analyses. These additional samples make the analyses more comprehensive in characterizing bacterial contamination.

The work supported by this grant began in fiscal year 2002, and the appropriation for fiscal year 2002 was $206,000; for fiscal year 2003, $596,100; for fiscal year 2004, $536,814; for fiscal year 2005, $564,448; for fiscal year 2006, $594,000; for fiscal year 2007, $0; for fiscal year 2008, $410,109; for fiscal year 2009, $385,000; and for fiscal year 2010, $500,000. A total of $3,792,471 has been appropriated.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

EXTENSION FEDERAL ADMINISTRATION GRANTS

AGRICULTURE IN THE CLASSROOM

The project supports State- and regional-level projects that promote and develop agricultural literacy for the Nation's students and teachers at the pre-K through secondary levels, by integrating agriculture into the curriculum currently taught in public and private schools and to those homeschooled. Funds also support the operating costs of the national office, including staff salaries and staff travel for AITC technical assistance workshops, community outreach, and stakeholder meetings.

AITC encourages pre-K to 12th grade educators to adopt science-based themes which are an outgrowth of recent scientific advances that address USDA priorities and advance science-based knowledge in our Nation's classroom. Such advances prepare students who will be better able to meet future U.S. manpower needs in science, technology, engineering and mathematics fields.

On the national level, the AITC program supports a national Web site, a national resource directory, and an annual national conference. Each of these entities provides high-quality educational and learning materials: (1) Teacher resources on the AITC Web site include lesson plans aligned to State and/or national standards. The Web site also offers student information that includes virtual field trips, career options, agriculture and food facts, and State agricultural profiles; (2) The AITC National Resource Directory is an online database which lists hundreds of educational materials about agriculture. It was designed to help educators locate high-quality resources about agriculture for a pre-Kindergarten through 12th grade youth audience; (3) The national conference allows teachers from around the world to come together to learn about agriculture education through teacher training sessions, workshops, and experiential learning events. It is also an opportunity to share ideas and learn of others' experiences in using agriculture as teaching tool.

The total amount appropriated to Agriculture in the Classroom since its inception in 1981 is $8,081,750. Appropriations are as follows: fiscal years 2010 and 2009, $553,000 per year; fiscal year 2008, $553,101; fiscal year 2007, $0; fiscal year 2006, $856,350; fiscal year 2005, $730,112; fiscal year 2004, $622,307; fiscal year 2003, $700,000; fiscal year 2002, $600,000; fiscal year 2001, $452,000; fiscal year 2000 through 1997, $208,000 annually; fiscal year 1996, $204,880; fiscal year 1995, $208,000; fiscal year 1994, $185,000; fiscal year 1993 and 1992, $208,000 annually; fiscal year 1991, $170,000; fiscal year 1990, $135,000; fiscal year 1989, $87,000; fiscal year 1988 and 1987 $74,000 per year; and fiscal year 1986, $76,000.

AITC is administered through program staff in the Higher Education Programs unit in NIFA. The USDA's national staff consists of a national program leader, a program specialist, and a program assistant. Each State organization operates their programs independently and according to their individual needs. State AITC programs employs full and/or part-time staff or relies on volunteers to carry out its mission. The national program staff works collaboratively with the Consortium of State Agriculture in the Classroom Programs to maintain an active and national role in promoting agricultural literacy.

CHILDHOOD FARM SAFETY, IOWA

The objective of the project is to identify the strengths and weaknesses of delivering farm safety and health messages through the Farm Safety 4 Just Kids, FS4JK, organization by gathering information, conducting focus group sessions, and

identifying knowledge, attitude, and behavioral changes among previous participants. Each of the 10 randomly selected FS4JK Chapter focus groups was facilitated by a local leader to identify their unique strengths, weaknesses, ways to address each, and strategies to implement change. Five strengths and four weaknesses were identified from the chapter telephone interviews completed in the fall of 2008. The strengths included community support, youth/peer involvement, strong activities, member attributes, and business partnerships. The four weaknesses included no/few members, funding, time, and awareness/community support/newness. Additional SWOT (Strengths, Weaknesses, Opportunities, and Threats) analyses are being conducted with additional chapters.

The work supported by this grant began in fiscal year 2008 with an appropriation of $74,475; for fiscal year 2009, $69,000; and for fiscal year 2010, $75,000. A total of $218,475 has been appropriated.

Work is being conducted at the Farm Safety 4 Just Kids in Urbandale, Iowa.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

CONSERVATION TECHNOLOGY TRANSFER, WISCONSIN

The goal of this project is to coordinate conservation education on soil and water issues including nutrient management. To date, one example of success pertains to integrated University research and extension outreach with Natural Resources Conservation Service technical assistance mission. This integrated effort has resulted in cooperative programs that have been used to train and give direct on-farm consultations and nutrient management assessments to over 2,000 producers who farm a total of 1,358,958 acres in 63 Wisconsin counties. Ninety-five percent of these producers completed a nutrient management plan or have one in development. Cost savings in lower fertilizer inputs have exceeded $1,200 annually per farmer in a representative sample of those who follow their plans. The Discovery Farms and Pioneer Farms portions of this program reach over 10,000 additional farmers per year with on-farm demonstrations, educational publications and local meetings designed to stimulate their interest in nutrient management planning and other conservation practices. Finally, local newsletters are used to inform thousands of farmers and other Wisconsin landowners annually, of important conservation education and cost share programs.

The work supported by this grant began in fiscal year 2000 with an appropriation of $170,000; for fiscal year 2001, $473,955; for fiscal year 2002, $490,000; for fiscal year 2003, $496,750; for fiscal year 2004, $447,345; for fiscal year 2005, $463,264; for fiscal year 2006, $481,140; for fiscal year 2007, $0; for fiscal year 2008, $372,375; and for fiscal years 2009 and 2010, $376,000 per year. The total amount appropriated is $4,146,829.

