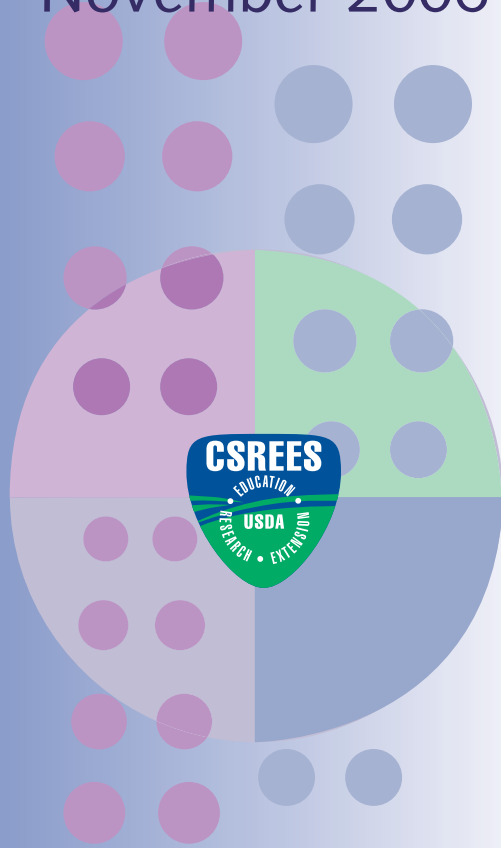


CSREES Administrator's Report to the Partnership

November 2006



The mission of the Cooperative State Research, Education, and Extension Service (CSREES) is to advance knowledge for agriculture, the environment, human health and well-being, and communities.



November 2006

MESSAGE FROM THE CSREES ADMINISTRATOR

During the past year, the Cooperative State Research, Education, and Extension Service (CSREES) and the Land-Grant University System deliberately focused on reasserting the relevance of science and education to the agricultural enterprise and the local, state, national, and international contexts in which it operates. We anticipated critical issues through our research programs and supported relevant projects to address current issues. For example, based on a National Research Initiative/Department of Energy/National Science Foundation grant through the Microbial Genomics Program, we supported research resulting in the genetic map of the pathogen underlying sudden oak death. Through a CSREES food safety grant to scientists at the USDA Agricultural Research Service (ARS) and at the University of California at Davis, we funded continuing work to reduce microbial contamination in fresh and lightly processed vegetables and fruits, which is essential to maintaining the cut salad business that is a convenient source of nutritious food to consumers.

We anticipated the challenge of detecting and managing zoonotic diseases, such as avian influenza, by establishing a large Coordinated Agricultural Project grant led by the University of Maryland and the Ohio State University. And, as soybean growers know, USDA agencies, particularly the Animal and Plant Health Inspection Service, Risk Management Agency, ARS, and CSREES, worked effectively through the land-grant universities and the decentralized Plant Diagnostic Laboratory Network to map disease patterns and educate growers about the movement of soybean rust, thereby helping to manage production decisions and save fungicide costs. What we learned from this effort is being translated into an enduring system to address plant disease through the Pest Information Platform for Extension and Education (PIPE), to be mounted in collaboration and with assistance from the regional Integrated Pest Management Centers.

This repositioning is occurring at an accelerated pace in extension as new Communities of Practice are being added to the eXtension portfolio almost monthly. Similarly, the Extension Disaster Education Network (EDEN) expanded its potential role in homeland security. EDEN's rapid response to meet the needs of Gulf Coast citizens in the wake of last year's hurricanes reaffirmed its commitment to be an essential source of critical information in natural disasters. Just this fall, higher education leaders met under the auspices of the National Academy of Sciences in a summit focused on undergraduate programs in agriculture and related sciences. The central question of the meeting was "What do we need to do to remain relevant in educating students for both careers and citizenship in the 21st century?"

At the summit, USDA Under Secretary for Research, Education, and Economics Gale Buchanan spoke about the new challenges facing agriculture, particularly the expansion from primarily a food and fiber system to a food, fiber, and fuel system. This will change the landscape of production and create potential solutions to such critical national issues and challenges as energy independence and the sustainability of a significantly expanded production system. He also spoke of the resource constraints of the 21st century, particularly the availability of water, which is an issue of global scope.

