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SENATE

{ REPORT
110-134

AGRICULTURE, RURAL DEVELOPMENT, FOOD AND DRUG
ADMINISTRATION, AND RELATED AGENCIES APPROPRIA-
TIONS BILL, 2008

JULY 24, 2007.—Ordered to be printed

Mr. KOHL, from the Committee on Appropriations,
submitted the following

REPORT

[To accompany S. 1859]

The Committee on Appropriations reports the bill (S. 1859) mak-
ing appropriations for Agriculture, Rural Development, Food and
Drug Administration, and Related Agencies programs for the fiscal
year ending September 30, 2008, and for other purposes, reports fa-
vorably thereon and recommends that the bill do pass.

Total obligational authority, fiscal year 2008

Total of bill as reported to the Senate	\$90,605,092,000
Amount of 2007 appropriations	97,425,472,000
Amount of 2008 budget estimate	89,736,689,000
Bill as recommended to Senate compared to—	
2007 appropriations	– 6,820,380,000
2008 budget estimate	+ 868,403,000

Forage-Animal Production Research Facility, Lexington, Kentucky.—The Committee recommendation includes \$3,000,000 toward construction of this facility. (McConnell)

Hagerman Fish Culture Experiment Station, Hagerman, Idaho.—The Committee recommendation includes \$1,000,000 toward construction of this station. (Craig, Crapo)

Jamie Whitten Delta States Research Center, Stoneville, Mississippi.—The Committee recommendation includes \$4,000,000 toward the major modernization phase of this center. (Cochran)

National Plant and Genetics Security Center, Columbia, Missouri.—The Committee recommendation includes \$3,000,000 toward construction of this facility. (Bond)

Pacific Basin Agricultural Research Center, Hilo, Hawaii.—The Committee recommendation includes \$2,500,000 toward construction of this center. (Inouye, Akaka)

Poultry Science Research Facility, Starkville, Mississippi.—The Committee recommendation includes \$2,000,000 toward construction of this replacement facility. (Cochran)

Sugarcane Research Laboratory, Houma, Louisiana.—The Committee recommendation includes \$1,600,000 toward construction of this center. (Landrieu, Vitter)

Systems Biology Research Facility, Lincoln, Nebraska.—The Committee recommendation includes \$2,000,000 for planning and design of this facility. (Nelson, Ben; Hagel)

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE

The Cooperative State Research, Education, and Extension Service was established by the Secretary of Agriculture on October 1, 1994, under the authority of the Department of Agriculture Reorganization Act of 1994 (7 U.S.C. 6912). The mission is to work with university partners and customers to advance research, extension, and higher education in the food and agricultural sciences and related environmental and human sciences to benefit people, communities, and the Nation.

RESEARCH AND EDUCATION ACTIVITIES

Appropriations, 2007	\$671,419,000
Budget estimate, 2008	562,518,000
Committee recommendation	700,849,000

The research and education programs administered by the Cooperative State Research, Education, and Extension Service [CSREES] are the U.S. Department of Agriculture’s principal entry to the university system of the United States to support higher education in food and agricultural sciences and to conduct agricultural research as authorized by the Hatch Act of 1887 (7 U.S.C. 361a–361i); the Cooperative Forestry Research Act of 1962 (16 U.S.C. 582a–7); Public Law 89–106, section (2) (7 U.S.C. 450i); the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101 et seq.); the Equity in Educational Land-Grant Status Act of 1994 (7 U.S.C. 301); the Agricultural Research, Extension and Education Reform Act of 1998 (7 U.S.C. 7601 et seq.); and the Farm Security and Rural Investment Act of

2002 (Public Law 107–171). Through these authorities, the U.S. Department of Agriculture participates with State and other co-operators to encourage and assist the State institutions to conduct agricultural research and education through the State agricultural experiment stations of the 50 States, the District of Columbia, and the territories; by approved schools of forestry; by the 1890 land-grant institutions, Tuskegee University, and West Virginia State University; by colleges of veterinary medicine; and by other eligible institutions.

The research and education programs participate in a nationwide system of agricultural research program planning and coordination among the State institutions, U.S. Department of Agriculture, and the agricultural industry of America.

COMMITTEE RECOMMENDATIONS

The Committee recommends an appropriation of \$700,849,000 for research and education activities of the Cooperative State Research, Education, and Extension Service.

The following table summarizes the Committee's recommendations for research and education activities:

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE [CSREES]—RESEARCH AND EDUCATION ACTIVITIES

[In thousands of dollars]

	Committee recommendation
Payments under Hatch Act	214,924
Cooperative forestry research (McIntire-Stennis)	30,008
Payments to 1890 Institutions	40,680
Special research grants (Public Law 89–106)	67,734
Improved pest control:	
Expert IPM decision support system	155
Integrated pest management	2,396
IR–4 minor crop pest management	10,896
Pest management alternatives	1,422
Total, Improved pest control	14,869
1994 institutions research program	1,544
Agriculture and Rural Policy Research	2,780
Alaska Native-serving and Native Hawaiian-serving institutions education grants	3,218
Alternative crops	825
Animal health and disease (sec. 1433)	5,006
Aquaculture centers (sec. 1475)	3,928
Capacity building grants (1890 institutions)	12,375
Critical Agricultural Materials Act	1,091
Graduate fellowships grants	3,701
Hispanic education partnership grants	5,940
Institution challenge grants	5,423
Joe Skeen Institute for Rangeland Management (NM, TX, MT)	990
Multicultural scholars program	988
National Research Initiative	244,000
Payments to the 1994 institutions	3,342
Secondary agriculture education	990
Sustainable agriculture research and education	15,000
Veterinary Medical Services Act	750
Federal administration:	20,843
Total, CSREES Research and Education Activities	700,849

Agricultural Research Enhancement Awards.—The Committee remains determined to see that quality research and enhanced human resources development in the agricultural and related sciences be a nationwide commitment. Therefore, the Committee continues its direction that not less than 10 percent of the competitive research grant funds be used for USDA's agricultural research enhancement awards program (including USDA-EPSCoR), in accordance with 7 U.S.C. 450i.

Agriculture and Rural Policy Research.—The Secretary is authorized to make grants and take other actions under 7 U.S.C. 3155 for research and related activities concerning public policy and trade agreements and their effect on the farm and agricultural sector; the environment; rural families, households, and economies; and consumers, food, and nutrition. The Committee recommends \$2,780,000 for activities under this authority.

Of the amount available for Agriculture and Rural Policy Research [ARPR], \$1,600,000 is provided for the Food and Agriculture Policy Institute [FAPRI]. Of the amount made available for FAPRI, \$240,000 shall be provided to continue a cooperative agreement with the University of Wisconsin relating to dairy policy and \$200,000 shall be provided to the University of Nevada at Reno relating to the marketing of commodities produced in the Western United States. (Kohl, Harkin, Bond, Reid, Grassley/University of Wisconsin, Iowa State University, University of Missouri, University of Nevada at Reno)

In addition, of the amount available for ARPR, \$1,180,000 shall be available for the Rural Policies Research Institute. (Harkin, Nelson, Ben, Hagel/Iowa State University, University of Nebraska, University of Missouri)

Alaska Native-Serving and Native Hawaiian-Serving Institutions Education Grants.—The Committee recommends \$3,218,000 for grants to individual eligible institutions or consortia of eligible institutions in Alaska and in Hawaii, with grant funds to be awarded equally between Alaska and Hawaii to carry out the programs authorized in 7 U.S.C. 3242 (section 759 of Public Law 106-78). The Committee directs the agency to fully comply with the use of grant funds as authorized.

Alternative Crops.—The Committee recommends \$825,000 for alternative crop research to continue and strengthen research efforts on canola. The Committee understands that the United States does not produce enough canola to meet its consumption needs and encourages the Department to provide funds in a manner that reaches those areas most likely to see expansions in canola production.

Enhancing the Prosperity of Small Farms and Rural Agricultural Communities.—The Committee is pleased to see that the Department issued a request for proposals in the areas of small and mid-sized farm profitability and rural economic development pursuant to section 401 of the Agricultural Research, Extension and Education Reform Act of 1998 (7 U.S.C. 7621). The Committee encourages the Department to request proposals specific to critical emerging issues related to farm income, rural economic and business and community development and farm efficiency and profitability, in-

cluding the viability and competitiveness of small and medium-sized dairy, livestock, crop and other commodity operations.