This project is being conducted with individual producers and land managers throughout Wisconsin, in coordination with USDA Agricultural Research Stations operated by the University of Wisconsin, Madison. A number of other States are also adapting portions of the program.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

DAIRY EDUCATION, IOWA

The goals of this program Are: (1) to retain and grow the business of existing dairy farm families; (2) foster the development of new family dairy operations; (3) recruit dairy families from other regions to Northeast Iowa; (4) improve the image of the dairy industry; and (5) support specialized dairy production and processing.

These goals are being realized by providing educational opportunities for current and future dairy industry participants. Since 2000, the Northeast Iowa Dairy Foundation has helped contribute to the success of more than 300 students enrolled in the program's dairy curriculum. Approximately 95 of those 300 former students now operate, own, and/or manage successful dairy farms, milking roughly 12,730 cows and generating $203,680,000 in economic activity each year. These farms have contributed to a strong rural economy and infrastructure in Iowa. It is estimated that every 50 dairy cows create one full-time equivalent farm job, so at least 28 farm jobs have been created by the cows being milked by alumni of this program. Totaled, at least 61 agricultural jobs are saved annually as a result of this program. Moreover, for every new job created in agriculture, an additional 1.3 jobs are added to the State's employment base; so in addition to the 61 agricultural jobs, graduates contribute to another 79 off-the-farm jobs, for a total of 140 jobs created annually.

The work supported by this grant began in fiscal year 2001. The appropriation for fiscal year 2001 was $237,476. In fiscal year 2002, the appropriation was

$232,000; in fiscal year 2003, $233,473; in fiscal year 2004, $210,749; in fiscal year 2005, $229,152; in fiscal year 2006, $226,710; in fiscal year 2007, $0; in fiscal year 2008, $168,810; in fiscal year 2009, $159,000; and in fiscal year 2010, $175,000. The total amount appropriated is $1,872,370.

The work in this program takes place at The Dairy Education and Applied Research Center, located one mile South of Calmar, Iowa, adjacent to the Northeast Iowa Community College Calmar Campus. Resources at this Center include a 17,000 square foot education center, laboratories, and production facilities for 200 dairy cows.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

DIABETES DETECTION AND PREVENTION, WASHINGTON AND PENNSYLVANIA

The goal of the integrated extension and research project, led by the Joslin Diabetes Center, is to develop and conduct a community-based, extension diabetes detection and prevention program that would increase public awareness of diabetes, risk factors for diabetes, and healthy living behaviors to prevent or delay diabetes and related complications. In 2009, specific program aims are: continued expansion of the On the Road™ sites to increase awareness, identification and proper management of diabetes; investigate methods for community screening of diabetes with emphasis on post-screening follow-up; test and evaluate the community use of On the Road™ nutrition and exercise modules; develop and establish a yearly Diabetes Symposium in Hawaii aimed at providers, community health workers and patients; update and manage the project database to improve data collection and analyses and program evaluation; develop and publish a Medication booklet to accompany On the Road™ materials; update and deploy retinal imaging equipment; and establish project sustainability and outreach to non-partner States and expansion into new venues.

The goal of the work by Temple University in collaboration with Pennsylvania State University Cooperative Extension is to promote behaviors that are associated with decreased risk of obesity, diabetes and its complication in underserved urban communities. For this work, Temple University is using Dining with Diabetes, a well-established program created and used by Extension educators for community-based diabetes support and education of adults with type 2 diabetes. In addition, Temple University is conducting formative research among students, parents and school food service on breakfast participation among middle school students as relates to incidence and prevalence of overweight and obesity.

An example of one accomplishment pertains to the Joslin Diabetes Center lead extension and research activities is the Diabetes Symposium in Hilo, Hawaii:

Joslin Diabetes Center worked with University of Hawaii partners to put together the first annual Big Island Diabetes Summit. This 3-day event took place in Hilo October 17, 2009. Joslin faculty presented sessions on nutrition and diabetes management to physicians—35, dietitians and nurse educators—35, and people with diabetes—60 with over 130 attendees in attendance. The Big Island Diabetes Summit was developed to provide education, tools and resources to an area educationally underserved for both providers and patients.

People with diabetes and caregivers were invited to attend the evening Summit session that included a free A1C and Blood Pressure screening before the event. Several caregivers not previously diagnosed were identified with A1C, greater than 6.5 percent, criteria for referral for full evaluation and possible diagnosis of diabetes. The session included an interactive education dinner with carbohydrate counting tips and healthy eating resources.

The event was well received by all groups and will be held again next year as the 2nd Annual Big Island Diabetes Summit. Local radio stations expressed interest in the event, as well as other local businesses. Planning for next year includes attaining more support and involvement from local businesses and organizations.

The work supported by this grant began in fiscal year 1999. The funds appropriated to date are: 1999: $550,000; 2000: $550,000; 2001: $923,963; 2002: $906,000; 2003: $917,994; 2004: $1,089,534; 2005: $1,084,256; 2006: $1,082,070; 2007: $0; 2008: $806,316; 2009: $1,033,000; 2010: $1,033,000; total appropriated is $9,976,133.

The research aspects of the work to include educational development for the "On the Road" materials and data analysis are being carried out at the Joslin Diabetes Center in Boston, Massachusetts. "Dining with Diabetes" materials are developed at the West Virginia University by Extension staff. The Cooperative Extension office of each of the five Land-Grant Universities—Washington State University, the University of Hawaii, New Mexico State University, West Virginia University, Pennsylvania State University—are sites for educational material development, training of

professionals and paraprofessionals, and data storage. The project makes a deliberate attempt to reach diverse and underserved audiences outside the mainstream healthcare system through a variety of methods and at non-traditional sites. For example, the program is being conducted in a diabetes screening and health center in a shopping center in Hilo, Hawaii, and in community facilities in Washington and New Mexico. In New Mexico, the project attempts to work with the colonistas, located along the border and among the Nation's poorest; New Mexico has implemented the program with the Navajo Nation. In addition, Temple University in Philadelphia, Pennsylvania, is the site of two program interventions related to community based approaches to prevent a treat obesity and diabetes.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

E-COMMERCE, MISSISSIPPI

The E-Commerce Extension Demonstration Project helps small businesses and rural communities use information technology to strengthen and develop businesses and to create a supportive business climate in rural communities. Its goal is to grow the rural economy by developing and delivering timely information, training, and technical assistance to the hundreds of small businesses and business leaders that dominate rural America's economic landscape. It builds the capacity of the land-grant university system to conduct research, deliver science-based information, train educators, and deliver high quality e-commerce education. The project is under the leadership of the Southern Rural Development Center (SRDC) and operates in partnership with the three other Regional Rural Development Centers and the Nation's Cooperative Extension Service.

