

FY 2008 President's Budget Proposal



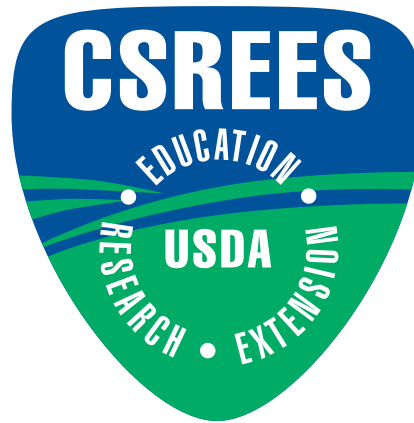
A Summary of the President's
FY 2008 Budget Proposal
for CSREES-USDA as
Presented to the Congress
of the United States



February 2007

Advancing Knowledge for the Food and Agricultural System

Overview



The mission of CSREES is to advance knowledge for agriculture, the environment, human health and well-being, and communities. In support of this mission, the FY 2008 CSREES Budget Proposal will:

- reaffirm and expand the competitive, peer-reviewed allocation of the research base programs;
- maintain support for extension base programs;
- integrate research, education, and extension activities under the National Research Initiative and provide opportunities for discovering, advancing, and disseminating new knowledge and technologies;
- sustain efforts in response to homeland security issues;
- expand diversity and opportunity through support to minority-serving and insular area institutions, and improved outreach to under-served communities;
- utilize new technologies for agricultural extension to deliver information, education, and guidance on agricultural issues; and
- promote the training of scientists and professionals in the food and agricultural sciences.

With the above efforts, CSREES seeks to provide innovative and resilient responses to the challenges facing the food, agricultural, and human sciences.



■ **CSREES will continue the approach proposed in FY 2007 to redirect a portion of the Hatch Act and the McIntire-Stennis Cooperative Forestry formula programs to nationally, competitively awarded multi-state/multi-institutional projects.**

This approach for multi-state programming sustains the matching requirement and the leveraging of Federal funds, and allows institutions to focus on program strengths they identify and sustain through linking local issues to broad national goals. Funds will sustain support to the State Agricultural Experiment Stations for research related to producing, marketing, distributing, and utilizing crops and resources; enhancing nutrition; and improving rural living conditions. Continued support will be provided for other research topics, such as water and other natural resources, crop and animal resources, people and communities, competition and trade, human nutrition, timber production, forest land management, wood utilization, and the associated development of new products and distribution systems. Hatch funding also will be used to support projects with long term impacts that will potentially increase production of renewable fuels from agricultural and forestry biomass, improve economies in rural communities, enhance national security, improve environmental quality, or expand markets for U.S. agriculture products.

■ **CSREES will continue support of the extension base programs.** Base program funding helps develop and sustain institutional capacity and infrastructure, supports plans and analysis to strengthen competitive proposals and bridges gaps related to scope and continuity of grant supported programs. Funding will assist the Cooperative Extension System efforts in conducting educational programs to advance American agriculture, improve communities of all sizes, and strengthen families throughout the Nation. Educational activities will continue to address health and wellness concerns as they relate to nutrition, food choices, and the growing obesity epidemic. CSREES funds, along with matching funds from the states, assure responsiveness to critical issues such as foot-and-mouth disease, E. coli, Salmonella, sorghum ergot, potato late blight, and Russian wheat aphid.

■ **As the need increases for renewable fuel sources, so does the CSREES commitment to support the development of biofuels and processes to efficiently convert renewable plant products to fuel.** NRI funding will support interdisciplinary research projects that include genomics and genetics, basic and applied plant sciences, novel methods of biological and chemical conversion of biomass, social and economic impacts on rural communities, as well as education and extension. Funded projects will address: developing new and sustainable agricultural feedstocks; developing and improving biocatalysts for biomass conversion; improving the understanding of the impact of biofuel production on the agricultural ecosystem components including soil fertility and water use; determining the impact of a renewable fuels industry on the economic and social dynamics of rural communities; and reducing the overall cost of converting agricultural feedstocks to biofuels through the development of valuable co-products from the bioenergy process.

■ **CSREES funding will support research efforts to identify factors that enhance the resiliency of rural communities and families impacted by disasters;** and study, design, manage, and optimize long-term agroecosystems using an integrated approach.



■ **Integrated research, education, and extension activities will support priorities within the National Integrated Water Program that address water and wastewater reuse, conservation, as well as water quality for agricultural, rural, and urbanizing watersheds.** Additionally, funds requested will be used for the National Integrated Pest Management Initiative to broaden the program beyond food cropping systems to include forest, urban (ornamentals and turf) and livestock pest management and production issues related to ecosystem management.

■ **CSREES, through cooperative efforts with the Animal and Plant Health Inspection Service, has established a unified network of public agricultural institutions to identify and respond to high risk biological pathogens in the food and agricultural system.** CSREES is seeking to sustain the network's ability to protect agriculture by identification, containment, and minimization of disease threats. In particular, funding will be used to maintain and enhance pest risk management tools for Asian soybean rust and other pathogens of legumes.