Forestry and Related Natural Resource Research.—The Committee recognizes that forestry and related natural resource research were an integral part of NRI at its inception. As NRI funding has grown, however, the allocation of NRI funds by CSREES for research on forestry and related natural resource topics has fallen behind. In the future, the Committee directs the NRI program administrator to put a greater emphasis on NRI funding for forestry and natural resources topics with a goal of eventually providing at least 10 percent of the total funds provided for NRI for forestry and natural resources related research on topics including: woody plant systems, including large scale efforts to sequence the genome for several economically important tree species, technologies for enhanced pest and disease resistance, and increased tree growth rates; management of complex forest ecosystems, including issues of forest health, productivity, economic sustainability, and restoration; assessing alternative management strategies, with emphasis on risk analysis, geospatial analysis including landscape implications, consideration of ecological services, providing decision support systems; and development of nanotechnology and biorefining technologies for the forest products sector as critical to enhancing global competitiveness and energy security.

National Research Initiative.—The Committee recommends \$244,000,000 for the National Research Initiative [NRI] and directs that specific programs previously funded under Integrated Activities [IA] be included under the NRI for fiscal year 2008, as proposed in the budget. The Committee notes that the indirect cost limitations for programs funded under IA are the same as under the NRI and expects that extension-led activities will continue to be a central element once such programs are incorporated into the NRI. The Committee further expects that water quality activities should benefit from the enhanced pool of funds made possible by these transfers.

National Veterinary Medical Services Act.—The Committee remains concerned by the growing demand for large animal veterinarians in many parts of the country and the vital role they play in maintaining animal health and rural security. The Committee continues to support the goals of the National Veterinary Medical Services Act but is disappointed in the lack of progress by the Department in implementing a program under this authority. The Committee directs the Secretary to provide a report on the status of and a timetable for implementation of the act.

Special Research Grants.—The Committee recognizes the vital relationships between Federal research activities and land grant institutions and firmly supports the importance of congressionally-recognized research priorities. The Special Research Grants program was authorized by the Congress to promote research among these partners in specific areas of need to meet emerging and long-term national and regional challenges.

The Secretary is authorized to make grants to eligible institutions under 7 U.S.C. 450i(c), commonly referred to as Special Research Grants. These grants are authorized for the purpose of con-

ducting research and related activities to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences of the United States. The authorizing statute directs that these grants be provided through State-Federal partnerships to promote excellence of such activities on a regional or national level, to promote the development of regional research centers, and to generally support these activities among the States, the regions, and the Nation. In addition, the law requires that these grants can only be awarded if the proposed activity has undergone scientific peer review and that the grantee submit an annual report to the Secretary describing the results of the research or related activity and the merits of the results.

Over the past few years, the Committee has made clear its intentions to employ a heightened level of scrutiny to grants awarded under 7 U.S.C. 450i(c). These indications have included requirements of detailed reports by grantees, in-depth explanations of prospective research objectives, and an understanding that grantees should not expect indefinite fiscal assistance from the Committee under this authority. In addition, the Committee has previously expressed concern that ongoing, long-term Federal commitments to specific research projects may reduce the opportunity to focus on emerging important research priorities and result in a less efficient Federal investment in agricultural and related research.

For fiscal year 2008, the Committee continues its responsibility of expressing congressional interest and intervention in setting research priorities through the investment of Federal funds. As the Committee has expressed in previous years, specific problems require specific objectives and specific attention. Therefore, the individual research activities described in this report are intended to accomplish the objectives set forth in this report and are not intended to extend into ongoing, long-term, indefinite research endeavors. The Secretary is encouraged to work with grantees to ensure that research conducted with these funds is set to achieve specific objectives and to refrain from undertaking research of an indefinite nature. The Committee directs the Secretary to provide a report by March 1, 2008 regarding the status of grant awards for fiscal year 2008 and the specific objectives to be sought in each case.

The following identifies and describes the Committee recommendations:

Advanced Genetic Technologies.—The Committee recommendation includes \$645,000 to support high throughput genetic research and to improve capacity for competitively awarded grants related to genome sciences. (McConnell/University of Kentucky)

Advancing Biofuel Production.—While production of ethanol from corn is well understood, additional research is needed to develop optimal cellulosic biofuel production technologies for sorghum. The Committee recommendation includes \$200,000 to investigate the use of sorghum in production of cellulosic biofuel. (Hutchison/Baylor University)

Aegilops Cylindrica/Biomass.—*Aegilops cylindrica* is a grassy plant with potential as an alternative crop and a suitable renewable fuel feedstock for biomass production, especially in the Western region. The Committee recommendation includes \$200,000 to

develop the potential of this feedstock which would require low inputs, be efficient in water usage, and be resistant to pests and disease. (Murray, Cantwell/Washington State University)

Agricultural Diversity.—The Northern Great Plains region of North Dakota and Minnesota requires economic development and diversity tied to its agricultural base to slow the trend of out-migration and other economic and social conditions harmful to the region. The Committee recommendation includes \$500,000 to be used through the Red River Valley Research Corridor to develop the region's capacity to produce and transmit renewable energy to other markets, to improve the region's capacity to meet the Nation's growing demand for organic products, and to enhance the region's overall research and development capabilities. (Dorgan, Conrad/University of Minnesota-Crookston)

Agricultural Entrepreneurial Alternatives for Small Farmers.—The goal of the Entrepreneurial Alternatives program is to help agricultural producers evaluate and implement new business plans for existing business ventures or to transition to new agriculture-related business opportunities. The Committee recommendation includes \$333,000 for this program. (Specter, Casey/Penn State University)

Agricultural Marketing.—Lucrative niche markets may be promising opportunities, but limited access to markets, the high cost of market intelligence, and scale-related inefficiencies are inherent barriers to entry for small to mid-sized value-added food enterprises. The Committee recommendation includes \$250,000 to develop and disseminate marketing information technology for food and agricultural entrepreneurs to identify and develop new and profitable markets and improve the efficiency and profitability of food systems in the United States and globally. (Durbin/University of Illinois)

Air Quality.—Concentrated animal feeding operations in the Southern Great Plains States currently face air quality challenges and concerns related to odor, dust/particulate matter, and gaseous emissions such as ammonia, hydrogen sulfide, volatile organic compounds, including reactive, non-reactive, and greenhouse gases. The Committee recommendation includes \$300,000 to carry out this research and to provide science-based estimates and assessments by public agencies and the private sector. (Hutchison, Roberts, Cornyn/Texas Agricultural Experiment Station, Kansas State University)

Alliance for Food Protection.—Changing trends in food production and processing require advanced testing protocols to ensure food safety. The Committee recommendation includes \$175,000 for research to support the development of new, highly sensitive tests for allergens in food and enhanced grains and to provide risk assessments of crops and livestock produced through agricultural biotechnology. (Nelson, Ben; Hagel/University of Nebraska, University of Georgia)

Alternative Salmon Products.—The Committee recommendation includes \$1,099,000 for the development of alternative salmon products, including nutritional supplements. (Stevens/University of Alaska)

Animal and Poultry Waste Management.—Disposal of animal wastes from concentrated animal agriculture production areas poses serious challenges. Currently, implemented technologies for animal waste management have drawbacks including odors, acreage needed for disposal, air pollution, pathogens, and potential water contamination due to rainfall and flooding. The Committee recommendation includes \$500,000 for the development, evaluation and testing of technologies that are environmentally superior and more cost effective than current animal waste management practices. Co-production of energy will also be evaluated, as well as improving the cost and efficiency of technologies currently available. (Burr, Dole/North Carolina State University)

Animal Health.—Animal disease prevention and control is crucial to the marketing of agricultural animals and the protection of public health on local, State, national, and global levels. The Committee recommendation includes \$390,000 to develop electronic submission methodologies for animal health events submitted to veterinary diagnostic laboratories. (McConnell/University of Kentucky)

Animal Science Food Safety Consortium.—There is a serious need to develop technology for faster identification of infectious agents and toxins to achieve “real time” detection of food-borne threats to the meat animal food supply. The Committee recommendation includes \$1,000,000 to develop statistical tools necessary to prioritize potential health risks and provide economic information for implementation of intervention strategies relating to microbiological or chemical hazards; potential hazards in the distribution chain, and develop better technology to reduce the hazards and improve the quality of animal food products, which will complement the development of HACCP programs by USDA. (Harkin, Grassley, Roberts, Lincoln, Pryor/University of Arkansas, Iowa State University, Kansas State University)

Apple Fire Blight.—Fire blight is a serious bacterial disease of apples and pears and is one of the most damaging diseases affecting apple trees across the Nation, with crop and tree losses and related costs exceeding \$100,000,000 annually. The Committee recommendation includes \$200,000 to understand and manage the apple fire blight disease by investigating the molecular basis of disease resistance in apples and developing disease resistant apple varieties and rootstocks. (Clinton, Levin, Schumer, Stabenow/Cornell University, Michigan State University)

Aquaculture, Louisiana.—The Committee recommendation includes \$200,000 for research to improve production efficiencies, fish health, water quality, and other aspects of aquaculture production in Louisiana. (Landrieu, Vitter/Louisiana State University)