In fiscal year 2009, the project's competitive grants program has awarded nearly $600,000 to date involving the development of 15 educational resources or curricula. It worked with e-commerce grantees to develop and release four comprehensive online curriculum products in 2009 for use by Extension educators and customers across the Nation. They are "Marketing Food Specialty Products Online," "Beginner's Guide to e-Commerce," "Web site Basics: A Primer for Hispanic Small Businesses"—available in English and Spanish, and "Electronic Retailing: Selling on the Internet." The project's National e-Commerce Extension Advisory Committee reviewed and recommended funding for the development of three new curriculum products slated for release in 2010. They are "Web Presence Strategies for Small Communities and Local Governments," "Using Social Networking Tools to Enhance Small Business," and Search Engine Optimization (SEO) Strategies." The project updated and maintained the National e-Commerce Extension Initiative Web site, a state-of-the-art site that offers Extension educators and consumers high quality broadband and e-commerce information on a 24/7/365 basis. From January to November of 2009, the National eCommerce Extension Initiative Web site generated 10,729 individual non-repeat visitors according to the Google analytic reports we prepared.

The project awarded six competitive State mini-grants to help facilitate the launching of e-commerce programming that supports "on the ground" piloting of the resources developed by the SRDC. Mini-grants were awarded to teams of Extension educators in Alabama, Oklahoma, Michigan, Missouri, South Carolina, and Tennessee. To date, these grants have resulted in nine workshops in five States and one national webinar. Three of the six awardees report evaluation efforts for both short and long term workshop participant impacts.

It developed and released a second round mini-grant Request for Proposals (RFP) in the fall of 2009 and produced and published six eNews electronic newsletters, distributed to over 1,000 people nationwide, offering ready access to research reports, statistical data, and educational programs as they relate to e-commerce. It also organized and hosted a series of four webinars that offered Extension Educators and other participants effective strategies for using the newly released e-commerce curricula. It researched, completed, and released a tutorials section of the National e-Commerce Extension Initiative Web site created to give Web site users information about Web site design, set-up, and maintenance. Finally, it reviewed and approved sources for the "Library of Resource" section of the National e-Commerce Extension Initiative Web site. The Library section is a comprehensive listing of other sources available throughout the Internet that can enhance one's awareness and knowledge of a host of e-commerce resources and programs.

The work supported by this grant began in fiscal year 2003. The appropriated amount was $372,563 for fiscal year 2003; $344,018 for fiscal year 2004; $331,328 for fiscal year 2005; $327,690 for fiscal year 2006; $0 for fiscal year 2007; $246,264

for fiscal year 2008; and $231,000 per year in fiscal years 2009 and 2010. A total of $2,083,863 has been appropriated.

The work is being carried out through the leadership of the SRDC located at Mississippi State University. It draws on SRDC's network of Extension faculty located in land-grant institutions in Mississippi, the south, and nationally, and its partner Regional Rural Development Centers in the northeast, north central, and western regions.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

EFFICIENT IRRIGATION, NEW MEXICO AND TEXAS

The main objective is to efficiently use and/or conserve the limited available water in the Texas and New Mexico Rio Grande Basin in order to meet present and future water needs for the region. In doing so, this project will provide extension education to increase the efficiency of agriculture and urban landscape irrigation and encourage the development of efficient water markets in the Rio Grande Basin. This project will also focus on defining current irrigation district and system deficiencies and work towards correcting those practices.

Subject areas addressed include irrigation district studies; irrigation education and training; institutional incentives for efficient water use; on-farm irrigation system management; urban landscape and in-home water conservation; environment, ecology, and water quality protection; saline and waste water management and water use; basin-wide hydrology studies, salinity modeling, and technology; and project oversight, communications, biometric support, and accountability for the multi-components of this multi-State project.

Economics models continue to provide valuable information to irrigation districts, aiding them with decision-making on costs, rehabilitation, and other issues. Engineers continue to provide training and information to irrigation district managers that help their district delivery systems work more efficiently. The managers value the information provided by both the economists and engineers and use it to make management decisions. Other workshops, trainings, short courses, and field days have been held for homeowners and agricultural producers. These events demonstrate more efficient and water conserving technologies, which help the participants realize the importance and effects of their water use and practices. Many homeowners in particular have adopted these in-home water conservation strategies, saving not only gallons of water but money.

The Nutrient Management Education in the Rio Grande Valley Team helped Valley producers reduce fertilizer use to increase their profitability and make the Arroyo Colorado Watershed and Rio Grande Basin healthy again. Results achieved so far through marketing, educational programs and free soil testing campaigns are remarkable: Producers adopting these best soil management practices increased by 60 percent; actual fertilizer application was reduced by more than 2.6 million pounds of nitrogen and 3 million pounds of phosphorus; growers saved $1.6 million or $9.47 to $27.07 an acre; and the watershed's water quality improved dramatically.

The work supported by this grant began in fiscal year 2001, and the appropriation for fiscal year 2001 was $1,895,820; for fiscal year 2002, $1,960,000; for fiscal year 2003, $2,026,740; for fiscal year 2004, $2,057,787; for fiscal year 2005, $2,161,568; for fiscal year 2006, $2,301,750; for fiscal year 2007, $0; for fiscal year 2008, $1,714,911; and for fiscal years 2009 and 2010, $1,610,000 per year. The total amount appropriated is $17,338,576.

Texas A&M University and New Mexico State University jointly conduct this extension program through coordination provided by Texas A&M University Extension.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

EXTENSION SPECIALIST, MISSISSIPPI

The goal of this project is to gather and disseminate critical agricultural weather data for producers and researchers in Mississippi, surrounding States, and the Nation.

