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**3. TITLE XVI (RESEARCH) OF THE FOOD, AGRICULTURE,  
CONSERVATION, AND TRADE ACT OF 1990**

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May 22, 2008

**3. TITLE XVI (RESEARCH) OF THE FOOD, AGRICULTURE,  
CONSERVATION, AND TRADE ACT OF 1990**

[As Amended Through Public Law 110–246, Effective May 22,  
2008]

(Public Law 101–624; 104 Stat. 3359; November 28, 1990)

**[Note: Only freestanding provisions are included in this compilation. Subtitle A of title XVI (sections 1601 through 1618) amends other Acts, principally the National Agricultural Research, Extension, and Teaching Policy Act of 1977.]**

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## TITLE XVI—RESEARCH

### Subtitle A—Extensions and Changes to Existing Programs

[Note: Subtitle A is omitted]

### Subtitle B—Sustainable Agriculture Research and Education

#### SEC. 1619. [7 U.S.C. 5801] PURPOSE AND DEFINITIONS.

(a) PURPOSE.—It is the purpose of this subtitle to encourage research designed to increase our knowledge concerning agricultural production systems that—

(1) maintain and enhance the quality and productivity of the soil;

(2) conserve soil, water, energy, natural resources, and fish and wildlife habitat;

(3) maintain and enhance the quality of surface and ground water;

(4) protect the health and safety of persons involved in the food and farm system;

(5) promote the well being of animals; and

(6) increase employment opportunities in agriculture.

(b) DEFINITIONS.—For purposes of this subtitle:

(1) The term “sustainable agriculture” shall have the same meaning given to that term by section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103).

(2) The term “integrated crop management” means an agricultural management system that integrates all controllable agricultural production factors for long-term sustained productivity, profitability, and ecological soundness.

(3) The term “integrated resource management” means livestock management which utilizes an interdisciplinary systems approach which integrates all controllable agricultural production practices to provide long-term sustained productivity and profitable production of safe and wholesome food in an environmentally sound manner.

(4) The term “agribusiness” includes a producer or organization engaged in an agricultural enterprise with a profit motive.

(5) The term “extension” shall have the same meaning given to that term by section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103).

(6) The term “Secretary” means the Secretary of Agriculture.

(7) The term “State” means each of the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, the Virgin Islands of the United States, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or federally recognized Indian tribes.

(8) The term “State agricultural experiment stations” shall have the same meaning given to that term by section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103).

(9) The term “nonprofit organization” means an organization, group, institute, or institution that—

(A) has a demonstrated capacity to conduct agricultural research or education programs;

(B) has experience in research, demonstration, education, or extension in sustainable agricultural practices and systems; and

(C) qualifies as a nonprofit organization under section 501(c) of the Internal Revenue Code of 1986.

**SEC. 1620. REPEAL OF AGRICULTURAL PRODUCTIVITY RESEARCH.**

(a) REPEAL.—Subtitle C (sections 1461 through 1471) of the National Agricultural Research, Extension, and Teaching Policy Act Amendments of 1985 (7 U.S.C. 4701–4710) is repealed.

(b) CLERICAL AMENDMENT.—The table of contents at the beginning of the Food Security Act of 1985 (Public Law 99–198; 99 Stat. 1354) is amended by striking the items relating to subtitle C of title XIV.

**CHAPTER 1—BEST UTILIZATION OF BIOLOGICAL APPLICATIONS**

**SEC. 1621. [7 U.S.C. 5811] RESEARCH AND EXTENSION PROJECTS.**

(a) PROJECTS REQUIRED.—The Secretary shall conduct research and extension projects to obtain data, develop conclusions, demonstrate technologies, and conduct educational programs that promote the purposes of this chapter, including research and extension projects that—

(1) facilitate and increase scientific investigation and education in order to—

(A) reduce, to the extent feasible and practicable, the use of chemical pesticides, fertilizers, and toxic natural materials in agricultural production;

(B) improve low-input farm management to enhance agricultural productivity, profitability, and competitiveness; and

(C) promote crop, livestock, and enterprise diversification; and

(2) facilitate the conduct of projects in order to—

(A) study, to the extent practicable, agricultural production systems that are located in areas that possess various soil, climate, and physical characteristics;

(B) study farms that have been, and will continue to be, managed using farm production practices that rely on low-input and conservation practices;

(C) take advantage of the experience and expertise of farmers and ranchers through their direct participation and leadership in projects;

(D) transfer practical, reliable and timely information to farmers and ranchers concerning low-input sustainable farming practices and systems; and

(E) promote a partnership between farmers, nonprofit organizations, agribusiness, and public and private research and extension institutions.

(b) AGREEMENTS.—The Secretary shall carry out this section through agreements entered into with land-grant colleges or universities, other universities, State agricultural experiment stations, the State cooperative extension services, nonprofit organizations with demonstrable expertise, or Federal or State governmental entities.

(c) SELECTION OF PROJECTS.—

(1) IN GENERAL.—The Secretary shall select research and extension projects to be conducted under this section on the basis of—

(A) the relevance of the project to the purposes of this chapter;

(B) the appropriateness of the design of the project;

(C) the likelihood of obtaining the objectives of the project; and

(D) the national or regional applicability of the findings and outcomes of the proposed project.

(2) PRIORITY.—In conducting projects under this section, the Secretary shall give priority to projects that—

(A) closely coordinate research and extension activities;

(B) indicate the manner in which the findings of the project will be made readily usable by farmers;

(C) maximize the involvement and cooperation of farmers, including projects involving on-farm research and demonstration;

(D) involve a multidisciplinary systems approach; and

(E) involve cooperation between farms, non-profit organizations, colleges and universities, and government agencies.

(d) DIVERSIFICATION OF RESEARCH.—The Secretary shall conduct projects and studies under this section in areas that are broadly representative of the diversity of United States agricultural production, including production on family farms, mixed-crop livestock farms and dairy operations.

(e) ON-FARM RESEARCH.—The Secretary may conduct projects and activities that involve on-farm research and demonstration in carrying out this section.