In addition, USDA Under Secretary Buchanan addressed the need to respond to the new world of demand-driven agriculture, rather than the production-driven systems of the past. These and many other challenges will define our research and education agenda in the decades to come. It is essential for us to constantly review and renew our priorities to assure that the work we do is relevant to issues visible on the national horizon and beyond, where sometimes only the keen eyes of scientists and educators can see. To remain relevant today and into the future, we need to continue to anticipate and act on the issues of tomorrow.

Colien Hefferan, Administrator

CSREES Pest Information Platform for Education and Extension:

U.S. soybean farmers saved millions of dollars in 2005 by not applying fungicide for soybean rust to millions of acres of farmland. The U.S. Department of Agriculture's Soybean Rust Information System Web site (www.sbrusa.net) provided information that helped farmers reduce production costs by as much as \$299 million (Economic Research Service estimate). These cost savings, coupled with the favorable environmental benefits of preventing needless spraying of fungicides, demonstrate the value of a strategic, coordinated, national pest management framework. That framework has evolved into the 2006 Pest Information Platform for Extension and Education (PIPE).

In 2006, PIPE focused on soybean rust and aphids, and initiated a pilot program to monitor these pests on other legumes through a partnership of CSREES, USDA's Risk Management Agency, and the regional integrated pest management (IPM) centers. PIPE requires a coalition of agricultural industry, land-grant universities, and Federal agencies.

PIPE's vision is to help maximize economic returns and improve social welfare and environmental health by promoting efficient and coordinated IPM decision support systems. PIPE's mission is to realize a dynamic, integrated national system facilitated by information technology that provides centralized, useful tools with reliable information for IPM practitioners. PIPE's strategy is to enhance IPM decision support systems by including pests (diseases, insects, and weeds) of many crop plants. PIPE's platform will address local, regional, and national interests; help growers document crop management actions for insurance claims; and provide a structure that can deploy quickly in response to threats from exotic/invasive pests. The initial focus will be on plant pests of agricultural systems; however, the steering committee will consider broader scope applications in the future. The steering committee, comprised of diverse stakeholders, will coordinate and assure stakeholder input; set policy; establish processes to include new components; develop a business plan, management structure, and an advisory council; set goals; plan, monitor, and evaluate activities; and maintain long-term sustainability. A fully constituted steering committee in October replaced an ad hoc committee that had been in place for 2 years.

PIPE programs will continue to support existing soybean pest systems in 2007-2008 and expand to support pulse legume pests, Lepidopteran insects attacking sweet corn, and a pilot project on Fusarium head blight of barley. Additional funding of \$600,000 - \$700,000 may be available through a solicitation and competitive review process to incorporate new pest/crop components.

The newly formed steering committee will determine the process to use, while a subcommittee will run the competition. Contacts: Kitty Cardwell and Martin Draper – kcardwell@csrees.usda.gov or mdraper@csrees.usda.gov.

CSREES' Critical Role in Bioenergy Research and Initiatives:

CSREES plays a critical role in meeting the President's goal of energy independence with a portfolio of both competitive and noncompetitive programs supporting activities in bioenergy. These programs include the National Research Initiative (NRI), the Small Business Innovation Research Program (SBIR), the Agricultural Materials Program, Higher Education Programs, and Sustainable Agriculture Research and Education (SARE). The programs focus on biomass conversion to biofuels and related co-products, including the development of catalysts, biomass characterization, biomass design/optimization, technology and co-products. NRI supports competitively funded innovative basic and mission linked projects. Most support for biofuel production research comes from the Biobased Products and Bioenergy Production Research Programs, with partial support from the Plant Biology Programs, the Plant Genome Program, and the Rural Development Program. SBIR, which provides competitively awarded grants to small businesses to encourage technology development and commercialization, established that bioenergy would be the overarching focus for each of its programs in Fiscal Year 2007. Applied and developmental research is funded primarily through formula funds and other non-competitive funding mechanisms. CSREES' SARE, Higher Education Challenge Grants and Capacity Building Grants that support academic training have also implemented a bioenergy focus area.