Weather stations were installed to provide data for USDA and Mississippi Agricultural and Forestry Experiment Station (MAFES) scientists to predict seasonal variation with wind. Information is planned to be part of the Delta Agriculture Weather Center Web site. The information available primarily on the interactive Internet Web site (www.deltaweather.msstate.edu), has contributed greatly to the actual and potential annual savings for cotton, soybean, and rice producers. The Rice DD50 program allows farmers to reduce their risks and thus avoid possible

losses due to untimely application of protection material for certain insects. Cotton DD60 heat units made available on a daily basis can allow the Mississippi Delta farmers to reduce the cost of treatments by over $24 million annually. This reduction in treatments translates into over 112,000 pounds of active ingredient of pesticide applications not sprayed in the Mississippi Delta per year. They also use these data to monitor the cotton boll formation to help time harvest aid application for economical defoliation.

The funding for fiscal years 1997 and 1998 was $50,000 each year; for fiscal years 1999–2000, $100,000 each year; for fiscal year 2001, $99,780; for fiscal year 2002, $100,000; for fiscal year 2003, $149,025; for fiscal year 2004, $133,209; for fiscal year 2005, $131,936; for fiscal year 2006, $130,680; for fiscal year 2007, $0; for fiscal year 2008, $98,307; for fiscal year 2009, $92,000; and for fiscal year 2010, $98,000. A total of $1,332,937 has been appropriated.

The project is conducted by Mississippi State University at the Delta Research and Extension Center in Stoneville, Mississippi.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

FOOD PRODUCTION EDUCATION, VERMONT

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $120,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

HEALTH EDUCATION LEADERSHIP, KENTUCKY

The goal of this program is to develop a partnership among the University of Kentucky Cooperative Extension Service, the Kentucky College of Public Health, and the academic health centers at the University of Kentucky to improve the health status of Kentucky citizens through (1) utilizing a model for family health with the framework as the family being the micro unit in a macro system of public health and healthcare and being the first providers of healthcare and prevention; (2) creating a partnership of families, communities, Extension professionals, and university researchers to design and implement programs at the local level that will change the health status of Kentuckians; and (3) utilizing a diffusion model to more rapidly diffuse new research findings and programs throughout the State and examine the effectiveness of new health behavior interventions.

The following innovative programs have been developed and implemented: Get Moving Kentucky, A Matter of Balance, The Literacy, Eating, and Activity for Pre-School Program, Small Steps to Health and Wealth and Team-Up Cancer Screening. The Literacy, Eating, and Activity program added an additional 12 curriculum modules. The Blue to You, Mental Health for Women curriculum was piloted in 11 western Kentucky counties and evaluation is underway. Wellness in Kentucky has been adapted from Wellness in the Rockies and will be implemented statewide during 2010. The American On the Move program designed for Cooperative Extension has been integrated into the Get Moving Kentucky program. This program is being used by Extension educators in several counties and data collected on participants' progress will be helpful to program evaluation. Both the Men's health program and the Smoking Cessation social marketing program and curriculum have been tested and data collected for program evaluation prior to full-scale implementation in 2011.

The work supported by this grant began in fiscal year 2002 with an appropriation of $800,000. Additional appropriations are $894,150 for fiscal year 2003; $800,251 for fiscal year 2004; $843,200 for fiscal year 2005; $834,570 for fiscal year 2006; $0 in fiscal year 2007; $627,576 in fiscal year 2008; and $590,000 per year in fiscal years 2009 and 2010. A total of $5,979,747 has been appropriated.

The program is being carried out at the University of Kentucky and in all 120 counties in the State of Kentucky.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

INCOME ENHANCEMENT DEMONSTRATION, OHIO

The goal of this project is to develop new agricultural businesses and restructure and expand existing businesses in response to domestic and international challenges. In 2005, the project moved from the Ohio State University to the Edison Industrial Systems Center and, more specifically, to a non-profit subsidiary of that company, the Innovative Food Technology Center. To date, current progress and new accomplishments include, but are not limited to the following:

—*Urban Agriculture/Novel Growing Systems.*—During the past year, existing demonstrations of high tunnel, unheated "hoop houses", and of high-density,

vertical hydroponic growing systems were expanded. The goal of the demonstrations was to illustrate the economic benefit of each of the technologies. As a direct result of these demonstrations, one additional hoop houses, as well as nine additional hydroponic systems, were purchased by northwest Ohio entities and organizations.

—*Green Products.*—Since initiating efforts in this area, CIFT has been in contact via seminars, Web broadcasts, and personal contact, with more than 200 producers or potential producers of green products or green versions of existing products. This has resulted in two new product launches by CIFT constituents.

—*Biomass Processing.*—At the request of several industry, community, and governmental groups, CIFT is participating in the Wood County, Ohio-Agricultural Task Force, a group that is examining the economics of a community based anaerobic digester. Inspired by this project, CIFT has also been requested to organize a similar effort in Defiance County, Ohio.

—*Energy Crops.*—A current project involving a demonstration and evaluation of camelina is underway. As the crop is harvested, oil will be extracted and evaluated in order to determine whether favorable economics would exist for expanded production of camelina as an "extra" crop in Ohio, increasing per acre revenue for midwestern growers. CIFT is also actively involved in promoting the results of research that is undertaking with the University of Toledo to produce algae as a source of biofuel feedstock.

—*Food Safety Training.*—Several years ago, CIFT was selected as the lead food safety educator for the Good Agricultural Practices program offered by the Mid-American Agricultural and Horticultural Services organization. CIFT has continued to offer this type training to small specialty crop growers, either as individual consulting, or in educational programming opportunities.