(f) **IMPACT STUDIES.**—The Secretary may approve study projects concerning the national and regional economic, global competitiveness, social and environmental implications of the adoption of low-input sustainable agricultural practices and systems.

(g) **PROJECT DURATION.**—

(1) **IN GENERAL.**—The Secretary may approve projects to be conducted under this section that have a duration of more than one fiscal year.

(2) **SEQUENCE PLANTING.**—In the case of a research project conducted under this section that involves the planting of a sequence of crops or crop rotations, the Secretary shall approve such projects for a term that is appropriate to the sequence or rotation being studied.

(h) **PUBLIC ACCESS.**—The Secretary shall ensure that research projects conducted under this section are open for public observation at specified times.

(i) **INDEMNIFICATION.**—

(1) **IN GENERAL.**—Subject to paragraph (2), the Secretary may indemnify the operator of a project conducted under this section for damage incurred or undue losses sustained as a result of a rigid requirement of research or demonstration under such project that is not experienced in normal farming operations.

(2) **SUBJECT TO AGREEMENT.**—An indemnity payment under paragraph (1) shall be subject to any agreement between a project grantee and operator entered into prior to the initiation of such project.

**SEC. 1622. [7 U.S.C. 5812] PROGRAM ADMINISTRATION.**

(a) **DUTIES OF SECRETARY.**—The Secretary shall—

(1) administer the programs and projects conducted under sections 1621 and 1623 through the Cooperative State Research Service in close cooperation with the Extension Service *the National Institute of Food and Agriculture*<sup>1622-1</sup>, Agricultural Research Service, and other appropriate agencies;

(2) establish a minimum of four Regional Administrative Councils in accordance with subsection (b); and

(3) in conjunction with such Regional Administrative Councils, identify regional host institutions required to carry out such programs or projects.

(b) **REGIONAL ADMINISTRATIVE COUNCILS.**—

<sup>1622-1</sup> Effective October 1, 2009, sec. 7511(c)(15) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “the Cooperative State Research Service in close cooperation with the Extension Service” and inserting “the National Institute of Food and Agriculture”.

(1) MEMBERSHIP.—The membership of the Regional Administrative Councils shall include representatives of—

- (A) the Agricultural Research Service;
  - ~~(B) the Cooperative State Research Service;~~
  - ~~(C) the Extension Service;~~
  - (B) the National Institute of Food and Agriculture;*<sup>1622-2</sup>
  - ~~(D) (C) State cooperative extension services;~~
  - ~~(E) (D) State agricultural experiment stations;~~
  - ~~(F) (E) the Soil Conservation Service;~~
  - ~~(G) (F) State departments engaged in sustainable agriculture programs;~~
  - ~~(H) (G) nonprofit organizations with demonstrable expertise;~~
  - ~~(I) (H) farmers utilizing systems and practices of sustainable agriculture;~~
  - ~~(J) (I) agribusiness;~~
  - ~~(K) (J) the State or United States Geological Survey;~~
- and
- ~~(L) (K) other persons knowledgeable about sustainable agriculture and its impact on the environment and rural communities.~~

(2) RESPONSIBILITIES.—The Regional Administrative Councils shall—

- (A) promote the programs established under this subtitle at the regional level;
- (B) establish goals and criteria for the selection of projects authorized under this subtitle within the applicable region;
- (C) appoint a technical committee to evaluate the proposals for projects to be considered under this subtitle by such council;
- (D) review and act on the recommendations of the technical committee, and coordinate its activities with the regional host institution; and
- (E) prepare and make available an annual report concerning projects funded under sections 1621 and 1623, together with an evaluation of the project activity.

(3) CONFLICT OF INTEREST.—A member of the Regional Administrative Council or a technical committee may not partici-

<sup>1622-2</sup> Effective October 1, 2009, sec. 7511(c)(15)(B) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking subparagraphs (B) and (C) and inserting subparagraph “(B) the National Institute of Food and Agriculture” and redesignating subparagraphs (D) through (L) as subparagraphs (C) through (K), respectively.

pate in the discussion or recommendation of proposed projects if the member has or had a professional or business interest in, including the provision of consultancy services, the organization whose grant application is under review.

**SEC. 1623. [7 U.S.C. 5813] FEDERAL-STATE MATCHING GRANT PROGRAM.**

(a) **ESTABLISHMENT.**—The Secretary shall establish a Federal-State matching grant program to make grants to States to assist in the creation or enhancement of State sustainable agriculture research, extension, and education programs, in furtherance of this subtitle.

(b) **ELIGIBLE PROGRAMS AND ACTIVITIES.**—States eligible to receive a grant under this section may conduct a variety of activities designed to carry out the purpose of this subtitle, including—

(1) activities that encourage the incorporation and integration of sustainable agriculture concerns in all State research, extension, and education projects;

(2) educational programs for farmers, educators, and the public;

(3) the development and funding of innovative research, extension, and education programs regarding sustainable agriculture;

(4) the conduct of research and demonstration projects;

(5) the provision of technical assistance to farmers and ranchers;

(6) activities that encourage farmer-to-farmer information exchanges;

(7) the incorporation of sustainable agriculture studies in undergraduate and graduate degree programs; and

(8) such other activities that are appropriate to the agricultural concerns of the State that are consistent with the purpose of this chapter.

(c) **SUBMISSION OF PLAN.**—

(1) **REQUIRED.**—States that elect to apply for a grant under this section shall prepare and submit, to the appropriate Regional Administrative Council established under section 1622, a State plan and schedule for approval by such council and the Secretary.

(2) **ELEMENTS OF PLAN.**—State plans prepared under paragraph (1) shall provide details of the proposed program to be implemented using funds provided under this section for fiscal years 1991 through 1995, or any 5-year period thereafter, and shall identify the sources of matching State funds for the same fiscal year.

(3) PARTICIPATION OF FARMERS.—To be eligible for approval, State plans submitted under this subsection shall demonstrate that there will be extensive and direct participation of farmers in the development, implementation, and evaluation of the program.