■ **Several CSREES programs expand opportunities for minority-serving and insular area institutions to reach and encourage participation by Asians, Hispanics, African Americans, Native Americans and local islanders.** Funding will be provided to enhance research and teaching programs in food and agricultural sciences at higher education institutions located in U.S. and insular areas. Another program encourages and assists socially disadvantaged farmers and ranchers in their efforts to become or remain owners and operators by providing technical assistance, outreach, and education to promote fuller participation in all USDA programs.

■ **With the availability of the World Wide Web and the Internet, a convincing cultural change has occurred in how people seek information calling for a dramatic response by organizations that provide information.** Funding will continue to support an innovative and cutting edge information and educational delivery technology system that enables a technology-conscious nation to make use of the valuable information and education that Cooperative Extension has to offer.

■ **CSREES supports the training of scientists and professionals ensuring that undergraduate and graduate programs in the food and agricultural sciences recruit students with diverse backgrounds and cultures and provide them with the requisite knowledge, abilities, and skills to address today's needs and future challenges.** CSREES exercises national leadership in developing problem-based curricula and degrees to complement disciplinary programs at the graduate level. This prepares graduates to deal with emerging challenges of national and global social change. In addition, CSREES will support educational activities that will build on international competencies through partnerships with India.



Cooperative State Research, Education, and Extension Service

PROGRAMS	FY 2007 ESTIMATE a/	FY 2008 PRESIDENT'S BUDGET
RESEARCH AND EDUCATION ACTIVITIES		
	(\$000)	
Formula Programs:		
Hatch Act	\$183,275	\$164,430
McIntire-Stennis Cooperative Forestry	22,668	20,487
Evans-Allen Program	38,331	38,331
Animal Health and Disease, Section 1433	5,006	0
Special Research Grants:		
Expert IPM Decision Support System	175	175
Global Change, UV-B Monitoring	2,425	2,425
Integrated Pest Management & Biological Control	2,570	2,698
Minor Crop Pest Management, IR-4	10,785	10,380
Minor Use Animal Drugs	582	582
National Biological Impact Assessment Program	264	251
Pest Management Alternatives	1,422	1,603
Other	97,233	0
National Research Initiative Competitive Grants	189,000	256,500
Other Research:		
Critical Agricultural Materials	1,091	0
Aquaculture Centers	3,956	3,956
Sustainable Agriculture Research and Education Program	12,196	9,138
Supplemental and Alternative Crops	1,175	0
1994 Research Grants	1,250	1,067
Joe Skeen Institute for Rangeland Restoration	1,000	0
Federal Administration (Direct Appropriation)	39,542	9,965
Higher Education:		
Graduate Fellowships Grants	4,455	4,455
Institution Challenge Grants	5,445	5,445
1890 Institution Capacity Building Grants	12,375	12,375
Multicultural Scholars	988	988
Hispanic Serving Institutions Education Grants Program	6,640	5,588
Tribal Colleges Education Equity Grants Program	3,000	2,227
Tribal Colleges Endowment Fund	11,880	11,880
Interest (Estimated) Earned on the Tribal Colleges Endowment Fund	3,250	3,400
Secondary/2-Year Post Secondary	990	990
Agrosecurity Education	0	5,000
Alaska Native-serving and Native Hawaiian-serving Institutions	2,967	2,967
Resident Instruction Grants for Insular Areas	700	495
Total, Research and Education Activities	666,636	577,798
OUTREACH AND ASSISTANCE FOR DISADVANTAGED FARMERS AND RANCHERS ACTIVITIES		
Section 2501 Legislative Authority:		
Outreach and Technical Assistance for Socially Disadvantaged Farmers and Ranchers Program	\$5,681	\$6,930

Cooperative State Research, Education, and Extension Service

PROGRAMS	FY 2007 ESTIMATE a/	FY 2008 PRESIDENT'S BUDGET
INTEGRATED ACTIVITIES		
(\$000)		
Section 406 Legislative Authority:		
Water Quality	\$12,738	\$0 b/
Food Safety	14,699	0 b/
Regional Pest Management Centers	4,125	0 b/
Crops at Risk from FQPA Implementation	1,375	0 b/
FQPA Risk Mitigation Program for Major Food Crop Systems	4,419	0 b/
Methyl Bromide Transition Program	3,075	0 b/
Organic Transition Program	1,855	0 b/
Other Legislative Authorities:		
International Science and Education Grants Program	1,821	1,990
Critical Issues	576	2,475
Regional Rural Development Centers	1,321	1,378
Food and Agriculture Defense Initiative	10,046	14,277 c/
Total, Integrated Activities	56,050	20,120
EXTENSION ACTIVITIES		
Formula Programs:		
Smith-Lever Formula 3(b)&(c)	\$272,973	\$273,181
1890 Institutions	33,529	34,073
Smith-Lever 3(d) Programs:		
Expanded Food and Nutrition Education Program	62,008	62,280
Pest Management	9,860	10,651
Farm Safety	4,517	0
New Technologies for Agricultural Extension	1,485	2,970
Children, Youth, and Families at Risk	7,651	8,396
Youth Farm Safety Education and Certification	440	494
Sustainable Agriculture	4,026	3,754
Federally-Recognized Tribes Extension Program	1,976	2,970
Other Extension Programs:		
Extension Services at the 1994 Institutions	3,240	3,240
Renewable Resources Extension Act	4,019	4,052
Rural Health and Safety	1,946	0
1890 Facilities (Sec. 1447)	16,609	16,609
Grants for Youth Serving Institutions	1,980	0
Federal Administration	25,136	8,455
Total, Extension Activities	451,395	431,125
Total, Cooperative State Research, Education, and Extension Service	1,179,762	1,035,973