—*Alternate Protein Sources.*—During the past year, several technology development projects were completed by CIFT that dealt with methods to provide protein to feeding programs for the poor, for school children, and for elderly. These projects each considered safe and healthy alternates for these programs. They each also had significant economic development advantages inherent in their concepts. During the coming year, CIFT will attempt to develop evaluation and implementation plans for each of the results. The projects are, first, a product development effort to produce high protein canned meat product by combining mechanically separated poultry and soy protein isolates. The rationale is that this product will provide economic benefit to the poultry industry by upgrading a marginally valuable ingredient, while at the same time increasing the nutritional value of protein sources distributed through feeding programs. The second project evaluated the economics of growing various dry bean cultivars and utilizing them to prepare healthy, high protein meals for feeding programs. Finally, CIFT is leading the Lake Erie Underutilized Fish Marketing Project, a consortium which is evaluating the use of several nutritious and plentiful fish species from Lake Erie to manufacture alternative value added, preserved seafood products.

The project began in 1991. Appropriations have been as follows: $145,000 in fiscal year 1991; $250,000 per year in fiscal years 1992 through 1995; $246,000 per year in fiscal years 1996 through 2000; $245,459 in fiscal year 2001; $241,000 in fiscal year 2002; $239,434 in fiscal year 2003; $213,732 in fiscal year 2004; $725,152 in fiscal year 2005; $1,234,530 in fiscal year 2006, $0 in fiscal year 2007; $919,518 in fiscal year 2008; and $864,000 per year in fiscal years 2009 and 2010. Appropriations to date total $7,921,825.

The work is being carried out at the facilities of the Innovative Food Technology Center, Toledo, Ohio.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

INSTITUTE FOR SUSTAINABLE AGRICULTURE, WISCONSIN

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $400,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

INVASIVE PHRAGMITE CONTROL AND OUTREACH, MICHIGAN

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $155,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

IOWA VITALITY CENTER

The program was established to develop policy analysis to improve rural vitality in the State.

The survival of many of Iowa's rural communities is in question, and communities in the State vary in their capacity to stimulate development and economic growth. The need for this program is to assist residents of Iowa's small and medium-sized rural communities as they work to improve economic and social conditions and achieve sustainable rural and community vitality. Since 2007 the project has focused on its Microenterprise Initiative. The local need for microenterprise assistance, entrepreneurial development projects, and community philanthropy in creating community vitality is increased because of weather related disasters and the credit crisis, drop in commodity prices, and overall economic downturn.

In 2009, the project continued technical assistance and funding support for Iowa's statewide MicroLoan entity called the Iowa Foundation for Microenterprise and Community Vitality, a 501(c)(3) nonprofit foundation organized by the project as a statewide microloan intermediary that contracts with Cooperative Extension to coordinate Technical Assistance for Microloan clients. It designed Iowa's Microloan Web site, and went live in January 2009 (www.iowamicroloan.org). During 2009, 60 applicants who were denied credit by commercial lenders were assisted by the project in developing Iowa Microloan applications; 20 microloan clients were approved for a microloan for which the project developed a technical assistance plan in collaboration with the entrepreneur; two-thirds of the microloan clients were startups and one-third were expansions; 2 microloan clients were minorities; no delinquencies or defaults were experienced in first year; and 15 Technical Assistance plans were developed and implemented. It also identified collaborators and negotiated agreements with eight Iowa regional and statewide microenterprise assistance networks.

The project provided technical assistance to the Community Foundation of Greater Des Moines in organizing microenterprise and philanthropy projects for five rural affiliate county foundations. It also initiated four nonmetro county philanthropy capacity projects in collaboration with Iowa Council of Foundation—www.cvcia.org. It initiated the Ghana Millennium Fund Agricultural Microfinance Consultancy and consulted on New Market Tax Credits for four rural projects with three Iowa-based Community Development Entities.

The project completed 15 County Reports for its Rural Migration Study and conducted 20 local and regional meetings with 365 community leaders—www.cvcia.org. It also conducted local demonstrations to help seven community entrepreneurs, and co-sponsored 12 succession planning workshops. It completed the Youth Marketplace Entrepreneurship Project in Sac County Middle Schools.

The work supported by this grant began in fiscal year 2002. Appropriated amounts are: fiscal year 2002, $280,000; fiscal year 2003, $278,180; fiscal year 2004, $250,513; fiscal year 2005, $248,000; fiscal year 2006, $245,520; fiscal year 2007, $0; fiscal year 2008, $223,425; fiscal year 2009, $209,000; and fiscal year 2010, $250,000. A total of $1,984,638 has been appropriated.

The program is being conducted at Iowa State University.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

MAINE CATTLE HEATLH ASSISTANCE PROGRAM

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $700,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

NATIONAL CENTER FOR FARM SAFETY, IOWA

The project supports training at the National Education Center for Agricultural Safety, or NECAS, to reduce the level of preventable illnesses, injuries, and fatalities among agricultural populations. The NECAS provides hand-on training to emergency response personnel and first responders. NECAS also develops, implement, and evaluate diverse training methods for at-risk agricultural audiences.

Training topics covered included agricultural rescue and emergency preparedness, commercial training on hazardous material handling and pesticides, and youth and elderly farm safety training. The Center also conducted awareness and informational programs on rural and agricultural health, certification of safe farms, farm equipment rescue, and safe tractor operation.

The work supported by this grant began in fiscal year 1998 with an allocation of $195,000 per year for fiscal years 1998–2000; for fiscal year 2001, $194,571; for fis-

cal year 2002, $196,000; for fiscal year 2003, $196,713; for fiscal year 2004, $223,673; for fiscal year 2005, $241,056; for fiscal year 2006, $238,590; for fiscal year 2007, $0; for fiscal year 2008, $167,817; for fiscal year 2009, $158,000; and for fiscal year 2010, $170,000. The total amount appropriated is $2,371,420.

The National Education Center for Agricultural Safety is located at the Northeast Iowa Community College in Peosta, Iowa.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

NUTRITION ENHANCEMENT, WISCONSIN

The objectives of this program are to improve food security of school-age children through school breakfast promotion, enhancement, and coordination by increasing the number of children and schools participating in the school breakfast programs; to provide research-based information, education and outreach associated with school breakfast promotion and enhancement to support county-based Extension staff efforts that further the school breakfast program; to provide research-based information, education and outreach related to school breakfast programs to schools across the State; and to provide leadership to statewide efforts to collect and summarize impact evaluation results related to school breakfast. Other initiatives include conducting in-depth interviews with key school food service directors from across the State to obtain detailed information for non-participation in the breakfast program. In addition, efforts will focus on working with non-participating schools which qualify as severe, or schools with high percentages of free and reduced price qualifying students.