Aquaculture, Mississippi.—The Committee recommendation includes \$517,000 for research into optimum protein and vitamin levels in practical fish feeds, identifying substitutes for fishmeal in catfish feeds, enhancing phosphorus retention by fish, and identifying cost-effective feeding strategies. (Cochran/Mississippi State University)

Aquaculture, North Carolina.—The Committee recommendation includes \$325,000 to improve commercial aquaculture techniques

and introduce new species into the commercial aquaculture sector in the Southeast. (Burr, Dole/North Carolina State University)

Aquaculture Product and Marketing Development.—Areas of Appalachia have great potential for aquaculture production. There is a need to identify efficient production and delivery systems and to develop effective marketing strategies. The Committee recommendation includes \$700,000 for research in this area. (Byrd/West Virginia University)

Armillaria Root Rot.—*Armillaria* root rot permanently renders orchards unsuitable for cherry production resulting in reduced farm profitability, farmland conversion to non-agricultural uses, and has the potential to devastate the fruit industry of Michigan and other States. The Committee recommendation includes \$140,000 to conduct field tests and research to speed detection of the fungus, and evaluate new biological and chemical controls. (Levin, Stabenow/Michigan State University)

Asparagus Technology and Production.—Half of the current asparagus production costs are composed of labor costs associated with the harvesting of the product. The Committee recommendation includes \$200,000 for research and development of technologies to reduce the cost of asparagus production. (Murray, Cantwell/Washington State University)

Avian Influenza.—The Delmarva Peninsula is an area of significant poultry production and an area where avian influenza outbreaks have occurred in the past. Work is needed for the development of information systems and other mechanisms to check any future outbreaks and to learn more about ways to manage and control this serious disease. The Committee recommendation includes \$100,000 to carry out these activities. (Biden, Carper/University of Delaware)

Barley Research.—Development of specialty barley varieties for use in the human diet and animal feed will expand marketing potential for producers. The Committee recommendation includes \$735,000 to produce specialty barley varieties. (Craig, Crapo/University of Idaho)

Berry Research.—The Committee recommendation includes \$1,300,000 for research into best crop management techniques, basic biology and chemistry of berries, as well as basic berry processing information. The Committee encourages the University to partner with entities to train and educate rural areas on efforts to create a viable and sustainable berry industry. (Stevens/University of Alaska)

Biodesign and Bioprocessing Research Center.—The Biodesign and Bioprocessing Research Center [BBRC] will enhance the capabilities and economic viability of farmers by conducting basic and applied research on the design, production, and recovery of industrial enzymes, pharmaceuticals, and biofuels from transgenic and alternative specialty crops, and for conversion of agricultural wastes to value-added products. The Committee recommendation includes \$300,000 for the BBRC. (Warner, Webb/Virginia Tech)

Bioenergy.—The Committee recommendation includes \$200,000 to conduct an inventory of potential bioenergy feedstocks, including plant species and industrial byproducts, in the State of Connecticut. (Lieberman/University of Connecticut)

Botanical Research Center.—The Utah Botanical Center serves as a regional learning center and supports production and integration of low water-use plants in sustainable home landscapes for high-desert environments. The Center conducts research by collecting native plant seeds, conducting trials of promising species, including rare and endangered species, and advancing nursery production methods. The Committee recommendation includes \$900,000 for this initiative. (Bennett/Utah State University)

CAST.—The Council for Agricultural Science and Technology [CAST] develops a variety of food and agricultural publications that are important for policy makers and the agricultural sector. The Committee recommendation includes \$150,000 to continue these activities. (Harkin/Iowa State University)

Cataloging Genes Associated With Drought and Disease Resistance.—Drought episodes are increasing around the globe and the availability of water is decreasing with increasing human populations and development. The development of drought resistant crops is necessary to ensure sufficient food supplies. The Committee recommendation includes \$250,000 for the discovery of genetic markers for use in breeding plants for drought and disease resistance and for the characterization of drought-adaptive mechanisms found in wild relatives of cultivated plants. (Domenici, Bingaman/New Mexico State University)

Center for North American Studies.—The growth in North American trade and associated economic integration has created the need and opportunity for cooperation to address pressing agricultural trade and food issues. Examples include economic and trade relationships for food and agricultural products, international trade policies, assessing impacts of food and agricultural bio-terrorism, natural resource and environmental problems, food safety and nutrition, food marketing and distribution, plant and animal production technology, and potentially conflicting domestic farm policies. The Committee recommendation includes \$200,000 for research performed by the Center for North American Studies. (Hutchison/Texas Agricultural Experiment Station)

Center for Public Lands and Rural Economies.—The Center for Public Lands and Rural Economies conducts research related to the effects that public lands have on rural communities. Research in the past has centered on the presence of public land and its effect on services that rural communities provide such as health care, education, and social services. The Committee recommendation includes \$300,000 to continue this research. (Bennett/Utah State University)

Center for Rural Studies.—The sustainability of rural communities requires information to assist regional planning through the identification and prioritization of needs and for improved application of resources. The Committee recommendation includes \$350,000 for research and data development related to demographic changes in rural areas. (Leahy/University of Vermont)

Childhood Obesity and Nutrition.—Rising national childhood obesity rates result in significant illness and disabilities for children. The Committee recommendation includes \$150,000 to develop intervention strategies for use in day care centers through a combination of basic research, health care, public health, and edu-

cational initiatives focused on children, families, and communities. (Leahy/University of Vermont)

Citrus Disease.—The Committee recommendation includes \$200,000 to develop methods to control and manage citrus canker and citrus greening in the State of Florida. (Martinez; Nelson, Bill/University of Florida)

Competitiveness of Agriculture Products.—Agriculture is increasingly dependent on global markets, and improving the competitiveness of U.S. exports in the global marketplace is important to the long-term health of the agricultural sector. The Committee recommendation includes \$350,000 for research to better understand the changing global agricultural trade environment. (Murray, Cantwell/Washington State University)

Cool Season Legume Research.—This research project focuses on the genetic identification of superior characteristics in legumes; nematode, insect, and disease management; soil erosion and water quality; and market and product development. The Committee recommendation includes \$250,000 for legume research. (Dorgan, Murray, Craig, Johnson, Cantwell, Conrad, Crapo/University of Idaho, Washington State University, North Dakota State University)

Cotton Insect Management and Fiber Quality.—The Committee recommendation includes \$494,000 for research that seeks to reduce the impacts of cotton pests on cotton fiber quality. (Chambliss, Isakson/University of Georgia)

Cranberry Research.—New methods for pest control in cranberry bogs need to be developed to maintain production levels and to maintain protection of the environment. The Committee recommendation includes \$150,000 for research for this purpose. (Kennedy, Kerry/University of Massachusetts)

Cranberry/Blueberry Disease and Breeding.—Compounds in blueberries and cranberries provide significant human health benefits and have potential in treatments to help prevent cancer, coronary heart disease and arthritis. The Committee recommendation includes \$550,000 for research to develop new cultivars, identify health attributes, investigate new and value-added uses, and provide new and improved blueberry and cranberry varieties. (Lautenberg/Rutgers University)

Crop Integration and Production.—There is a need in the upper plains States to develop production systems that allow farmers to diversify the crops they produce and, thereby, reduce production input costs. The Committee recommendation includes \$300,000 to develop best management practices and examine the feed value of pulse crops. (Johnson, Thune/South Dakota State University)

Dairy and Meat Goat Research.—The primary objective of this project is to generate and disseminate technical information to improve the quantity of products derived from goats. The program enables small goat producers to increase their profitability through genetic mapping, conservation, maintenance, enhancements and access to genetic resources. The Committee recommendation includes \$100,000 for dairy and meat goat research. (Hutchison/Prairie View A&M University)

Dairy Farm Profitability.—The Committee recommendation includes \$500,000 for research to develop and disseminate knowledge

and technologies that increase efficiency and profitability of dairy production. (Specter, Casey/Penn State University)

Delta Revitalization Project.—The Committee recommendation includes \$250,000 to create and implement innovative strategies that will help advance the long-term economic and sustainable development of the Mississippi Delta Region. (Cochran/Mississippi State University)

Designing Foods for Health.—The Committee recommendation includes \$500,000 to research the prevention of diseases through fruits and vegetables by optimizing bioactive compounds and conducting studies in cell cultures, animal studies, and clinical trials. (Hutchison/Texas Agricultural Experiment Station)

Detection and Food Safety.—The Committee recommendation includes \$2,500,000 to research new technologies for real-time bacterial, chemical, and surface contamination detection and information technologies for traceability and inventory control. (Shelby/Auburn University)

Displacing Imported Petroleum With Renewables.—The Committee recommendation includes \$200,000 for research into the conversion of renewable biomass into fuels. (Martinez; Nelson, Bill/University of Florida)