(d) GRANT AWARD.—

(1) LIMITS.—Subject to paragraph (2), the Secretary shall provide grants to eligible States in an amount not to exceed 50 percent of the cost of the establishment or enhancement of a State sustainable agriculture program under a plan approved by the Secretary under subsection (c) for a period not to exceed 5 years.

(2) STATE CONTRIBUTION.—To be eligible to receive a grant under this section, a State shall agree to pay, from State appropriated funds, other State revenue, or from private contributions received by the State, not less than 50 percent of the cost of the establishment or enhancement of the sustainable agriculture program under an approved plan under subsection (c).

**SEC. 1624. [7 U.S.C. 5814] AUTHORIZATION OF APPROPRIATIONS.**

There are authorized to be appropriated \$40,000,000 for each fiscal year to carry out this chapter. Of amounts appropriated to carry out this chapter for a fiscal year, not less than \$15,000,000, or not less than two thirds of any such appropriation, whichever is greater, shall be used to carry out sections 1621 and 1622.

**CHAPTER 2—INTEGRATED MANAGEMENT SYSTEMS**

**SEC. 1627. [7 U.S.C. 5821] INTEGRATED MANAGEMENT SYSTEMS.**

(a) ESTABLISHMENT.—The Secretary shall establish a research and education program concerning integrated resource management and integrated crop management in order to enhance research related to farming operations, practices, and systems that optimize crop and livestock production potential and are environmentally sound. The purpose of the program shall be—

(1) to encourage producers to adopt integrated crop and livestock management practices and systems that minimize or abate adverse environmental impacts, reduce soil erosion and loss of water and nutrients, enhance the efficient use of on-farm and off-farm inputs, and maintain or increase profitability and long-term productivity;

(2) to develop knowledge and information on integrated crop and livestock management systems and practices to assist agricultural producers in the adoption of these systems and practices;

(3) to accumulate and analyze information on agricultural production practices researched or developed under programs established under this subtitle, subtitle G of title XIV, and section 1650 and other appropriate programs of the Department of Agriculture to further the development of integrated crop and livestock management systems;

(4) to facilitate the adoption of whole-farm integrated crop and livestock management systems through demonstration projects on individual farms, including small and limited resource farms, throughout the United States; and

(5) to evaluate and recommend appropriate integrated crop and livestock management policies and programs.

(b) DEVELOPMENT AND ADOPTION OF INTEGRATED CROP MANAGEMENT PRACTICES.—The Secretary shall encourage agricultural producers to adopt and develop individual, site-specific integrated crop management practices. On a priority basis, the Secretary shall develop and disseminate information on integrated crop management systems for agricultural producers in specific localities or crop producing regions where the Secretary determines—

(1) water quality is impaired as a result of local or regional agricultural production practices; or

(2) the adoption of such practices may aid in the recovery of endangered or threatened species.

(c) DEVELOPMENT AND ADOPTION OF INTEGRATED RESOURCE MANAGEMENT PRACTICES.—The Secretary shall, on a priority basis, develop programs to encourage livestock producers to develop and adopt individual, site-specific integrated resource management practices. These programs shall be designed to benefit producers and consumers through—

(1) optimum use of available resources and improved production and financial efficiency for producers;

(2) identifying and prioritizing the research and educational needs of the livestock industry relating to production and financial efficiency, competitiveness, environmental stability, and food safety; and

(3) utilizing an interdisciplinary approach.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for each fiscal year \$20,000,000 to carry out this section through the ~~Extension Service~~ *National Institute of Food and Agriculture*<sup>1627-1</sup>.

<sup>1627-1</sup> Effective October 1, 2009, sec. 7511(c)(16) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “Extension Service” and inserting “National Institute of Food and Agriculture”.

**CHAPTER 3—SUSTAINABLE AGRICULTURE TECHNOLOGY DEVELOPMENT AND TRANSFER PROGRAM****SEC. 1628. [7 U.S.C. 5831] TECHNICAL GUIDES AND HANDBOOKS.**

(a) DEVELOPMENT.—Not later than two years after the date of the enactment of this Act, the Secretary shall develop and make available handbooks and technical guides, and any other educational materials that are appropriate for describing sustainable agriculture production systems and practices, as researched and developed under this subtitle, subtitle G of title XIV, section 1650, and other appropriate research programs of the Department.

(b) CONSULTATION AND COORDINATION.—The Secretary shall develop the handbooks, technical guides, and educational materials in consultation with the Natural Resources Conservation Service and any other appropriate entities designated by the Secretary. The Secretary shall coordinate activities conducted under this section with those conducted under section 1261 of the Food Security Act of 1985, as added by section 1446.

(c) TOPICS OF HANDBOOKS AND GUIDES.—The handbooks and guides, and other educational materials, shall include detailed information on the selection of crops and crop-plant varieties, rotation practices, soil building practices, tillage systems, nutrient management, integrated pest management practices, habitat protection, pest, weed, and disease management, livestock management, soil, water, and energy conservation, and any other practices in accordance with or in furtherance of the purpose of this subtitle.

(d) ORGANIZATION AND CONTENTS.—The handbooks and guides, and other educational materials, shall provide practical instructions and be organized in such a manner as to enable agricultural producers desiring to implement the practices and systems developed under this subtitle, subtitle G of title XIV, section 1650, and other appropriate research programs of the Department to address site-specific, environmental and resource management problems and to sustain farm profitability, including—

(1) enhancing and maintaining the fertility, productivity, and conservation of farmland and ranch soils, ranges, pastures, and wildlife;

(2) maximizing the efficient and effective use of agricultural inputs;

(3) protecting or enhancing the quality of water resources;

or  
(4) optimizing the use of on-farm and nonrenewable resources.

(e) AVAILABILITY.—The Secretary shall ensure that handbooks and technical guides, and other educational materials are made

available to the agricultural community and the public through colleges and universities, the State Cooperative Extension Service, the Soil Conservation Service, other State and Federal agencies, and any other appropriate entities.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this section.