To date a number of activities have been completed or are in progress. Following a noncompetitive grant application process, mini grants were awarded in September 2009 for schools to implement new breakfast programs or to improve an existing program. Forty-two Wisconsin schools received funding to start up a new breakfast program and 111 received program improvement grants. The conversion of the current school breakfast Web site to an updated blog is near completion. This new blog will incorporate easier navigation features and integrate new research and updated reports currently not found on the Web site. Formation of the school breakfast advisory board is in progress. A face to face meeting of this Board with key leaders in school breakfast promotion was in January 2010. Work with organizational partners, such as the Wisconsin Dietetic Association, the Wisconsin School Nutrition Association, Wisconsin Parent Teacher Association, and the Wisconsin Milk Marketing Board continues and is vital to the promotion of school breakfast programs across the State. Determination of severe need, non-participating schools is a project that is based on the most current data Wisconsin Department of Public Instruction collects from schools and this data is scheduled for release in spring 2010. Due to a demand for more information on school breakfast, two regional conferences will be offered in 2010. The first will be in Stevens Point, Wisconsin in February 2010 and the second in Fond du Lac, Wisconsin in April 2010.

The work supported by this grant began in fiscal year 2004 with an appropriation of $894,690; $965,216 in fiscal year 2005; $1,089,000 in fiscal year 2006; in fiscal year 2007, $0; in fiscal year 2008, $744,750; in fiscal year 2009, $751,000; and in fiscal year 2010, $950,000. A total of $5,394,656 has been appropriated.

The work is being carried out at the University of Wisconsin—Extension, Madison, in collaboration with the Wisconsin Department of Public Instruction and in 153 schools.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

OHIO-ISRAEL AGRICULTURE INITIATIVE

The grant is for the Cleveland-based Negev Foundation to promote the exchange of agricultural technology and resources between Israel and the State of Ohio. The objective of the Initiative is to foster greater collaboration between Ohio and Israeli government and research institutions, farmers and companies; develop joint research and development and educational activities; identify agribusiness ventures based on new technologies; introduce potential investors; and expand commercial ties and market access in both regions. Activities underway include exports of Ohio-bred beef calves to Israel, agricultural biosecurity training, soybean purchases and joint processing facilities, aquaculture cooperation, drip irrigation demonstrations in Ohio, model greenhouse development, participation in trade shows (trade shows in Israel promoting Ohio agricultural exports), and joint Ohio-Israel applied research and scientific exchanges on dairy production, food safety, integrated pest management, precision and no-till agriculture, and greenhouse technologies.

This project began in fiscal year 2004. The fiscal year 2004 appropriation was $536,814; for fiscal year 2005, $564,448; for fiscal year 2006, $587,070; for fiscal year 2007, $0; for fiscal year 2008, $495,507; for fiscal year 2009, $466,000; and for fiscal year 2010, $700,000. The total amount appropriated is $3,349,839.

The project is implemented by the Negev Foundation of Cleveland, Ohio, and project activities are being carried out primarily in Ohio and Israel. The Ohio State University (OSU) is collaborating with Negev on several activities, including on-campus seminars, participating in trade mission teams, exchanging agricultural research findings and technologies with Israeli scientists, and engaging OSU Cooperative Extension Service personnel as appropriate.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

PILOT TECHNOLOGY TRANSFER PROJECTS, OKLAHOMA AND MISSISSIPPI

The goal of these projects to contribute to an increase in business productivity, employment opportunities, and per capita income by increasing information technology capital, locally and throughout the States, and applying information from Federal laboratories, Cooperative Extension, and other university departments and non-campus agencies. The specific program objectives are to enhance profitability for existing enterprises; aid in the acquisition, creation, or expansion of business and industry in the area; establish an effective response process for technological and industrial-related inquires; devise effective communication procedures regarding the program for the relevant audiences; and provide one-on-one and on-site engineering, technology, and management assistance to small-scale rural manufacturers. Oklahoma's Manufacturing Extension Partnership—the Oklahoma Alliance for Manufacturing Excellence has received national acclaim for its noteworthy and effective partnership with the land-grant university.

In Oklahoma, for fiscal year 2009, the reported impact of the Applications Engineering program on client projects totaled over $68 million. This included approximately $31.5 million in sales increase/retention, $5.8 million in cost savings/avoidance, $15.3 million in new investment in facilities and equipment, and 209 jobs created or retained with an economic impact of approximately $15.8 million.

In Mississippi, primary impacts included increased knowledge and skills regarding software selection and use, hardware selection/procurement, technological advances, and technology planning/implementation. Specific impacts included persons obtaining jobs due to increased skills, companies having better trained and more capable employees, and individuals being more effective and efficient in their personal lives.

Funding appropriated to date is as follows: $350,000 per year in fiscal years 1984 and 1985; $335,000 in fiscal year 1986; $333,000 per year in fiscal years 1987 through 1990; $331,000 per year in fiscal years 1991 through 1995; $326,000 per year in fiscal years 1996 through 2000; $325,283, 2001; $319,000, 2002; $335,803, 2003; $300,218, 2004; $297,600, 2005; $297,000, 2006; $0, 2007; $223,425, 2008; and $209,000 per year, 2009 and 2010. Total appropriations are $8,168,329.

The Oklahoma efforts are being coordinated at Oklahoma State University and at Rural Enterprises of Oklahoma, Inc. In addition, work is being done in the offices and shop floors of small, rural manufacturers across Oklahoma and Mississippi. Coordination of work is being carried out at Mississippi State University and on the shop floors of small, rural manufacturers, community colleges, on the Internet, and in every county in Mississippi.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

PILOT TECHNOLOGY TRANSFER, WISCONSIN

The Manufacturing Technology Transfer programs principal objective in the development of a competitive, secure manufacturing base for rural communities through the mechanism of industrial extension. The program principally targets small and medium-size manufacturers in the economically distressed counties of Northwest Wisconsin.