Drought Management Initiative.—Utah and the Intermountain West experience periodic drought that has severely limited water supplies, damaged agriculture, and threatens future economic growth. This initiative seeks to develop accurate prediction of water yield, improved agricultural irrigation, better management of urban water demand, and innovative water policies. The Committee recommendation includes \$900,000 for this initiative. (Bennett/Utah State University)

Efficient Irrigation for Water Conservation.—The surface flows of the Rio Grande are inadequate to meet growing demands of agriculture, development growth, drought cycles, and compact agreements. Agriculture is a major industry in most areas of the Rio Grande basin, particularly the irrigated valleys. Voluntary measures based on scientific knowledge will help secure the agricultural economy and heritage of the basin. The Committee recommendation includes \$475,000 for New Mexico State University and \$100,000 for Texas A&M University for research and education activities that improve irrigation efficiency and water conservation throughout the Rio Grande basin. (Domenici, Hutchison, Bingaman, Cornyn/New Mexico State University, Texas A&M University)

Environmentally Safe Products.—Research is needed to develop agriculturally-based products that have both economic and environmental values. The Committee recommendation includes \$450,000 to carry out this activity. (Leahy/University of Vermont)

Farmland Preservation.—Ohio is losing farm acreage to development at a high rate. The Committee recommendation includes \$150,000 for research to determine the best policy mechanisms to slow this trend. (Brown, Voinovich/Ohio State University)

Floriculture.—The Hawaii tropical cut flower and foliage industry is a major contributor to the State and national economies and it faces many challenges from rising costs of production, new invasive pests, and increased foreign competition. The Committee

recommendation includes \$300,000 to carry out a competitive grants program to maintain and further develop new anthurium, orchid and protea germplasm. (Inouye, Akaka/University of Hawaii)

Food and Fuel Initiative.—An important element of the biofuels industry is to find ways to make biofuel co-products a preferred feed for livestock. The Committee recommendation includes \$400,000 for research to ensure feed and food safety by removing potential accumulation of toxins, and protecting the environment. (Harkin, Grassley/Iowa State University)

Food Safety.—Irradiation is currently being used to destroy pathogens in food and destroy insect and pests in fruits and vegetables. The Committee recommendation includes \$100,000 to continue the advancement of science and technology in irradiation technologies. (Hutchison/Texas Agricultural Experiment Station)

Fresh Produce Food Safety.—Recent incidents of E. coli O157:H7 and other microbial contaminants in spinach and leafy greens resulted in serious illnesses and several deaths, and have shaken consumer confidence and cost growers millions of dollars. The Committee recommendation includes \$700,000 to establish a competitive grants program to research the effects of the recent E. coli outbreak, sources and channels of contamination by pathogenic microbes, and other concerns related to food safety. (Feinstein, Boxer/University of California)

Functional Genomics in Nature.—This program expands the study of functional genomics to determine genome regulation, protein interaction, and metabolite flow as organisms interact in the environment. The Committee recommendation includes \$1,600,000 for this research. (Bennett/Utah State University)

Future Foods.—Research is needed to promote optimal human health by studying bioactive attributes of food. The Committee recommendation includes \$450,000 to determine the relationships between functional compounds in foods and reduced incidence of chronic diseases in humans. Outcomes will provide insight into properties to serve as anticancer agents and to guard against obesity. This research also has a significant global outreach component, focused on food, nutrition, and health education in developing countries and will assist in the fight against HIV/AIDS. (Durbin/University of Illinois)

Genomics for Southern Crop Stress and Disease.—This research focuses on the use of genomics for the identification of pathogens and stress resistance in Southern corn and soybean crops. In particular for corn and soybeans, genetic stocks are predominantly tested under Midwestern conditions and many perform poorly in the South due to differing environmental stresses and pathogens. The Committee recommendation includes \$1,140,000 for this research. (Cochran/Mississippi State University)

Global Change/Ultraviolet Radiation.—High levels of ultraviolet radiation from the Sun are known to have harmful effects on agricultural crops, forest ecosystems, humans and livestock. The Committee recommendation includes \$1,500,000 to measure ultraviolet and visible radiation across the entire United States to help research that assesses the potential crop and forests impacts from in-

creasing levels of ultraviolet radiation. (Johnson, Salazar/Colorado State University)

Grass Seed Cropping Systems.—The grass seed industry is based in rural communities and contributes to the economic well being of those communities, but the industry is facing some critical environmental and economic challenges including: public pressure to phase out open-field burning; and alleviation of smoke, dust, and chemical trespass from crop production areas. The Committee recommendation includes \$150,000 to develop new grass seed cropping systems that meet environmental regulations and are economically viable for farmers. (Murray, Craig, Cantwell, Smith, Wyden, Crapo/University of Idaho, Oregon State University, Washington State University)

Great Plains Sorghum Improvement and Utilization Center.—The Committee recommendation includes \$736,000 to conduct research on improving the yields, quality, and uses of grain sorghum. (Brownback, Hutchison, Roberts/Kansas State University, Texas A&M University, Texas Tech University)

Hardwood Scanning Center.—The sustainability of the hardwood lumber industry depends on further improvements in efficiency, primarily in terms of the volume of higher grades of lumber produced from a given volume of logs. The next technology needed to improve lumber-grade yield is log scanning. This would help the ability of sawyers to “see” the defects inside a log and convert logs into lumber, based on knowing where the defects are located. Past studies indicate a potential 30–40 percent increase in lumber-grade yield in the conversion of tree trunks into logs and up to 30 percent in the conversion of logs into lumber. The Committee recommendation includes \$500,000 to develop and commercialize scanning technology needed to improve hardwood lumber-grade yield. (Lugar/Purdue University)

High Performance Computing.—This program will assist the USDA with expanded capabilities in high performance computing and numerical methods for agricultural and natural resources management. The Committee recommendation includes \$750,000 for this project. (Bennett/Utah State University)

Human Nutrition.—This research project tests the hypothesis that individuals with a predisposition to becoming obese have altered metabolic and genetic patterns of response to diets high in fat or high in calories. The current research objective is to characterize baseline biochemical, endocrine and anthropometric predictors for fat storage in healthy men and women eating diets altered in percent fat. The Committee recommendation includes \$706,000 to carry out this research. (Landrieu, Vitter/Pennington Biomedical Research Center)

Improving Safety and Shelf Life of Agricultural Commodities.—Bioelectronic detectors have the potential to be highly sensitive, easy to use and manufacture, while also providing near real-time diagnosis of food contamination. These features will allow for the quick detection of microorganisms thereby allowing for the development of new methods of shelf-life preservation as well as preventing distribution of contaminated food products. The Committee recommendation includes \$863,000 for the development of bioelectronic detectors that can quickly detect the presence of microbial

pathogens in foods and food products. (Craig, Crapo/University of Idaho)

Joint U.S.-China Biotechnology Research and Extension.—In collaboration with the Ministry of Science and Technology [MOST] of the People's Republic of China, Utah State University [USU] and Xiamen University have agreed to develop joint research programs in animal models for the study of infectious diseases, natural bioactive compound development, and cellular communication networks. Also, MOST, USU, and the Northwest Sci-Tech University of Agriculture and Forestry have agreed to develop joint research programs in the biotechnology of forages (especially alfalfa), livestock cloning and genetics, crop production, and water resources and irrigation. Funding would be used for professional exchanges, joint research programs, intensive short courses, graduate training, and internships. The Committee recommendation includes \$600,000 for this project. (Bennett/Utah State University)

Leopold Center Hypoxia.—One of the most effective ways to reduce the hypoxia zone in the Gulf of Mexico is to increase the acreage of perennial grasses in the Midwest. The Committee recommendation includes \$150,000 to investigate land use issues that may have an impact of reducing the hypoxia zone. (Harkin/Iowa State University)

Livestock and Dairy Policy.—The Committee recommendation includes \$200,000 for economic and policy analyses of programs relating to dairy, beef cattle, sheep, and goat raisers. (Hutchison/Texas Agricultural Experiment Station)

Livestock Waste.—Research is needed to investigate air quality impairments from livestock and poultry operations in order to evaluate the effectiveness of mitigation strategies. The Committee recommendation includes \$250,000 to carry out these activities. (Harkin, Grassley/Iowa State University)

Low Bush Wild Blueberry.—The Committee recommendation includes \$246,000 for the development of integrated crop management programs; research into the potential health benefits of wild low-bush blueberries; determination of low bush blueberry water requirements; and the improvement of processed product quality and value-added food processing. (Collins, Snowe/Wild Blueberry Commission of Maine)

Maple Research.—The process of making maple requires research to avoid product contamination that either affects the flavor or renders it unsafe for human consumption. The Committee recommendation includes \$130,000 to conduct research for equipment and processing techniques to reduce exposure of sap and syrup to contaminants. (Leahy/University of Vermont)