**SEC. 1629. [7 U.S.C. 5832] NATIONAL TRAINING PROGRAM.**

(a) IN GENERAL.—The Secretary shall establish a National Training Program in Sustainable Agriculture to provide education and training for Cooperative Extension Service agents and other professionals involved in the education and transfer of technical information concerning sustainable agriculture in order to develop their understanding, competence, and ability to teach and communicate the concepts of sustainable agriculture to Cooperative Extension Service agents and to farmers and urban residents who need information on sustainable agriculture.

(b) ADMINISTRATION.—The National Training Program shall be organized and administered by ~~the Extension Service~~ *the National Institute of Food and Agriculture*<sup>1629-1</sup>, in coordination with other appropriate Federal agencies. The Secretary shall designate an individual from the Cooperative Extension Service in each State to coordinate the National Training Program within that State. The coordinators shall be responsible, in cooperation with appropriate Federal and State agencies, for developing and implementing a statewide training program for appropriate field office personnel.

(c) REQUIRED TRAINING.—

(1) AGRICULTURAL AGENTS.—The Secretary shall ensure that all agricultural agents of the Cooperative Extension Service have completed the National Training Program not later than the end of the five-year period beginning on the date of enactment of this Act. Such training may occur at a college or university located within each State as designated by the coordinator designated under this section.

(2) PROOF OF TRAINING.—Beginning three years after the date of enactment of this Act, the Secretary shall ensure that all new Cooperative Extension Service agents employed by such Service are able to demonstrate, not later than 18 months after the employment of such agents, that such agents have completed the training program established in subsection (a).

(d) REGIONAL TRAINING CENTERS.—

<sup>1629-1</sup> Effective October 1, 2009, sec. 7511(c)(17)(A) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “the Extension Service” and inserting “the National Institute of Food and Agriculture”.

(1) DESIGNATION.—The Secretary shall designate not less than two regional training centers to coordinate and administer educational activities in sustainable agriculture as provided for in this section.

(2) TRAINING PROGRAM.—Such centers shall offer intensive instructional programs involving classroom and field training work for extension specialists and other individuals who are required to transmit technical information.

(3) PROHIBITION ON CONSTRUCTION.—Such centers shall be located at existing facilities, and no funds appropriated to carry out this chapter shall be used for facility construction.

(4) ADMINISTRATION.—Such centers should be administered by entities that have a demonstrated capability relating to sustainable agriculture. The Secretary should consider utilizing existing entities with expertise in sustainable agriculture to assist in the design and implementation of the training program under paragraph (2).

(5) COORDINATION OF RESOURCES.—Such centers shall make use of information generated by the Department of Agriculture and the State agricultural experiment stations, and the practical experience of farmers, especially those cooperating in on-farm demonstrations and research projects, in carrying out the functions of such centers.

(e) COMPETITIVE GRANTS.—

(1) IN GENERAL.—The Secretary shall establish a competitive grants program to award grants to organizations, including land-grant colleges and universities, to carry out sustainable agricultural training for county agents and other individuals that need basic information concerning sustainable agriculture practices.

(2) SHORT COURSES.—The purpose of the grants made available under paragraph (1) shall be to establish, in various regions in the United States, training programs that consist of workshops and short courses designed to familiarize participants with the concepts and importance of sustainable agriculture.

(f) REGIONAL SPECIALISTS.—To assist county agents and farmers implement production practices developed under this subtitle, subtitle G of title XIV, and other appropriate research programs of the Department, regional sustainable agriculture specialists may be designated within each State who shall report to the State coordinator of that State. The specialists shall be responsible for developing and coordinating local dissemination of sustainable agriculture information in a manner that is useful to farmers in the region.

(g) INFORMATION AVAILABILITY.—The Cooperative Extension Service within each State shall transfer information developed under this subtitle, subtitle G of title XIV, and other appropriate research programs of the Department through a program that shall—

(1) assist in developing farmer-to-farmer information exchange networks to enable farmers making transitions to more sustainable farming systems to share ideas and draw on the experiences of other farmers;

(2) help coordinate and publicize a regular series of sustainable agriculture farm tours and field days within each State;

(3) plan for extension programming, including extensive farmer input and feedback, in the design of new and ongoing research endeavors related to sustainable agriculture;

(4) provide technical assistance to individual farmers in the design and implementation of farm management plans and strategies for making a transition to more sustainable agricultural systems;

(5) consult and work closely with the Soil Conservation Service and the Agricultural Stabilization and Conservation Service in carrying out the information, technical assistance, and related programs;

(6) develop, coordinate, and direct special education and outreach programs in areas highly susceptible to groundwater contamination, linking sustainable agriculture information with water quality improvement information;

(7) develop information sources relating to crop diversification, alternative crops, on-farm food or commodity processing, and on-farm energy generation;

(8) establish a well-water testing program designed to provide those persons dependent upon underground drinking water supplies with an understanding of the need for regular water testing, information on sources of testing, and an understanding of how to interpret test results and provide for the protection of underground water supplies;

(9) provide specific information on water quality practices developed through the research programs in subtitle G of title XIV;

(10) provide specific information on nutrient management practices developed through the research programs in subtitle G of title XIV; and

(11) provide information concerning whole-farm management systems integrating research results under this subtitle,

subtitle G of title XIV, and other appropriate research programs of the Department.

(h) DEFINITION.—For purposes of this section, the term “appropriate field office personnel” includes employees of the ~~Extension Service~~ *National Institute of Food and Agriculture*<sup>1629-2</sup>, Soil Conservation Service, and other appropriate Department of Agriculture personnel, as determined by the Secretary, whose activities involve the provision of agricultural production and conservation information to agricultural producers.

(i) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated \$20,000,000 for each fiscal year to carry out the National Training Program.

## Subtitle C—National Genetic Resources Program

### SEC. 1632. [7 U.S.C. 5841] ESTABLISHMENT, PURPOSE, AND FUNCTIONS OF THE NATIONAL GENETIC RESOURCES PROGRAM.

(a) IN GENERAL.—The Secretary of Agriculture shall provide for a National Genetic Resources Program.