In 2007, the project managers report that this funding produced the following impacts for program participants in Northwest Wisconsin: increased sales, retention of sales, cost savings, targeted technology investments by clients totaling $90 million; 2,600 jobs were retained or created; 114 small and medium-sized manufacturers were served with 165 technology transfer projects.

In 2009, project managers continued to pilot test the relevance and effectiveness of new technology, business strategies, and systems by monitoring new concepts, systems, and technology with companies in our region. Project managers attended

seminars to develop competencies in the topics selected. They also will continue to refine their Cooperative Extension activities by exploring ways to facilitate entrepreneurship by making referrals to and working closely with organizations such as the Small Business Development Center, University of Wisconsin—Extension, Small Business Association, University of Wisconsin—Stout's Economic Development Administration, and University of Wisconsin—Stout's Center for Innovation and Development.

This project has been underway since fiscal year 1992 and was funded for $165,000 per year in fiscal years 1992 through 1995; $163,000 per year in fiscal years 1996 through 2000; $162,641, 2001; $160,000, 2002; $161,941, 2003; $214,726, 2004; $231,136, 2005; $247,500, 2006; $0, 2007; $184,698, 2008; and $174,000 per year, 2009 and 2010. A total of $3,185,642 has been appropriated.

The program has been carried out in northwest Wisconsin at the University of Wisconsin, Stout campus, and at the facilities of the following technical colleges in northwest Wisconsin: Chippewa Valley, North Central, Nicolet, and Wisconsin Indianhead. Work has also been carried out on-site at small and medium-size manufacturing companies in northwest Wisconsin.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

POTATO INTEGRATED PEST MANAGEMENT, MAINE

The goal of this extension education project was to improve disease forecasting and management of potato late blight by providing growers with educational information to make decisions relating to field management of the late blight races and other pest problems, potato disease forecasting, disposal of cull potatoes, insect spread of potato diseases, insect management, implementation of economic thresholds, insect identification, disease identification, weed identification, and increase the knowledge base by increasing research efforts.

The University of Maine Cooperative Extension's Potato Integrated Pest Management program impacts nearly 60,000 acres of potatoes. The program employs 26 program aides, maintains nearly 150 specialized insect traps, coordinates a statewide network of electronic weather stations, and surveys 125 potato fields on a weekly basis for weeds, insects, and diseases. The data produced help scientists track potential pest outbreaks and helps provide growers with current information on specific and timely treatments in order to minimize the number of pesticide applications and maximize potato yield. Weather conditions during the 2008 growing season were extremely conducive for the development of potato late blight. In the month of June, it rained 23 of 30 days. This was a 40 percent increase in rainfall as compared to the average. Over 60 percent of the fields surveyed by the integrated pest management program in 2008 had detectable levels of potato late blight in them. Grower implementation of the Extension computerized disease forecasting program coupled with fungicide selection and applications, field scouting, early detection, and appropriate management strategies allowed growers to successfully cope with the serious late blight pressure. Minimal storage losses attributed to potato late blight were experienced with the 2008 crop. It was estimated that the total economic impact of the University of Maine Cooperative Extension Potato Integrated Pest Management program for the 2008 crop year was $17,216,136.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $297,900; for fiscal year 2009, $280,000; and for fiscal year 2010, $450,000. A total of $1,027,900 has been appropriated.

The research is being conducted at the University of Maine and throughout the State of Maine.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

POTATO PEST MANAGEMENT, WISCONSIN

The of this project is to assist farmers in reducing risks from pesticides by working with them to implement practicable pest management options and to explore marketing strategies to allow growers to capture additional benefits from pesticide reduction. The project's accomplishments to date include improving the potato industry's environmental performance by increasing adoption of biointensive integrated pest management methods through grower education and the development of grower outreach tools, developing ecosystem function priorities and implementing total farm ecosystem plans, and the continued enhancement of a streamlined, real-time certification system for certified, eco-labeled niche marketed potatoes. Value-added marketing opportunities for fresh market potatoes have been researched, and measurement tools for assessing integrated pest management adoption and pesticide

inputs have been coupled with an environmental potato production standard that requires potato growers to meet pesticide toxicity reduction and integrated pest management goals. Progress has been made in reducing the toxicity levels of pesticides used in potato production, while increasing biointensive integrated pest management adoption.

In Wisconsin, the foundation for biointensive integrated pest management education has been developed. Educational efforts are being proposed to enable growers to integrate biointensive strategies into existing production systems. The overall momentum of the collaboration has been extremely strong with many accomplishments such as the continuation of the marketing effort, enhancements of the collaboration standards, improvements of resistance management protocols, database implementation, grant coordination and expansion of the development and use of educational tools for growers. The project has involved numerous faculty, industry representatives, potato and other commodity organizations, and environmental organizations to export this agricultural model for targeted and industry-wide change. In Wisconsin, this work is expanding to other vegetable crops, such as carrots, peppers, beans, and peas and is now also expanding to fruit crops. Furthermore, the ecological portions of the collaboration have been enhanced by working with national and local environmental organizations and expanding research with University of Wisconsin faculty through the infusion of their expertise, research, and education into the project. This strength needs to be maintained, while exporting the model of industry-wide agricultural changes through the use of policy and communication efforts.

The work supported by this grant began in fiscal year 2001, and the following amounts have been appropriated: 2001, $189,582; 2002, $396,000; 2003, $298,050; 2004, $357,876; 2005, $375,968; 2006, $396,000; 2007, $0; 2008, $294,921; and 2009 and 2010, $277,000 per year. A total of $2,862,397 has been appropriated.