CSREES national program leaders play essential roles in many Department-level initiatives to provide leadership and coordinate activities and collaboration across the U.S. Department of Agriculture (USDA). CSREES has representatives on each of the following: the Biobased Products and Bioenergy Coordination Council, chaired by Under Secretary for Research, Education, and Extension (REE) Dr. Gale Buchanan; the USDA Energy Council: Subcommittees for Research and Development, Commercialization, and Outreach; and The Energy Policy Act of 2005 (EPA) Implementation Team.

Under Secretary Buchanan established the Agricultural Bioenergy Research, Education, and Extension (ABREE) Task Force to develop a road map for the REE mission area. The ABREE Task Force, chaired by Dr. Joseph Dunn, Special Assistant to Under Secretary Buchanan, has representatives from CSREES, USDA's National Agricultural Statistics Service, Agricultural Research

Service, and Economic Research Service. The task force develops and promotes near- and long-term strategies that take advantage of agriculture's role in feedstock development and conversion into biofuels in an economically and environmentally sustainable way.

Interagency collaborations include an important relationship with the Department of Energy's (DOE) Office of Biological and Environmental Research. CSREES and DOE signed a memorandum of understanding (MOU) to share resources and coordinate the study of plant and microbial genomics. The MOU led to a joint program to advance basic scientific knowledge of feedstock genomics. In 2006, the Joint USDA-DOE Feedstock Genomics for Bioenergy Program supported nine awards for a total of \$5.8 million that represented a diversity of feedstocks, including poplar, alfalfa, wheat, and sorghum. Activities with other Federal agencies include the Department of Transportation-led Sun Grant Initiative (SGI) Oversight Committee. SGI uses the expertise in the Land Grant University System to develop and implement technologies that focus on bioenergy and biobased products, and promote rural development. CSREES has funded SGI since 2002 to support regional planning. The 2005 Highway Bill provides nearly \$10 million a year (through 2009) to conduct competitive research and development programs. CSREES serves on an oversight committee to help the Department of Transportation implement the initiative.

These diverse activities, supported by CSREES, have a tremendous impact on advancing U.S. energy objectives. Agency support has helped develop biocatalysts and thermochemical technologies that are valuable in converting lignocellulosic biomass to biofuels, designing optimum biomass for biofuel production, and producing many value-added biobased industrial products. Contact: Chavonda Jacobs-Young, cjacobs@csrees.usda.gov and Carmela Bailey, cbailey@csrees.usda.gov.

Science, Engineering, and Technology Youth

Education Update: Research indicates that young people lack the science, engineering, and technology (SET) skills this Nation needs to maintain its competitive edge in the global economy. As today's youth become America's national, state, and local leaders, SET skills will be a critical tool for wise leadership.

For more than 100 years, the National 4-H Headquarters, housed within CSREES, has developed practical life skills for youth through innovative experiential education. Programs emphasize positive youth development and fulfill healthy living, citizenship, and SET mission mandates. 4-H is the only youth program which directly applies land-grant university research-based technological advances in agriculture and life sciences; family and consumer resource management; human development; nutrition; and related areas to curricula, which is unique among youth organizations in

this country, making 4-H the largest provider of informal science experiences for youth.

In 2005, the National 4-H Headquarters established a SET Task Force to continually strengthen 4-H SET programming around the country. The task force's initial goal is to provide high-quality SET experiences to 1 million students by 2013.

The following examples illustrate how 4-H leads the nation in preparing our young people to meet the growing demand for a scientifically competent workforce and society.

In 2000, 4-H youth programs recognized how geospatial technology could be the bridge for youth to apply global positioning system (GPS) technology, geographic information systems (GIS), and remote sensing tools to learning more about their home place, community, state, nation, and world. To date, 300 counties and 44 states have growing GIS GPS community mapping programs. More than 10,000 youth are now trained to integrate geospatial tools into their career preparations while helping community organizations adopt geospatial tools to help community leaders inventory local economic, social, and environmental conditions most in need of improvement. At their national leadership conference earlier this year, youth presented workshops on how 4-H is applying geospatial tools to agriculture, natural resources management, community development, and emergency preparedness.