NOTE: a/ FY 2007 numbers are based on estimates of funding levels, and will change upon final Congressional action on the FY 2007 appropriation.
b/ A total of \$45.13 million in FY 2008 for Section 406 activities will be administered under the NRI.
c/ A total of \$2.277 million in FY 2008 for Asian Soybean Rust is included in the Food and Agriculture Defense Initiative.

Impacts of Research, Education, Extension, and Outreach Activities

The **Connecticut** Nonpoint Education for Municipal Officials (NEMO) program cooperates with a variety of land stewards to apply research and technology to the natural resources decision-making process. The NEMO program uses geo-spatial technologies and educational programs to demonstrate land use effects on water quality. Using this information, Extension personnel work with communities to implement actions to protect local water resources. Distinctive attributes of the Connecticut NEMO program are the development and application of tools that analyze imperious cover as an indicator of watershed health.

Researchers in **Utah** developed a physical map of the sheep genome, a key resource that allows scientists involved in sheep molecular genetics to identify DNA markers for key traits such as nutrient utilization. The map also facilitates comparisons to other sequenced genomes including the bovine genome. This research has provided an important tool for breeders, especially for selecting desirable traits that cannot be measured while the animal is alive.

Virginia Extension personnel have designed and conducted 52 six-hour logging safety workshops with over 2,000 participants. More than 82 percent made one or more changes to improve workplace safety. Over a five-year period, logging injuries decreased 50 percent, saving millions in medical costs and lost production.

Oregon scientists performed ground breaking work on ribonucleic acid interference (RNAi) in plants. RNAi is a cellular mechanism in plants, animals, and humans where fragments of double-stranded RNA interferes with the expression of a gene(s). This results in a gene being "silenced" and its possible use to protect the organism from pathogens such as viruses. These results have led to increased knowledge on the function of genes in plants and animals; improved target validation in mammals for the pharmaceutical industry; and new drugs based on small interfering RNAs to treat diseases in animal and humans. These drugs are particularly promising for the treatment of viral diseases.

Food specialists in **Mississippi** taught fruit and vegetable growers about the links between foodborne pathogen survival, packing procedures, and other good agricultural practices during train-the-trainer programs. Over 200 trainers, in turn, trained 20,000 growers.

The Winnebago Indian Reservation in **Nebraska** has extensive holdings of native, hardwood trees but lacks needed expertise to properly manage this natural resource or to restore native, hardwood trees in critical areas. Students trained in field techniques will help to address this issue. Students will be given experiential, scientific field learning opportunities in woodland plant identification and restoration technology of native woodland plants and in current Geographic Information Systems/Global Positioning Systems technology for the study of plant ecosystems. The fieldtrips will help the students understand the correlations between their cultural ideals and modern science and inspire them to seek further knowledge concerning their local woodland ecosystem and cultural methods of stewardship.

Small farmers in **North Carolina** are at risk of losing their farms because of a number of reasons including their marketing practices, continued production of low value commodities, lack of timely and relevant information, and limited accessibility to appropriate farm management technology. North Carolina Extension trained 150 small farmers to help increase their income, and computer knowledge and skills. Farmers reported saving between \$2,000 to \$3,500 by purchasing agricultural chemicals via the computer. Program participants also saved and earned money by using black plastic and drip irrigation as time saving and conservation devices. Nine program participants averaged a \$4,400 increase in farm income by planting 21 acres of alternative crops.

In a collaborative effort, researchers in **Wisconsin, Alaska, Iowa, Kansas, Maine, Michigan, Nebraska, New York, Oregon, Rhode Island, and South Dakota** were successful in increasing fruit and vegetable intake in young adults by using newsletters tailored to their lifestyle. The investigators are currently adapting their findings to the development of a web-based program to assist in the prevention of weight gain in college students.

Texas scientists led an effort to sequence the bovine genome. The genome data were used to help protect the beef industry from a Bovine spongiform encephalopathy outbreak. DNA fingerprints, derived from the genome data, were used to trace the source of an infected cow to Canada. The estimated savings to the U.S. beef industry was over \$100 million.