(b) PURPOSE.—The program is established for the purpose of maintaining and enhancing a program providing for the collection, preservation, and dissemination of genetic material of importance to American food and agriculture production.

(c) ADMINISTRATION.—The program shall be administered by the Secretary through the Agricultural Research Service.

(d) FUNCTIONS.—The Secretary, acting through the program, shall—

(1) provide for the collection, classification, preservation, and dissemination of genetic material of importance to the food and agriculture sectors of the United States;

(2) conduct research on the genetic materials collected and on methods for storage and preservation of those materials;

(3) coordinate the activities of the program with similar activities occurring domestically;

(4) unless otherwise prohibited by law, have the right to make available on request, without charge and without regard to the country from which the request originates, the genetic material that the program assembles;

<sup>1629-2</sup> Effective October 1, 2009, sec. 7511(c)(17)(B) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “Extension Service” and inserting “National Institute of Food and Agriculture”.

(5) expand the types of genetic resources included in the program to develop a comprehensive genetic resources program which includes plants (including silvicultural species), animal, aquatic, insect, microbiological, and other types of genetic resources of importance to food and agriculture, as resources permit; and

(6) engage in such other activities as the Secretary determines appropriate and as the resources of the program permit.

**SEC. 1633. [7 U.S.C. 5842] APPOINTMENT AND AUTHORITY OF DIRECTOR.**

(a) **DIRECTOR.**—There shall be at the head of the program an official to be known as the Director of the National Genetic Resources Program who shall be appointed by the Secretary. The Director shall perform such duties as are assigned to the Director by this subtitle and such other duties as the Secretary may prescribe.

(b) **ADMINISTRATIVE AUTHORITY.**—In carrying out this subtitle, the Secretary, acting through the Director—

(1) shall be responsible for the overall direction of the program and for the establishment and implementation of general policies respecting the management and operation of activities within the program;

(2) may secure for the program consultation services and advice of persons from the United States and abroad;

(3) may accept voluntary and uncompensated services; and

(4) may perform such other administrative functions as the Secretary determines are needed to effectively carry out this subtitle.

(c) **DUTIES.**—The Director shall—

(1) advise participants on the program activities;

(2) coordinate, review and facilitate the systematic identification and evaluation of, relevant information generated under the program;

(3) promote the effective transfer of the information described in paragraph (2) to the agriculture and food production community and to entities that require such information; and

(4) monitor the effectiveness of the activities described in paragraph (3).

(d) **BIENNIAL REPORTS.**—The Director shall prepare and transmit to the Secretary and to the Congress a biennial report containing—

(1) a description of the activities carried out by and through the program and the policies of the program, and such recommendations respecting such activities and policies as the Director considers to be appropriate;

(2) a description of the necessity for, and progress achieved toward providing, additional programs and activities designed to include the range of genetic resources described in section 1632(d)(5) in the activities of the program; and

(3) an assessment of events and activities occurring internationally as they relate to the activities and policies of the program.

(e) INITIAL REPORTS.—Not later than one year after the date of the enactment of this Act, the Director shall transmit to the Secretary and to the Congress a report—

(1) describing the projected needs over a 10-year period in each of the areas of genetic resources described in section 1632(d)(5), including the identification of existing components of a comprehensive program, policies and activities needed to coordinate those components, and additional elements not in existence which are required for the development of a comprehensive genetic resources program as described in such section;

(2) assessing the international efforts and activities related to the program, and their effect upon and coordination with the program; and

(3) evaluating the potential effect of various national laws, including national quarantine requirements, as well as treaties, agreements, and the activities of international organizations on the development of a comprehensive international system for the collection and maintenance of genetic resources of importance to agriculture.

**SEC. 1634. [7 U.S.C. 5843] ADVISORY COUNCIL.**

(a) ESTABLISHMENT AND MEMBERSHIP.—The Secretary shall establish an advisory council for the program for the purpose of advising, assisting, consulting with, and making recommendations to, the Secretary and Director concerning matters related to the activities, policies and operations of the program. The advisory council shall consist of ex officio members and not more than nine members appointed by the Secretary.

(b) EX OFFICIO MEMBERS.—The ex officio members of the advisory council shall consist of the following persons (or their designees):

(1) The Director.

(2) The Assistant Secretary of Agriculture for Science and Education.

(3) The Director of the National Agricultural Library.

(4) The Director of the National Institutes of Health.

(5) The Director of the National Science Foundation.

(6) The Secretary of Energy.

(7) The Director of the Office of Science and Technology Policy.

(8) Such additional officers and employees of the United States as the Secretary determines are necessary for the advisory council to effectively carry out its functions.

(c) APPOINTMENT OF OTHER MEMBERS.—The members of the advisory council who are not ex officio members shall be appointed by the Secretary as follows:

(1) Two-thirds of the members shall be appointed from among the leading representatives of the scientific disciplines relevant to the activities of the program, including agricultural sciences, environmental sciences, natural resource sciences, health sciences, and nutritional sciences.

(2) One-third of the members shall be appointed from the general public and shall include leaders in fields of public policy, trade, international development, law, or management.

(d) COMPENSATION.—Members of the advisory council shall serve without compensation, if not otherwise officers or employees of the United States, except that they shall, while away from their homes or regular places of business in the performance of services for the advisory council, be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in the Government service are allowed expenses under sections 5701 through 5707 of title 5, United States Code.

(e) TERM OF OFFICE OF APPOINTEES; VACANCIES.—

(1) TERM.—The term of office of a member appointed under subsection (c) is four years, except that any member appointed to fill a vacancy occurring before the expiration of the term for which the predecessor of such member was appointed shall be appointed only for the remainder of such term.

(2) INITIAL APPOINTMENT.—The Secretary shall make appointments to the advisory council so as to ensure that the terms of the members appointed under subsection (c) do not all expire in the same year. A member may serve after the expiration of the member's term until a successor takes office.

(3) REAPPOINTMENT.—A member who is appointed for a term of four years may not be reappointed to the advisory council before two years after the date of expiration of such term of office.