Because 4-H leads the way in providing opportunities for youth to discover and explore SET, it is important to build upon these concepts and skills. The National Science, Engineering, and Technology Conference, hosted by the University of Nebraska-Lincoln, helped do that. Specific goals of the conference included:

- increasing knowledge and understanding of information technology while strengthening young people's ability to teach those concepts;
- cultivating an environment where youth can share ideas, gain information, and develop approaches to strengthening science, engineering, and technology programs; and
- extending the impact of the conference by developing methods for attendees to implement individual community action plans.

Much work lies ahead for the SET Task Force. As the strategic plan moves from conceptualization to implementation, the National 4-H Headquarters will engage audiences at all levels to identify and cultivate champions to help lead the charge. Contact: Byron V. Garrett, bgarrett@csrees.usda.gov.

Scientists and Engineers in Agriculture — Workforce

Issues: A large portion of the workforce will retire in the next few years, and Government and the business community are rightfully concerned. Will demand exceed supply in the fields of science and engineering? USDA shares this concern, a concern that is coupled with a misconception about careers in agriculture. Agricultural higher education professionals must address how to educate students in a society that is changing from rural to urban and becoming more diverse. What curriculum changes will meet the shifts? The President's FY 2007 budget allocates \$55.5 million to CSREES for higher education. Those dollars will be used to focus on such challenges as training future scientists in current and evolving fields of critical need, expanding agriculture and science literacy and capacity at minority-serving institutions, focusing on current and future workforce needs, and increasing diversity among agriculture professionals.

CSREES will fund future programs to advance these initiatives through grants to faculty and scholarships to students. Current competitive grant programs are: Food and Agricultural Sciences National Needs Graduate and Postgraduate Fellowships; Multicultural Scholars; 1890 Scholars; Higher Education Challenge; Alaska Native-Serving and Native Hawaiian-Serving Institutions Education; 1890 Institution Teaching and Research Capacity Building; Hispanic-Serving Institutions Education; and Tribal Colleges Education Equity

Several CSREES-sponsored projects help teachers and faculty inform students that jobs in agriculture are not only rewarding but vary from business, to research, to applied hands-on employment all of which play a vital role in our Nation's economy and national security. Programs such as Agriculture in the Classroom and Secondary Challenge Grants give teachers an avenue to develop and strengthen education and literacy in agriculture. This encourages young people from urban environments and diverse cultures to pursue a degree in scientific fields relating to agriculture.

CSREES must ensure that students who enter fields of agriculture continue into graduate programs and remain abreast of the various critical issues that face the Nation and world. These issues might include food safety and processing, genetic engineering, nutrition and health, and environmental concerns relating to plant production. CSREES needs to ensure that students who become employed in these fields, regardless of major, are knowledgeable of the critical issues influencing the agriculture system. Contact: Ella Smith, USDA/CSREES – esmith@csrees.usda.gov.

Update on CSREES Nutrition Initiatives: Health experts note the alarming increase in obesity and the need to improve overall nutritional well-being in all segments of the population.

USDA's and CSREES's Strategic Goals prominently reflect this concern, as does the Experiment Station Committee on Policy's (ESCOP) revised "Science Roadmap," in which the related objective was moved from seventh to first place. However, the problem continues to grow worse.

Single-focus interventions have failed to solve the problem because many poorly understood factors can affect obesity, including genetic, metabolic, psychological, cultural, societal, economic, and environmental factors. The multifaceted nature of obesity is why it is so important for CSREES, in partnership with the Land-Grant University System, to lead the way in a multidisciplinary approach to obesity prevention. CSREES has responded to the challenge in several significant ways by bringing to bear the strength of its integrated missions in research, education, and extension.

The Land-Grant University System is uniquely positioned to apply multiple disciplines to a better understanding of the behavioral and environmental factors that influence obesity and utilize the strength of the Cooperative Extension System (CES) to develop and evaluate effective interventions. A recent search of CSREES' Current Research Information System for active "obesity" or "overweight" research projects identified more than 200 Hatch and 20 Evans-Allen projects. On October 1, two new integrated Multi-state Research Fund projects began focusing on obesity prevention: NC-1028, "Promoting healthful eating to prevent excessive weight gain in young adults," which involves 11 states and W-1005, "An integrated approach to prevention of obesity in high risk families," which involves 18 states and the District of Columbia. From 2000 through 2005, CSREES awarded about \$45 million in competitive funds for about 75 obesity projects. Based on stakeholder input, CSREES will continue to focus on obesity prevention, using an integrated food systems approach.