This work is being conducted with fresh market potato growers in the following Wisconsin counties: Adams, Columbia, Barron, Green Lake, Langlade, Marquette, Portage, Sauk, Waupaca, and Waushara; apple growers in Bayfield, the Chippewa Valley, southeastern counties, and Dane County; and apple/cherry growers in Door County.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

RANGE IMPROVEMENT, NEW MEXICO

The focus of the project is the public rangeland resource in New Mexico. The Range Improvement Project: Analyzing the Cumulative Impacts of Federal Land Policy and Management, formerly called Range Policy Development, has a long-term goal to bring disparate information together into a single analysis and develop a comprehensive solution to issues on Federal land resources and economies. The program developed local and regional economic models that link management of Federal rangeland and forestland to the economies of rural communities in New Mexico. The economic factors of interest included forage loss from canopy closure in national forests, endangered species act listings/designations on habitat and industry, recreation, wilderness, rangeland health and monitoring, private property rights, and cultures of the region. The modeling activities were intended to inform policy and decision makers towards understanding the linkages of local and State economies to the industries that rely on services from New Mexico public lands.

It is the vision of this project to merge multiple topics and disciplines to do a complete analysis for specific geographic regions in New Mexico. This analysis included a historical perspective on land uses, economic structure, government regulations, customs and cultures, and private property issues. It also encompassed the current land uses and management practices, economic structures, government regulations, customs and cultures, and private property issues. This project created a baseline for future analysis in socioeconomic, timber, recreation, and rangeland issues on Federal lands in New Mexico. Education has been the primary output related to this project. Information is extended to a variety of audiences including landowners, industry and agency personnel. These outreach outputs, according to the project leaders, might lead to improved site selection, disturbance management, and size of oil and gas well sites on New Mexico rangelands and throughout the West. These extension efforts provided the data to support the oil and gas industry on rangelands with minimized impacts on other uses of the public domain while maintaining the environmental services. Outreach publications generated by this project coupled with a new rapid assessment methodology are both used by landowners, county agents, agency personnel, and researchers throughout New Mexico.

Collection of primary data has occurred on New Mexico ranches, the Gila and Lincoln national forests, and Bureau of Land Management allotments adjacent to those forests in New Mexico. Modeling efforts for this extension project are being carried out at New Mexico State University. Regional or county economies have been evaluated for economic dependence on multiple use Federal lands. Area residents, industry and agency officials were involved in analyzing and checking socioeconomic data. Field-collected data were used to update the information available from the Bureau of Commerce, U.S. Department of Agriculture, and the New Mexico Department of Labor. Broad regional interest in the project has led to efforts to expand applications to fit other sites in the southwestern United States.

The amounts appropriated are: 1996–2000, $197,000 per year; 2001, $196,567; 2002, $240,000; 2003, $243,408; 2004, $217,708; 2005, $232,128; 2006, $241,560; 2007, $0; 2008, $223,425; 2009, $209,000; and 2010, $223,000. A total of $3,211,796 has been appropriated.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

UNIVERSITY OF WISCONSIN—EXTENSION NORTHERN AQUACULTURE DEMONSTRATION FACILITY

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $450,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

URBAN HORTICULTURE, WISCONSIN

The goal of this program was to provide the fundamental information and technology transfer needed by farmers to be successful in the new enterprises by increasing the capacity of county-based extension faculty to provide information to the public. County-based faculty are now working with campus faculty to identify issues where more information is needed. The project has expanded its focus beyond providing information primarily to producers by including consumers and homeowners as well. Overall, over 750 individuals have been empowered through community, neighborhood and at-risk population programs focused on fruit and vegetable gardening. The second area of research and education, impacting over 3,000 horticulturalists in Wisconsin is sustainable landscape practices, including Web-based pest identification, appropriate pesticide selection, and preserving water resources. The project has also involved the creation and dissemination of new research-based horticultural knowledge through both traditional—fact sheets, Web sites, etc.—venues as well as new communication channels—online classes, podcasts, etc. Project funding from USDA sources has been heavily supplemented through significant volunteer hours, local funding sources, and individual donations. The funding has also allowed the project team to leverage significant community-based relationships in Wisconsin's most urban counties including Milwaukee, Racine, Kenosha, and Waukesha. Two important examples include significant educational/facilities formalized relationships with the Boerner Botanical Gardens in Milwaukee County as well as funding relationship with the Milwaukee based non-profit organization "Growing Power."

The work supported by this research began in fiscal year 2002. In fiscal year 2002, $200,000 was appropriated 2003, $536,490; 2004, $783,351; 2005, $810,464; 2006, $808,830; 2007, $0; 2008, $346,557; and 2009 and 2010, $376,000 per year. The total appropriated to date has been $4,237,692.

This project is being conducted at the University of Wisconsin at Madison through the Wisconsin Extension Service.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

URBAN HORTICULTURE AND MARKETING, ILLINOIS

The goals of this project are to provide urban horticulture and agriculture training for low-income youth and young adults, produce and market locally grown organic produce at a variety of Chicago-area markets, and establish a green campus within the community. In 2009, Windy City Harvest became the first urban agriculture training certificate program in Illinois to be accredited Illinois Community College Board. The program attracted and retained a diverse student body. A Windy City Harvest related production and training garden at the Cook County Sheriff's Boot Camp is now serving young men in 4-month incarcerations, and some graduates will participate in the next 9-month certificate session. Windy City Harvest also collaborated with the administrators and staff of USDA's Food and Nutrition Services Region 5 Office to create the first Midwest People's Garden on Chicago's west side.

Fiscal year 2008 was the first year that funds were appropriated for this grant with an amount of $74,475; for fiscal year 2009, $104,000; and for fiscal year 2010, $175,000. A total of $353,475 has been appropriated.

The project will be conducted at the Windy City Harvest in Chicago, Illinois, in conjunction with the Chicago Botanic Garden and the City Colleges of Chicago.

Senior agency technical staff conducted a merit review of the proposal for this research prior to making a funding recommendation.

VETERINARY TECHNOLOGY SATELLITE PROGRAM, KANSAS

Fiscal year 2010 is the first year that funds were appropriated for this grant with an amount of $1,000,000. Since this is a new grant, no information is available regarding the program's goals and objectives.

SUBCOMMITTEE RECESS

Senator KOHL. Our next hearing will be Tuesday, March 9. We'll be hearing from Dr. Margaret Hamburg, FDA Commissioner, on the FDA's budget.

Again, we thank you all for being here.

And we will recess at this time.

[Whereupon, at 11:59 a.m., Tuesday, March 2, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 9.]