(4) VACANCIES.—If a vacancy occurs in the advisory council among the members appointed under subsection (c), the Secretary shall make an appointment to fill such vacancy within 90 days after the date such vacancy occurs.

(f) CHAIR.—The Secretary shall select as the chair of the advisory council one of the members appointed under subsection (c). The term of office of the chair shall be two years.

(g) MEETINGS.—The advisory council shall meet at the call of the chair or on the request of the Director, but at least two times each fiscal year. The location of the meetings of the advisory council shall be subject to the approval of the Director.

(h) STAFF.—The Director shall make available to the advisory council such staff, information, and other assistance as it may require to carry out its functions.

(i) ORIENTATION AND TRAINING.—The Director shall provide such orientation and training for new members of the advisory council as may be appropriate for their effective participation in the functions of the advisory council.

(j) COMMENTS AND RECOMMENDATIONS.—The advisory council may prepare, for inclusion in a report submitted under section 1633—

(1) comments respecting the activities of the advisory council during the period covered by the report;

(2) comments on the progress of the program in meeting its objectives; and

(3) recommendations respecting the future directions, program, and policy emphasis of the program.

(k) REPORTS.—The advisory council may prepare such reports as the advisory council determines to be appropriate.

(l) APPLICATION OF ADVISORY COMMITTEE ACT.—Section 14(a) of the Federal Advisory Committee Act (5 U.S.C. App.) relating to the termination of an advisory committee shall not apply to the advisory council established under this section.

**SEC. 1635. [7 U.S.C. 5844] DEFINITIONS AND AUTHORIZATION OF APPROPRIATIONS.**

(a) DEFINITIONS.—For purposes of this subtitle:

(1) The term “program” means the National Genetic Resources Program.

(2) The term “Secretary” means the Secretary of Agriculture.

(3) The term “Director” means the Director of the National Genetic Resources Program.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such funds as may be necessary to carry out this subtitle for each of the fiscal years 1991 through 2012.

## Subtitle D—National Agricultural Weather Information System

### SEC. 1637. [7 U.S.C. 5851] SHORT TITLE AND PURPOSES.

(a) SHORT TITLE.—This subtitle may be cited as the “National Agricultural Weather Information System Act of 1990”.

(b) PURPOSES.—The purposes of this subtitle are—

(1) to provide a nationally coordinated agricultural weather information system, based on the participation of universities, State programs, Federal agencies, and the private weather consulting sector, and aimed at meeting the weather and climate information needs of agricultural producers;

(2) to facilitate the collection, organization, and dissemination of advisory weather and climate information relevant to agricultural producers, through the participation of the private sector and otherwise;

(3) to provide for research and education on agricultural weather and climate information, aimed at improving the quality and quantity of weather and climate information available to agricultural producers, including research on short-term forecasts of thunderstorms and on extended weather forecasting techniques and models;

(4) to encourage, where feasible, greater private sector participation in providing agricultural weather and climate information, to encourage private sector participation in educating and training farmers and others in the proper utilization of agricultural weather and climate information, and to strengthen their ability to provide site-specific weather forecasting for farmers and the agricultural sector in general; and

(5) to ensure that the weather and climate data bases needed by the agricultural sector are of the highest scientific accuracy and thoroughly documented, and that such data bases are easily accessible for remote computer access.

### SEC. 1638. [7 U.S.C. 5852] AGRICULTURAL WEATHER OFFICE.

(a) ESTABLISHMENT OF THE OFFICE AND ADMINISTRATION OF THE SYSTEM.—

(1) ESTABLISHMENT REQUIRED.—The Secretary of Agriculture shall establish in the Department of Agriculture an Agricultural Weather Office to plan and administer the National Agricultural Weather Information System. The system shall be comprised of the office established under this section and the activities of the State agricultural weather information systems described in section 1640.

(2) DIRECTOR.—The Secretary shall appoint a Director to manage the activities of the Agricultural Weather Office and to advise the Secretary on scientific and programmatic coordination for climate, weather, and remote sensing.

(b) AUTHORITY.—The Secretary, acting through the Office, may undertake the following activities to carry out this subtitle:

(1) Enter into cooperative projects with the National Weather Service to—

(A) support operational weather forecasting and observation useful in agriculture;

(B) sponsor joint workshops to train agriculturalists about the optimum utilization of agricultural weather and climate data;

(C) jointly develop improved computer models and computing capacity; and

(D) enhance the quality and availability of weather and climate information needed by agriculturalists.

(2) Obtain standardized weather observation data collected in near real time through State agricultural weather information systems.

(3) Make, through the ~~Cooperative State Research Service~~ *National Institute of Food and Agriculture*<sup>1638-1</sup>, competitive grants under subsection (c) for research in atmospheric sciences and climatology.

(4) Make grants to eligible States under section 1640 to plan and administer State agricultural weather information systems.

(5) Coordinate the activities of the Office with the weather and climate research activities of the ~~Cooperative State Research Service~~ *the National Institute of Food and Agriculture*<sup>1638-1</sup>, the National Academy of Sciences, the National Science Foundation Atmospheric Services Program, and the National Climate Program.

(6) Encourage private sector participation in the National Agricultural Weather Information System through mutually beneficial cooperation with the private sector, particularly in generating weather and climatic data useful for site-specific agricultural weather forecasting.

(c) COMPETITIVE GRANTS PROGRAM.—

(1) GRANTS AUTHORIZED.—With funds allocated to carry out this subsection, the Secretary of Agriculture may make grants

<sup>1638-1</sup> Effective October 1, 2009, sec. 7511(c)(18) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends paragraphs (3) and (5) by striking “Cooperative State Research Service” both places it appears and inserting “National Institute of Food and Agriculture”.

to State agricultural experiment stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations and corporations, and individuals to carry out research in all aspects of atmospheric sciences and climatology that can be shown to be important in both a basic and developmental way to understanding, forecasting, and delivering agricultural weather information.

(2) **COMPETITIVE BASIS.**—Grants made under this subsection shall be made on a competitive basis.