CSREES's various education programs help universities produce researchers and educators to address complex, modern problems. The National Needs Fellowship Grants Program specifically cited obesity in its most recent Request for Applications. About 10 percent of the eligible applications received were in the diet and obesity area.

CES is a unique resource of the Land-Grant University System. No other network can take as comprehensive an approach to the obesity problem. Nearly all of CES' nutrition education programs address obesity in some way. For example, the Reversing Childhood Obesity Trends Initiative focuses directly on obesity, and the Food Stamp Nutrition Education (supported by USDA's Food and Nutrition Service, but carried out largely by CES) and the Expanded Food and Nutrition Education Program target low-income groups who are disproportionately affected by obesity.

CSREES' Obesity Task Force comes together to think strategically about obesity prevention and encourage an obesity focus across programs. As a result, recent Requests for Application for SBIR and the National Needs Fellowship Grants each specifically cited obesity within its topic areas.

CSREES and its university partners have the infrastructure and network to address future multifaceted problems. Our goals are to gain synergy by increasing coordination and to raise the visibility of the accomplishments and untapped potential of the partnership. Contact: Mary Gray, USDA/CSREES – mgray@csrees.usda.gov.

New CSREES Director's Vision for Planning and

Accountability: Federal dollars are scarce and becoming scarcer. Taxpayers and politicians want reduced tax burdens. National security, health care, and Social Security are placing ever-increasing demands on available dollars. Agricultural research, education, and extension are known to be valuable investments to Administration and Congressional decisionmakers, but given the scarcity of resources and the many possible valuable investments for those resources, these decision makers are asking reasonable questions about program effectiveness and efficiency. The perceived value in CSREES programs has resulted in the agency being able to maintain its budget when many other USDA programs are seeing their cut, but this is not likely to continue if the agency does not demonstrate the value, effectiveness, and efficiency of its programs.

One of CSREES' two functions is program leadership to identify, develop, and manage programs. Effective program leadership deals not only with similar issues of resource allocation and value articulation (albeit at the agency level), but also with identifying areas of need, planning and designing effective programs, and evaluating their effectiveness.

The Office of Planning and Accountability leads and supports the agency in strategically planning to achieve the most effective use of its resources. The agency works with the Budget Office and program staff to develop a performance-based budget that articulates the value and effectiveness of agency programs and clearly defines for decisionmakers the anticipated results for new budget requests. It leads the evaluation of agency program portfolios for relevance, quality, and performance - a challenging task for an agency that works to accomplish its outcomes indirectly through grants and where outcomes are often realized years after delivery of funding.

CSREES has just completed its first cycle of portfolio reviews to assess the relevance, quality, and performance of its programs. Portfolios are groups of programs aligned with the goals and objectives of the agency's Strategic Plan, as defined through the Knowledge Area classification structure. Since 2004, all 14 agency

portfolios have been reviewed first by internal program teams, and then by external expert panels. In general, the reviews found that agency programs were effective and well run. Seven broad issues were identified consistently across all the portfolios and have become high priorities for the agency: ensuring that grantees acknowledge CSREES support when presenting their accomplishments; improving the partnership with universities; closing gaps in programmatic coverage; improving and better documenting the integration of research, education, and extension in Agency programs; improving the quality and detail of information regarding extension; improving documentation of outcomes achieved through agency-supported activities; and expanding the use of logic models to those conducting research and implementing extension activities.

OMB just completed its first cycle of reviewing agency programs using its Program Assessment Rating Tool (PART). This tool is a standard set of 25 questions about program performance and management. CSREES portfolios received high marks in their PART assessments, with two of the five portfolios placing in the top 15 percent of programs assessed Governmentwide. The administration has used PART results in its budget deliberations; programs that receive low marks may do poorly in the budget process.

The Office of Planning and Accountability recognizes that planning and accountability activities have costs in dollars, staff time, and reporting burden on our partners. Since the agency's planning and evaluation activities have demonstrated some success, the office began a review of reporting and evaluation to improve value and reduce costs. One Solution and the redesign of the Agricultural Research, Education, Extension Reform Act (AREERA) require a Plan of Work and an annual report, from agency partners.