Midwest Advanced Food Manufacturing.—Research is needed to improve food processes, safety, quality, and health benefits. The Committee recommendation includes \$490,000 for a competitive grants program to carry out this research. (Nelson, Ben; Hagel/University of Nebraska)

Midwest Poultry.—The recent price impacts on grain due to increased renewable fuels production has negatively impacted the profit margins for poultry producers. The Committee recommends \$250,000 for research to improve the sustainability, efficiency, and

profitability of poultry production. (Harkin, Klobuchar, Grassley/Iowa State University)

Milk Safety.—This project focuses on enhancing the safety of the dairy food supply. The Committee recommendation includes \$788,000 for peer reviewed research into milk and dairy products safety. (Specter, Casey/Penn State University)

Missouri River Sedimentation.—Research is needed to measure the effect of erosion along the Missouri River which is affecting riparian properties. The Committee recommendation includes \$450,000 for this effort. (Johnson/South Dakota State University)

Montana Sheep Institute.—Research is needed to develop a ranging strategy whereby small ruminants such as sheep can be used to control noxious weeds and return a profit to the producer. The Committee recommendation includes \$200,000 for this research. (Baucus, Tester/Montana State University)

National Beef Cattle Evaluation Consortium [NBCEC].—The NBCEC is comprised of researchers from Colorado State University, Cornell University, and the University of Georgia who focus on the genetics of beef cattle. The Committee recommendation includes \$880,000 for the NBCEC to continue its collection, interpretation, and distribution of genetic data to beef cattle breeders to develop and enhance sound and economically viable beef production systems. (Allard, Salazar, Chambliss/Colorado State University, University of Georgia)

National Center for Soybean Biotechnology.—The Committee recommendation includes \$987,000 to better understand the genetic control of yield, seed composition, environmental stress tolerance, and disease resistance in soybeans. Funds will also be used for the development of value-added soybeans such as improved oil content/quality, enhanced nutritional values, and biofuel uses. (Bond/University of Missouri-Columbia)

National Drought Mitigation Center [NDMC].—The NDMC conducts research and outreach activities on drought mitigation and preparedness technologies; works to improve coordination of drought-related activities between levels of government; and assists in the development, dissemination, and implementation of appropriate mitigation and preparedness technologies in the public and private sectors. The Committee recommendation includes \$500,000 for the NDMC to continue drought monitoring, mitigation and planning. (Nelson, Ben; Hagel/University of Nebraska-Lincoln)

Nematode Resistance Genetic Engineering.—Development of more efficient and less environmentally damaging methods for controlling pests and diseases is essential for maintaining agricultural production levels necessary to support the future food and trade needs of the United States. The Committee recommendation includes \$300,000 to limit agricultural production losses caused by pests and disease through the application of biotechnology. (Domenici, Bingaman/New Mexico State University)

Nevada Arid Rangelands.—Nevada has a higher percentage of arid rangeland than any other State and in recent years has experienced severe wildfire, invasive species, prolonged drought, and habitat decline. The Committee recommendation includes \$490,000 for rangelands restoration and protection research. (Reid/University of Nevada Reno)

New Century Farm.—Corn alone cannot support all the renewable energy requirements of the country. A variety of annual and perennial cellulosic crops must be grown to complement corn and soybean production. The Committee recommendation includes \$300,000 for research into integrated and sustainable biofuel feedstock production, including: crop production; germplasm development; environmental impact; harvest, transport, and storage; and processing. (Harkin, Grassley/Iowa State University)

New Crop Opportunities, Alaska.—The Committee recommendation includes \$443,000 for the development of new opportunities and uses for Alaska grown crops and livestock. (Stevens/University of Alaska)

New Crop Opportunities, Kentucky.—Agricultural production is an important part of Kentucky's economy, and tobacco has played a major role. With the termination of the Federal tobacco program, there is a need for research to help Kentucky farmers diversify their operations in order to survive. The Committee recommendation includes \$750,000 to accelerate the transition from a tobacco-based farm economy through crop diversification. The project provides production and marketing information on new crops and value-added versions of current crops. (McConnell/University of Kentucky)

New Satellite and Computer-Based Technology for Agriculture.—Significant progress has been made in numerous areas of spatial technology and precision agriculture. Variable rate technology research has shown the ability to significantly reduce the volume of pesticides utilized, apply fertilizer within highly variable fields to achieve maximum benefits, and identify potential insect, disease, and environmental stress problems well in advance of traditional scouting methods. The Committee recommendation includes \$936,000 for spatial technology research. (Cochran/Mississippi State University)

Northwest Center for Small Fruit Research [NCSFR].—The primary goal of the NCSFR is to enhance the profitability and sustainability of the small fruits industry in the Pacific Northwest. The Committee recommendation includes \$300,000 for peer reviewed and competitively awarded small fruits research. (Craig, Murray, Smith, Wyden, Crapo/Northwest Center for Small Fruit Research)

Oil Resources from Desert Plants.—New Mexico State University will conduct basic research to identify and characterize plant genes involved in the synthesis of high molecular weight oils and waxes. The Committee recommendation includes \$250,000 to carry out this research. (Domenici, Bingaman/New Mexico State University)

Organic Cropping, Oregon.—Research is needed to assist producers in Oregon with information necessary for optimal production of organic crops. The Committee recommendation includes \$200,000 for that purpose. (Wyden, Smith/Oregon State University)

Organic Cropping, Washington.—There is a rising demand for organic products, but foreign competitors with lower labor costs are putting organic producers at risk. The Committee recommendation includes \$300,000 for research, development and dissemination of organic best management practices in the Northwest and other

steps to retain the U.S. competitive advantage in this marketplace. (Murray, Cantwell/Washington State University)

Organic Waste Utilization.—Heavy land applications of dairy manure can cause significant problems, including contamination of ground and surface water, spread of enteric pathogens and weeds, noxious odors, and increased soil salinity. The Committee recommendation includes \$100,000 to develop new ways of composting dairy waste with other organic materials that may alleviate many potential problems associated with land application of raw dairy waste. (Domenici, Bingaman/New Mexico State University)

Pasture and Forage Research.—The Committee recommendation includes \$250,000 to enhance private irrigated pasture land and provide an alternative feed base to traditional public land grazing. (Bennett/Utah State University)

Peach Tree Short Life Research.—The disease syndrome of peach, nectarine, and plum trees in the southeastern United States known as Peach Tree Short Life is characterized by sudden collapse of otherwise apparently healthy trees just before, during, or just after flowering. The Committee recommendation includes \$278,000 to further the understanding and control of peach tree short life in southeastern peach orchards. (Graham/Clemson University)

Peanut Research.—The Committee recommendation includes \$591,000 for research into soil fertility issues caused by intensive tillage practices in the peanut growing regions of Alabama, Florida, and Georgia. (Shelby/Auburn University)

Phytosensors for Crop Security and Precision Agriculture.—There are immediate needs for new technology and innovations for monitoring crop diseases. This project seeks to combine technologies in biotechnology and photonics to produce crop plants that can be used directly as early warning sentinels for the detection of plant diseases. The Committee recommendation includes \$1,000,000 to support this research. (Alexander/University of Tennessee)

Pierce's Disease.—Pierce's Disease, spread by the Glassy-Winged Sharpshooter, threatens the grape industry. The Committee recommendation includes \$1,500,000 for a competitive grants program to eliminate this disease. (Feinstein, Boxer/University of California)

Policy Analyses for a National Secure and Sustainable Food, Fiber, Forestry, and Energy Program.—Currently, there is an unbalanced approach to alternative fuels, which is leading to food shortages, increased food costs, and negative environmental impacts. The Committee recommendation includes \$200,000 to better understand the impacts renewable energy feedstocks have on cropping patterns, balance of trade, commodity prices, and economic activity. (Hutchison/Texas A&M University)

Potato Cyst Nematode.—The potato cyst nematode [PCN] was recently discovered in Idaho, the first time for the United States. The Committee recommendation includes \$500,000 for research related to PCN, including population dynamics, management, eradication, efficacy of pesticides, resistance of potato varieties, and other critical issues. (Craig, Crapo/University of Idaho)

Potato Research.—This research focuses on the development of new potato varieties with better disease resistance, enhanced nutrition, higher yields, and other improvements. The Committee rec-

ommendation includes \$750,000 for competitively awarded potato research. (Craig, Murray, Cantwell, Wyden, Collins, Crapo, Smith, Snowe/USDA CSREES]

Precision Agriculture.—Geospatial technologies developed by the military and aerospace industries have the potential to improve the profitability and efficiency of production agriculture and forestry. The Committee recommendation includes \$599,000 for the development of geospatial tools to allow more site-specific management of agriculture, forests, and other natural resources at Auburn University and \$675,000 at the University of Kentucky to develop and assess precision agriculture and natural resource management methods and technologies. (McConnell/University of Kentucky, Shelby/Auburn University)