(d) **PRIORITY.**—In selecting among applications for grants under subsection (c), the Secretary shall give priority to proposals which emphasize—

(1) techniques and processes that relate to weather-induced agricultural losses, and to improving the advisory information on weather extremes such as drought, floods, freezes, and storms well in advance of their actual occurrence;

(2) the improvement of site-specific weather data collection and forecasting; or

(3) the impact of weather on economic and environmental costs in agricultural production.

【Section 1639 repealed by section 7304(a) of P.L. 107-171, 116 Stat. 455.】

**SEC. 1640. [7 U.S.C. 5854] STATE AGRICULTURAL WEATHER INFORMATION SYSTEMS.**

(a) **ADVISORY PROGRAM GRANTS.**—

(1) **GRANTS REQUIRED.**—With funds allocated to carry out this section, the Secretary of Agriculture shall make grants to not fewer than 10 eligible States to plan and administer, in cooperation with persons described in paragraph (2), advisory programs for State agricultural weather information systems.

(2) **PERSONS DESCRIBED.**—The persons referred to in paragraph (1) are the Director of the Agricultural Weather Office, the Administrator of the Extension Service, the Administrator of the Cooperative State Research Service *the Director of the National Institute of Food and Agriculture*<sup>1640-1</sup>, and other persons as appropriate (such as the directors of the appropriate State agricultural experiment stations and State extension programs).

(b) **CONSULTATION.**—For purposes of selecting among applications submitted by States for grants under this section, the Secretary shall consult with the Director.

<sup>1640-1</sup> Effective October 1, 2009, sec. 7511(c)(19) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “the Administrator of the Extension Service, the Administrator of the Cooperative State Research Service” and inserting “the Director of the National Institute of Food and Agriculture”.

(c) **ELIGIBILITY REQUIREMENTS.**—To be eligible to receive a grant under this section, the chief executive officer of a State shall submit to the Secretary an application that contains—

(1) assurances that the State will expend such grant to plan and administer a State agricultural weather system that will—

(A) collect observational weather data throughout the State and provide such data to the National Weather Service and the Agricultural Weather Office;

(B) develop methods for packaging information received from the national system for use by agricultural producers (with State Cooperative Extension Services and the private sector to serve as the primary conduit of agricultural weather forecasts and climatic information to producers); and

(C) develop programs to educate agricultural producers on how to best use weather and climate information to improve management decisions; and

(2) such other assurances and information as the Secretary may require by rule.

**SEC. 1641. [7 U.S.C. 5855] FUNDING.**

(a) **ALLOCATION OF FUNDS.**—

(1) **COOPERATIVE WORK.**—Not less than 15 percent and not more than 25 percent of the funds appropriated for a fiscal year to carry out this subtitle shall be used for cooperative work with the National Weather Service entered into under section 1638(b)(1).

(2) **COMPETITIVE GRANTS PROGRAM.**—Not less than 15 percent and not more than 25 percent of such funds shall be used by the Cooperative State Research Service *National Institute of Food and Agriculture*<sup>1641-1</sup> for a competitive grants program under section 1638(c).

(3) **WEATHER INFORMATION SYSTEMS.**—Not less than 25 percent and not more than 35 percent of such funds shall be divided equally between the participating States selected for that fiscal year under section 1640.

(4) **OTHER PURPOSES.**—The remaining funds shall be allocated for use by the Agricultural Weather Office and the ~~Extension~~

<sup>1641-1</sup> Effective October 1, 2009, sec. 7511(c)(20)(A) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “Cooperative State Research Service” and inserting “National Institute of Food and Agriculture”.

tion Service *National Institute of Food and Agriculture*<sup>1641-2</sup> in carrying out generally the provisions of this subtitle.

(b) LIMITATIONS ON USE OF FUNDS.—Funds provided under the authority of this subtitle shall not be used for the construction of facilities. Each State or agency receiving funds shall not use more than 30 percent of such funds for equipment purchases. Any use of the funds in facilitating the distribution of agricultural and climate information to producers shall be done with consideration for the role that the private meteorological sector can play in such information delivery.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated \$5,000,000 to carry out this subtitle for each of the fiscal years 2008 through 2012.

【Subtitles E and F repealed April 4, 1996, by sections 861 and 862 of P.L. 104-127, 110 Stat. 1174.】

【Subtitle G (sections 1657-1665) repealed by section 6201(a) of P.L. 107-171, 116 Stat. 418.】

## Subtitle H—Miscellaneous Research Provisions

### SEC. 1668. [7 U.S.C. 5921] BIOTECHNOLOGY RISK ASSESSMENT RESEARCH.

(a) PURPOSE.—It is the purpose of this section—

(1) to authorize and support environmental assessment research to help identify and analyze environmental effects of biotechnology; and

(2) to authorize research to help regulators develop long-term policies concerning the introduction of such technology.

(b) GRANT PROGRAM.—The Secretary of Agriculture shall establish a grant program within the ~~Cooperative State Research, Education, and Extension Service~~ *National Institute of Food and Agriculture*<sup>1668-1</sup> and the Agricultural Research Service to provide the necessary funding for environmental assessment research concerning the in-

<sup>1641-2</sup> Effective October 1, 2009, sec. 7511(c)(20)(B) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “the Cooperative State Research, Education, and Extension Service” and inserting “the National Institute of Food and Agriculture”.

<sup>1668-1</sup> Effective October 1, 2009, sec. 7511(c)(1) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “Cooperative State Research, Education, and Extension Service” and inserting “National Institute of Food and Agriculture”.

roduction of genetically engineered animals, plants, and microorganisms into the environment.

(c) RESEARCH PRIORITIES.—The following types of research shall be given priority for funding:

(1) Research designed to identify and develop appropriate management practices to minimize physical and biological risks associated with genetically engineered animals, plants, and microorganisms.

(2) Research designed to develop methods to monitor the dispersal of genetically engineered animals, plants, and microorganisms.

(3) Research designed to further existing knowledge with respect to the characteristics, rates, and methods of gene transfer that may occur between genetically engineered animals, plants, and microorganisms and related wild and agricultural organisms.