Because of the long-term nature of formula funding, AREERA reporting provides the most effective and efficient mechanism for discovering outcomes resulting from CSREES funding (conventional grants usually generate outputs achieved by the time they terminate). These outcomes are key to evaluating agency programs and demonstrating success to decisionmakers. Plans of Work using the new design and software have been submitted, reviewed, and approved. Initial feedback is positive and identified few areas needing improvement. A draft mock-up of the Annual Report is complete and was presented to the Executive Directors for comment in October 2006. CSREES plans to seek broader review and comment by the partnership on the revised Annual Report. Development will begin on building the Annual Report into the Plan of Work software (part of One Solution) in March 2007.

In October, CSREES released new Web pages on Strategic Planning and Accountability, accessible from the agency home

page. These new Web pages provide greater detail on the integrated cycle of budget development, program delivery and reporting, evaluation, and strategic planning and are part of the Office's plan for improving communications on these activities with CSREES partners. Contact: Bob MacDonald, USDA/CSREES – rmacdonald@csrees.usda.gov.

CSREES NPL Liaison Structure Up and Running: Since the announcement at last year's National Association of State Land-Grant Colleges meeting, great progress has been made in the implementation of the CSREES National Program Leader (NPL) Liaison System. CSREES assigned two-person NPL teams to cover all states and territories with attempts to balance the professional background and experience of each duo. Training for the NPLs in process and support resources was held in April with the assistance of representatives from the partnership. An Intranet Web site now contains extensive background information on Plans of Work, unit programs and issues, land-grant history, etc. NPL liaisons meet monthly to learn about educational sessions, and each regional NPL group meets periodically with their Deputy Administrator. Thus far, training has included land-grant history, campus structural variations, technology tools for communication with partners, and 1994 history and authorities.

To date, introductory letters from about 75 percent of the liaisons have been sent to the chief administrators for research, extension and academic teaching on the campuses. The NPL liaisons have reviewed their assigned partner institutional Plans of Work for 2007-2011. NPL liaisons have conducted teleconferences with about 10 institutions and informal phone contacts with about 20 others. Year-end budget constraints have delayed some site visits. To date NPL liaisons have visited 13 institutions. In addition, a number of liaison duos have taken advantage of campus officials' visits to Washington to schedule meetings. During these visits, NPLs identify the partner's issues of concern to be brought to the attention of the CSREES administrator. In the initial summary of NPL liaison feedback data, 14 of 15 duos reported that their interaction enabled them to feel "very satisfied and motivated." Several NPL liaisons have organized visits for partner administrators with a number of CSREES professionals who are responsible for programs of interest to the states. In the future, suggestions will be solicited for training topics. Partners are encouraged to provide feedback for enhancing the positive impact of the system. Contact: Mary Gray, USDA/CSREES – mgray@csrees.usda.gov.

Update on CSREES's Office of Extramural Programs:

The Office of Extramural Programs (OEP) is where the CSREES grants administration rubber meets the road. OEP clears all

Requests for Applications; funds discretionary and formula grants; pays grants to grantees; reconciles grant payments to the USDA accounting system; negotiates indirect cost rates for various grantees; and resolves grantee A-133 audit findings or any CSREES OIG audit finding.

OEP is documenting and analyzing all its functional activities to develop policy and accountability metrics. The new policies and metric data collected throughout FY 2007 will give OEP the means to make appropriate streamlining adjustments in the future. These adjustments will allow staff to enhance OEP's grants administrative practices and provide better accountability to the public.

OEP works with and provides valuable input to various Government wide grants management streamlining initiatives, such as the National Science and Technology Council's Research Business Model subcommittee; the Federal Financial Assistance Management Improvement Act, also known as P.L. 106-107; the Grants.gov Initiative; and the Grants Management Line of Business Initiative. These initiatives are an important part of plans to align and streamline the Government's grants management policy, practices, and technology. OEP will continue to implement these streamlining policies/procedures into office protocols and CSREES grants policies. All CSREES stakeholders are encouraged to provide comments on any of these initiatives to the OEP Deputy Administrator, as partner input is very valuable. Contact: Andrea L. Brandon, abrandon@csrees.usda.gov.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.