Preharvest Food Safety.—The Committee recommendation includes \$202,000 for research into the identification and mitigation of food-borne pathogens such as *E. coli* and *Salmonella*, antibiotic resistance and food-borne disease, and identification and tracking of food-borne and zoonotic diseases. (Brownback, Roberts/Kansas State University)

Program for Economically Important Infectious Animal Diseases.—Infectious animal diseases can have a substantial impact on the economy and international trade. The Committee recommendation includes \$817,000 for research and outreach activities into economically-critical infectious animal diseases with the goal of preventing the introduction and spread of such diseases. (Allard, Salazar/Colorado State University)

Protein Utilization.—Soybeans, as an alternative feedstock for renewable fuels, require additional research to expand beyond biodiesel to a broader range of bio-fuel options. The Committee recommendation includes \$600,000 to carry out this research. (Harkin, Grassley/Iowa State University)

Regionalized Implications of Farm Programs.—The Committee recommendation includes \$100,000 for economic and policy analyses of commodity programs. (Hutchison/Texas Agricultural Experiment Station)

Renewable Energy Products.—Research is needed to identify perennial grasses that can thrive in cool conditions yet produce materials usable in the renewable fuels industry. The Committee recommendation includes \$1,000,000 to conduct this research. (Dorgan, Conrad/North Dakota State University)

Ruminant Nutrition.—Research is needed to develop value-added feeds for certain livestock that would have profitability and environmental benefits. The Committee recommendation includes \$625,000 for a competitive grants program to carry out this activity. (Johnson, Thune/South Dakota State University)

Rural Development.—Demographics and geography pose unique challenges for rural development activities in States like North Dakota. The Committee recommendation includes \$115,000 for research to develop strategies that best respond to that unique environment. (Dorgan, Conrad/North Dakota State University)

Russian Wheat Aphid.—The Committee recommendation includes \$306,000 to incorporate resistance to the new biotype of Russian wheat aphid, which re-emerged in southeastern Colorado as a virulent biotype; to improve tolerance for heat and drought

stress; and to reverse recent trends in declining hard red winter wheat exports. (Allard, Salazar/Colorado State University)

Seed Technology.—There is a growing void in the public research sector for seed trait technologies. The Committee recommendation includes \$350,000 for research on seed traits that can be made available publicly to producers. (Johnson, Thune/South Dakota State University)

Shrimp Aquaculture.—New lines of shrimp promise faster growth, greater harvest size, enhanced disease resistance, and more rapid crop turnover. These, together with the fruition of super-intensive shrimp farming systems, provide the tools necessary to accelerate the expansion of the domestic shrimp farming industry. The Committee recommendation includes \$300,000 for shrimp aquaculture research. (Cochran/University of Southern Mississippi)

Soil-Borne Disease Prevention in Irrigated Agriculture.—Phytophthora diseases are limiting factors to sustainable chile production in the irrigated Southwest. The Committee recommendation includes \$250,000 for genetic improvement of cultivars and research into the molecular basis of disease resistance. (Domenici, Bingaman/New Mexico State University)

Southeast Bioenergy Initiative.—The Committee recommendation includes \$300,000 for the development of technology to produce alternative fuels from regionally available biomass; feedstock sustainability; harvesting and transport; and conversion technologies and efficiency. (Sessions/Auburn University)

Soybean Research.—Diseases and threats such as soybean rust and soybean cyst nematode are serious problems for continued soybean production levels. The Committee recommendation includes \$750,000 for genomic and genetic research to protect and improve soybean production. (Durbin, Obama/University of Illinois)

Specialty Crops.—Producers need information to improve production and processing systems for specialty crops, especially producers who operate as small family-sized operations. The Committee recommendation includes \$100,000 for research in this area. (Lincoln, Pryor/University of Arkansas)

Sustainable Agriculture.—The Committee recommendation includes \$190,000 to support research focused on farm profitability balanced by environmental responsibility. (Specter, Casey/Penn State University)

Sustainable Beef Supply.—Research is needed to develop sound supply chain management of beef producers, taking into account factors such as consumer preference, consumer confidence, quality assurance, and international trade. The Committee recommendation includes \$200,000 to conduct this research. (Baucus, Tester/Montana State University)

Sweet Sorghum for Energy Production.—Sweet sorghum holds great potential as a biofuels feedstock. The Committee recommendation includes \$200,000 for research to improve production of this commodity on marginal lands and to develop more efficient methods to convert biomass to ethanol. (Nelson, Ben; Hagel/University of Nebraska)

Tick Borne Disease Prevention.—Tick-borne diseases poses a serious health risk to Americans, especially to vulnerable populations.

The Committee recommendation includes \$400,000 to develop information, which can be useful to the general public and to develop strategies to combat the spread of these diseases. (Reed, Whitehouse/University of Rhode Island)

Tillage, Silviculture, and Waste Management.—To address critical environmental concerns in Louisiana, alternatives to traditional tillage are needed to improve the quality of floodwaters, reduce soil erosion, and to reduce production costs. The Committee recommendation includes \$200,000 to develop best management practices to achieve these goals. (Landrieu, Vitter/Louisiana State University)

Tropical and Subtropical Research.—Much of the Nation's agricultural research resources are directed toward activities in temperate zones and has little applicability to tropical and subtropical regions where climatic differences require entirely different strategies. The Committee recommendation includes \$800,000 for research this activity. (Inouye, Akaka/University of Hawaii, University of Guam)

Uniform Farm Management.—Benchmarking databases are a new and innovative management tool that farmers can use to measure their financial success. This project has created the Nation's largest and most comprehensive public database of actual farm financial data. The Committee recommendation includes \$295,000 to continue the development and improvement of benchmarking databases. (Coleman, Klobuchar/University of Minnesota)

University Center for Biomass Based Energy.—Mississippi State University and Oklahoma State University are developing a unique gasification-fermentation process that utilizes all of the plant biomass, including the lignin, to produce liquid fuel. The Committee recommendation includes \$1,200,000 bioenergy research. (Cochran, Inhofe/Mississippi State University, Oklahoma State University)

Virtual Plant Database Initiative.—The Committee recommendation includes \$840,000 to improve access, analysis, and management of critical botanical information for botanists, other scientists and users of plant data and to enhance access to the data that can be used for conservation programs, ecosystem monitoring, sustainable development projects, and law enforcement. (Bond/ University of Missouri-Columbia)

Viticulture.—The Viticulture Consortium works on a wide range of problems affecting grape growers on both the east and west coast. The Committee recommendation includes \$1,200,000 for a competitive grants program to carry out this work. (Feinstein, Specter, Boxer, Clinton, Schumer/University of California, Cornell University)

Water Conservation.—The Committee recommendation includes \$100,000 for water conservation research in the Ogallala region of Kansas. Research will specifically focus on improvements to irrigation management; transition to dryland cropping systems based on alternative crops and/or new uses for crops; and improvements to rainfall harvesting and water recycling at confined livestock feeding operations. (Brownback, Roberts/Kansas State University)

Water Use Efficiency and Water Quality Enhancement Through Advanced Technologies.—Integration of sensors and wireless tech-

nologies into variable rate irrigation systems will allow for automation and greatly increased efficiency. New technologies will allow variable rate irrigation systems to save billions of gallons of irrigation water each year, while increasing agricultural productivity and improving water quality. The Committee recommendation includes \$494,000 for research into the development of the next generation of precision irrigation application technologies for large scale irrigation users. (Chambliss, Isakson/University of Georgia)

Wetland Plants.—The Committee recommendation includes \$200,000 for the development of plant species to stabilize and maintain Louisiana coastal wetlands. (Landrieu, Vitter/Louisiana State University)

Wheat Genetic Research.—The free availability of germplasm, genetic and genomic resources, and knowledge for sustainable and profitable wheat crop production is crucial for producers of one of the staple crops of the world. The Committee recommendation includes \$344,000 to collect, conserve, and distribute wheat genetic and genomic resources; develop improved germplasm; develop genetic stocks; and to develop genomic resources. (Brownback, Roberts/Kansas State University)

Wildlife/Livestock Disease Research Partnership.—The Committee recommendation includes \$300,000 for research on diseases that affect both livestock and wildlife in Wyoming of economic concern. These diseases include brucellosis, chronic wasting disease and pasteurellosis. (Enzi, Thomas/University of Wyoming)

Wine Grape Foundation Block.—For national and international markets it is critical that vineyards are virus free. The Committee recommendation includes \$300,000 for research to reduce the likelihood of virus transmission within the industry. (Murray, Cantwell/Washington State University)

Wood Utilization.—This program includes research regarding harvesting, wood properties, manufacturing and processing, products and testing, and economics and marketing. The Committee recommends \$6,500,000 to address these needs on a national scale. (Byrd, Cochran, Craig, Landrieu, Stevens, Klobuchar, Levin, Stabenow, Wyden, Alexander, Coleman, Collins, Crapo, Smith, Snowe, Vitter/West Virginia University, Mississippi State University, University of Idaho, Louisiana State University, University of Alaska, University of Minnesota, Michigan State University, University of Tennessee, University of Maine, Oregon State University)

Wool Research.—Research with wool and other animal fibers is needed to increase profitability of domestic sheep, goat, and camelid industries while providing manufacturers, consumers, and the military with high quality animal fibers. The Committee recommendation includes \$100,000 for wool research. (Hutchison/Texas Agricultural Experiment Station)

The following identifies and describes the Committee recommendations for Federal Administration:

Agriculture Development in the American Pacific.—The location of research universities in the American Pacific provides an opportunity to study the movement of infectious disease, invasive pests, and other items related to the shipment of materials from the Asia toward the U.S. mainland. The Committee recommendation in-

cludes \$500,000 to conduct this research. (Inouye/University of Hawaii)

Agriculture-based Industrial Lubricants.—The bio-based lubricants industry is an area with the potential to add enormous growth to depressed rural economies. The Committee recommendation includes \$480,000 for further research needed for the development of bio-based products and marketing opportunities. (Harkin, Grassley/University of Northern Iowa)

Agriculture Waste Utilization.—Conversion of livestock wastes into usable fertilizers and other measures to better utilize wastes would reduce their threat to the environment. The Committee recommendation includes \$650,000 to conduct research on technologies to reduce or eliminate harmful nutrients and pathogens. (Byrd/West Virginia State University)

Agricultural Literacy.—The Committee recommendation includes \$500,000 to enhance agricultural understanding among educators, K–12 students, and consumers utilizing teacher created learning units that infuse accurate agricultural concepts into the curriculum and enhance technology skills. (Bond/ Missouri Farm Bureau Foundation for Agriculture)

Applied Agriculture and Environment Research.—Food safety concerns can cause economic disruption and unclear signals in the marketplace. The Committee recommendation includes \$250,000 to identify and develop new technologies and best management practices that will result in higher consumer confidence in food safety. (Feinstein/California State University)

Aquaculture Research.—The Committee recommendation includes \$220,000 for urban aquaculture, aquaponics, and fish nutrition/physiology research. (Specter/Cheyney University of Pennsylvania)

Aquatic Veterinary Pathology.—Resources are needed in the State of Rhode Island to keep up with the growing demand for disease screening and other tests so that the State's aquatic production can move freely in interstate commerce. The Committee recommendation includes \$800,000 to provide the State of Rhode Island the capability of providing veterinary expertise for aquatic species. (Reed/Roger Williams University)

Biotechnology.—The Committee recommendation includes \$687,000 for research on genetic marker identification and mapping of sweet potatoes; genetic modification of starch in sweet potato storage roots; genetic transformation and development of sweet potato cultivars with enhanced disease resistance; and related plant breeding research to support small and disadvantaged farmers. (Cochran/Alcorn State University)

Center for Dairy Excellence.—The Committee recommendation includes \$100,000 to help dairy producers improve productivity and profitability. (Specter, Casey/Penn State University)

Cotton Research.—The Committee recommendation includes \$300,000 for the research and development of new technologies to increase cotton and textile production. (Hutchison, Cornyn/Texas Tech, Texas A&M University)

Ethnobotanical Studies.—The gathering of wild herbs and plants in the Appalachian region has long been a source of income throughout the region. However, many plants look similar and

gatherers and consumers lack a reliable source of information to differentiate potentially useful herbs from poisonous plants. The Committee recommendation includes \$500,000 for research in this area. (Mikulski, Cardin/Frostburg State University)

Feed Efficiency.—There is a need for research on feed efficiency in bulls to improve genetics in the cattle industry and lower the cost of production. The Committee recommendation includes \$150,000 for research to enhance the efficient production of lean meat from beef cattle. (Byrd/West Virginia Department of Agriculture)

MATRIC.—Research is necessary to improve the competitiveness and marketability of Midwest agricultural products. The Committee recommendation includes \$250,000 to carry out these activities through the Midwest Agribusiness Trade and Information Center [MATRIC]. (Harkin/Iowa State University)

Medicinal and Bioactive Crops.—The Committee recommendation includes \$400,000 for bioactive/pharmaceutical crop research and the identification of novel anti-cancer and antiviral agents. (Hutchison/Stephen F. Austin University)

Mississippi Valley State University.—The Committee recommendation includes \$1,433,000 to promote research and education at the university. (Cochran/Mississippi Valley State University)

PM-10 Air Quality.—Air quality impairments related to agriculture can result in health risks for individuals and economic hardships for producers. Soils in the Columbia Plateau have considerable quantities of very small particles that may become suspended in air, making the air quality issues more severe. The Committee recommendation includes \$150,000 to help develop farming systems to reduce the threat of these particles. (Murray, Cantwell/Washington State University)

Polymer Research.—The Kansas Polymer Research Center conducts research on bio-based polymeric material which have the potential to replace 3,300,000 barrels of oil per year in the U.S. market alone. The Committee recommendation includes \$1,500,000 for polymer research. (Brownback/Pittsburg State University)

Rural Systems.—The primary purpose of this project is the early detection of significant human and animal health events, especially those arising in rural America, through basic and applied research. The Committee recommendation includes \$308,000 to carry out this project. (Cochran/Jackson State University)

Shellfish Research, Rhode Island.—Research is needed to evaluate the environmental impacts of shellfish planting and harvesting, develop rapid bacteria tests, and evaluate mercury and cadmium levels in shellfish tissues. The Committee recommendation includes \$350,000 to carry out this work. (Reed/East Coast Shellfish Research Institute)

Viral Hemorrhagic Septicemia [VHS].—VHS is a new strain of virus responsible for massive fish kills in the Great Lakes and threatens the region's aquaculture sector. The Committee recommendation includes \$300,000 for research on this deadly disease. (Brown, Voinovich/University of Toledo)

Water Pollutants.—An extensive database of DNA profiles is needed to identify sources of bacteria in waters. The Committee

recommendation includes \$550,000 for identification of particular sources of fecal pollution that can then be eliminated or reduced as a pollution source. (Byrd/Marshall University)

Water Quality.—Climate change and other factors are putting more pressure on water resources and the need to develop sound and wide-ranging watershed planning strategies. The Committee recommendation includes \$500,000 to carry out these activities. (Dorgan, Conrad/Energy and Environmental Research Center; Grand Forks, North Dakota)

NATIVE AMERICAN INSTITUTIONS ENDOWMENT FUND

Appropriations, 2007	\$12,000,000
Budget estimate, 2008	11,880,000
Committee recommendation	11,880,000

The Native American Institutions Endowment Fund authorized by Public Law 103–382 provides an endowment for the 1994 land-grant institutions (33 tribally controlled colleges). This program will enhance educational opportunity for Native Americans by building educational capacity at these institutions in the areas of student recruitment and retention, curricula development, faculty preparation, instruction delivery systems, and scientific instrumentation for teaching. Income funds are also available for facility renovation, repair, construction, and maintenance. On the termination of each fiscal year, the Secretary shall withdraw the income from the endowment fund for the fiscal year, and after making adjustments for the cost of administering the endowment fund, distribute the adjusted income as follows: 60 percent of the adjusted income from these funds shall be distributed among the 1994 land-grant institutions on a pro rata basis, the proportionate share being based on the Indian student count; and 40 percent of the adjusted income shall be distributed in equal shares to the 1994 land-grant institutions.

COMMITTEE RECOMMENDATIONS

The Committee recommends an appropriation of \$11,880,000 for the Native American Institutions Endowment Fund.

EXTENSION ACTIVITIES

Appropriations, 2007	\$450,346,000
Budget estimate, 2008	431,125,000
Committee recommendation	458,537,000

Cooperative extension work was established by the Smith-Lever Act of May 8, 1914. The Department of Agriculture is authorized to provide, through the land-grant colleges, cooperative extension work that consists of the development of practical applications of research knowledge and the giving of instruction and practical demonstrations of existing or improved practices or technologies in agriculture, uses of solar energy with respect to agriculture, home economics, related subjects, and to encourage the application of such information by demonstrations, publications, through 4-H clubs, and other means to persons not in attendance or resident at the colleges.

To fulfill the requirements of the Smith-Lever Act, State and county extension offices in each State, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa, the Northern Marianas, and Micronesia conduct educational programs to improve American agriculture and strengthen the Nation’s families and communities.

COMMITTEE RECOMMENDATIONS

The Committee recommends an appropriation of \$458,537,000 for extension activities of the Cooperative State Research, Education, and Extension Service.

The following table summarizes the Committee’s recommendations for extension activities:

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE [CSREES]—EXTENSION ACTIVITIES

[In thousands of dollars]

	Committee recommendation
Smith-Lever sections 3(b) and 3(c)	285,762
Smith-Lever section 3(d):	
Farm safety	4,517
Food and nutrition education (EFNEP)	63,538
Indian reservation agents	3,000
New technologies for extension	1,485
Pest management	9,860
Sustainable agriculture	5,000
Youth at risk	7,651
Youth farm safety education and certification	440
1890 colleges, Tuskegee University, and West Virginia State University Colleges	35,205
1890 facilities grants	16,777
Extension services at the 1994 institutions	3,321
Renewable Resources Extension Act (RREA)	4,019
Rural health and safety education	1,946
Federal administration:	15,916
Total, CSREES Extension Activities	458,537

Ag in the Classroom.—The Committee recommends \$700,000 for Ag in the Classroom.

Childhood Farm Safety.—The Committee recommendation includes \$100,000 for outreach activities to reduce the incidence of childhood injury. (Harkin/Farm Safety Just 4 Kids; Ames, Iowa)

Conservation Technology Transfer.—Resources are needed to conduct demonstrations on working farms to encourage more sound conservation practices and reduce environmental harm. The Committee recommendation includes \$500,000 for this purpose. (Kohl/University of Wisconsin—Extension)

Dairy Education.—The national demand for milk and dairy products continues to rise. The Committee recommendation includes \$225,000 for education, applied research, and demonstration to help new and veteran dairy producers. (Harkin, Grassley/Iowa State University, Northeast Iowa Community College)

Disseminating Priority Programs Through New Technologies.—The Committee recommendation includes \$300,000 to expand access to information technologies and the training needed for citi-

zens in small rural communities. (Cochran, Inhofe/Mississippi State University, Oklahoma State University)

Efficient Irrigation for Water Conservation.—The surface flows of the Rio Grande are inadequate to meet growing demands of agriculture, development growth, drought cycles, and compact agreements. Agriculture is a major industry in most areas of the Rio Grande basin, particularly the irrigated valleys. Voluntary measures, based on scientific knowledge will help secure the agricultural economy and heritage of the basin. The Committee recommendation includes \$475,000 for extension activities that improve irrigation efficiency and water conservation throughout the Rio Grande basin. (Domenici, Bingaman/New Mexico State University)

Extension Specialist.—Agricultural weather data is needed by producers, researchers, and policy makers to make decisions. Producers utilize the data for critical management decisions about tillage, planting, crop protection applications, irrigation, fertilization, and harvesting. The Committee recommendation includes \$132,000 to provide basic weather data, products, and expertise to the Mississippi Delta. (Cochran/Mississippi State University)

Farm Safety.—Of the funds recommended for farm safety, the Committee recommends a funding level of \$4,517,000 for the AgrAbility project.

Health Education Through Extension Leadership.—This project links the access of the cooperative extension service to the expertise of the health professions and effectively delivers programs. The Committee recommendation includes \$843,000 to support extension activities that improve health outcomes and reduce the burden of chronic disease. (McConnell/University of Kentucky)

Iowa Vitality Center.—There is a growing trend of wealth transfers from rural into urban areas, with serious consequences for the economies of rural communities. The Committee recommendation includes \$300,000 to develop strategies to help sustain critical community assets. (Harkin, Grassley/Community Vitality Center; Ames, Iowa)

National Center for Farm Safety.—Farm-related accidents are responsible each year for an alarming number of deaths and serious injuries. The Committee recommendation includes \$225,000 to carry out training and educational activities to improve safety for members of the farming profession. (Harkin, Grassley/Northeast Iowa Community College)

Nutrition Enhancement.—Wisconsin has among the lowest school breakfast participation rates in the Nation. The Committee recommendation includes \$1,000,000 to assist in supporting childhood nutrition. (Kohl/University of Wisconsin—Extension, Wisconsin Department of Public Institutions)

Ohio-Israel Agricultural Initiative.—The Committee recommendation includes \$665,000 to improve agricultural ties between Ohio and Israel. To date, this project has resulted in exports of Ohio-bred beef calves to Israel, export of Ohio beef genetics, sharing of agricultural bio-security expertise, soybean purchases, drip irrigation improvement, greenhouse development, and scientific exchanges in a variety of agriculture and aquaculture disciplines. (Voinovich/Negev Foundation; Cleveland, Ohio)

Pesticide Reduction on Vegetables.—More information is needed for producers of vegetable crops to understand the optimum rate of pesticide use in order to prevent public health issues or environmental problems. The Committee recommendation includes \$400,000 for this purpose. (Kohl/University of Wisconsin—Extension)

Potato Integrated Pest Management—Late Blight.—The Committee recommendation includes \$400,000 to track potential pest outbreaks, including potato blight, and provide potato growers and industry professionals with current information on specific and timely treatments, which can be used to minimize pesticide applications and maximize potato yield and quality. (Collins, Snowe/University of Maine)

Range Improvement.—Concerns about the condition and health of range resources have been heightened in recent years. Local governments, management agencies, and policy makers require accurate estimates of range conditions in a timely manner. The Committee recommendation includes \$300,000 to continuously update, compile pertinent data and information, and identify and perform the needed research to provide comprehensive and cumulative impact assessments of Federal land management actions and regulations upon the rural economic communities of New Mexico. (Domenici, Bingaman/New Mexico State University)

Rural E-Commerce.—The Committee recommendation includes \$331,000 to help small, micro, and entrepreneurial businesses learn and adopt the effective use of e-commerce strategies. (Cochran/Mississippi State University)

Rural Health and Safety Education.—The Committee recommendation includes \$1,946,000 for rural health and safety education. The Committee directs the Secretary to carry out this program in a manner similar to fiscal year 2006.

Rural Technologies.—Rural and cultural barriers have in some circumstances, limited opportunities for certain people to enter careers in science, technology, engineering, and mathematics. The Committee recommendation includes \$100,000 for activities to make those opportunities more available. (Inouye/Maui Economic Development Board)

Urban Horticulture.—The development of urban horticulture can provide fresh produce for people in non-rural areas through the use of urban gardens. The Committee recommendation includes \$465,000 to carry out these activities. (Kohl/University of Wisconsin—Extension, Growing Power; Milwaukee, Wisconsin)

Urban Horticulture and Marketing.—The development of an urban horticulture and marketing program, with an emphasis on raising organic crops and the wholesale/retail sale of crops, can provide job training and jobs. The Committee recommendation includes \$100,000 to carry out this program. (Durbin/Windy City Harvest; Chicago, Illinois)

INTEGRATED ACTIVITIES

Appropriations, 2007	\$55,234,000
Budget estimate, 2008	20,120,000
Committee recommendation	12,948,000

Section 406 of the Agricultural Research, Extension, and Education Reform Act of 1998 authorizes an integrated research, education, and extension competitive grants program.

COMMITTEE RECOMMENDATIONS

The Committee recommends an appropriation of \$12,948,000 for integrated activities of the Cooperative State Research, Education, and Extension Service.

The following table summarizes the Committee's recommendations for integrated activities:

COOPERATIVE STATE RESEARCH, EDUCATION, AND EXTENSION SERVICE [CSREES]—INTEGRATED ACTIVITIES

[In thousands of dollars]

	Committee recommendation
Critical issues	737
Homeland security	9,900
International science and education grants	990
Regional rural development centers	1,321
Total	12,948

OUTREACH FOR SOCIALLY DISADVANTAGED FARMERS

Appropriations, 2007	\$5,940,000
Budget estimate, 2008	6,930,000
Committee recommendation	5,940,000

This program is authorized under section 2501 of title XXV of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 2279). Grants are made to eligible community-based organizations with demonstrated experience in providing education on other agriculturally-related services to socially disadvantaged farmers and ranchers in their area of influence. Also eligible are the 1890 land-grant colleges, Tuskegee University, West Virginia State University, Indian tribal community colleges, and Hispanic-serving post-secondary education facilities.

COMMITTEE RECOMMENDATIONS

The Committee recommends an appropriation of \$5,940,000 for Outreach for Socially Disadvantaged Farmers.

OFFICE OF THE UNDER SECRETARY FOR MARKETING AND REGULATORY PROGRAMS

Appropriations, 2007	\$721,000
Budget estimate, 2008	792,000
Committee recommendation	759,000

The Office of the Under Secretary for Marketing and Regulatory Programs provides direction and coordination in carrying out laws enacted by the Congress with respect to the Department's marketing, grading, and standardization activities related to grain; competitive marketing practices of livestock, marketing orders, and various programs; veterinary services; and plant protection and quarantine. The Office has oversight and management responsibil-