(4) Environmental assessment research designed to provide analysis which compares the relative impacts of animals, plants, and microorganisms modified through genetic engineering to other types of production systems.

(5) Other areas of research designed to further the purposes of this section.

(d) ELIGIBILITY REQUIREMENTS.—Grants under this section shall be—

(1) made on the basis of the quality of the proposed research project; and

(2) available to any public or private research or educational institution or organization.

(e) CONSULTATION.—In considering specific areas of research for funding under this section, the Secretary of Agriculture shall consult with the Administrator of the Animal and Plant Health Inspection Service and the National Agricultural Research, Extension, Education, and Economics Advisory Board.

(f) PROGRAM COORDINATION.—The Secretary of Agriculture shall coordinate research funded under this section with the Office of Research and Development of the Environmental Protection Agency in order to avoid duplication of research activities.

(g) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—There are authorized to be appropriated such sums as necessary to carry out this section.

(2) WITHHOLDINGS FROM BIOTECHNOLOGY OUTLAYS.—The Secretary of Agriculture shall withhold from outlays of the Department of Agriculture for research on biotechnology, as defined and determined by the Secretary, at least 2 percent of

such amount for the purpose of making grants under this section for research on biotechnology risk assessment.

(3) APPLICATION OF FUNDS.—Funds made available under this subsection shall be applied, to the maximum extent practicable, to risk assessment research on all categories identified in subsection (c).

【Section 1669 repealed by section 10705(b) of P.L. 107-171, 116 Stat. 519.】

**SEC. 1670. [7 U.S.C. 5923] RURAL ELECTRONIC COMMERCE EXTENSION PROGRAM.**

(a) DEFINITIONS.—In this section:

(1) DEVELOPMENT CENTER.—The term “development center” means—

(A) the North Central Regional Center for Rural Development;

(B) the Northeast Regional Center for Rural Development or its designee;

(C) the Southern Rural Development Center; and

(D) the Western Rural Development Center or its designee.

(2) EXTENSION PROGRAM.—The term “extension program” means the rural electronic commerce extension program established under subsection (b).

(3) MICROENTERPRISE.—The term “microenterprise” means a commercial enterprise that has 5 or fewer employees, 1 or more of whom own the enterprise.

(4) SECRETARY.—The term “Secretary” means the Secretary of Agriculture, acting through the Administrator of the Cooperative State Research, Education, and Extension Service *the Director of the National Institute of Food and Agriculture*<sup>1670-1</sup>.

(5) SMALL BUSINESS.—The term “small business” has the meaning given the term “small-business concern” by section 3(a) of the Small Business Act (15 U.S.C. 632(a)).

(b) ESTABLISHMENT.—The Secretary shall establish a rural electronic commerce extension program to expand and enhance electronic commerce practices and technology to be used by small businesses and microenterprises in rural areas.

(c) GRANTS.—

(1) IN GENERAL.—The Secretary shall carry out the program established under subsection (b) by making—

<sup>1670-1</sup> Effective October 1, 2009, sec. 7511(c)(22) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “the Administrator of the Cooperative State Research, Education, and Extension Service” and inserting “the Director of the National Institute of Food and Agriculture”.

(A) grants to each of the development centers; and  
(B) competitive grants to land-grant colleges and universities (or consortia of land-grant colleges and universities) and to colleges and universities (including community colleges) with agricultural or rural development programs—

(i) to develop and facilitate innovative rural electronic commerce business strategies; and

(ii) to assist small businesses and microenterprises in identifying, adapting, implementing, and using electronic commerce business practices and technologies.

(2) ELIGIBILITY.—The selection criteria established for grants awarded under paragraph (1)(B) shall include—

(A) the ability of an applicant to provide training and education on best practices, technology transfer, adoption, and use of electronic commerce in rural communities by small businesses and microenterprises;

(B) the extent and geographic diversity of the area served by the proposed project or activity under the extension program;

(C) in the case of a land-grant college or university, the extent of participation of the land-grant college or university in the extension program (including any economic benefits that would result from that participation);

(D) the percentage of funding and in-kind commitments from non-Federal sources that would be needed by and available for a proposed project or activity under the extension program; and

(E) the extent of participation of low-income and minority businesses or microenterprises in a proposed project or activity under the extension program.

(3) NON-FEDERAL SHARE.—

(A) IN GENERAL.—As a condition of the receipt of funds under this section, a development center or grant applicant shall agree to obtain from non-Federal sources (including State, local, nonprofit, or private sector sources) contributions of an amount equal to 50 percent of the grant amount.

(B) FORM.—The non-Federal share required under subparagraph (A) may be provided in the form of in-kind contributions.

(C) EXCEPTION.—The non-Federal share required under subparagraph (A) may be reduced to 25 percent if the grant recipient serves low-income or minority-owned

businesses or microenterprises, as determined by the Secretary.

(d)<sup>1</sup> REPORT.—Not later than 2 years after the date of enactment of this section, the Secretary shall submit to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate a report that describes—

(1) the policies, practices, and procedures used to assist rural communities in efforts to adopt and use electronic commerce techniques; and

(e) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section \$60,000,000 for each of fiscal years 2002 through 2007, of which not less than  $\frac{1}{3}$  of the amount made available for each fiscal year shall be used to carry out activities under subsection (c)(1)(A).

**SEC. 1671. [7 U.S.C. 5924] AGRICULTURAL GENOME INITIATIVE.**

(a) GOALS.—The goals of this section are—

(1) to expand the knowledge of public and private sector entities and persons concerning genomes for species of importance to the food and agriculture sectors in order to maximize the return on the investment in genomics of agriculturally important species;

(2) to focus on the species that will yield scientifically important results that will enhance the usefulness of many agriculturally important species;

(3) to build on genomic research, such as the Human Genome Initiative and the Arabidopsis Genome Project, to understand gene structure and function that is expected to have considerable payoffs in agriculturally important species;

(4) to develop improved bioinformatics to enhance both sequence or structure determination and analysis of the biological function of genes and gene products;

(5) to encourage Federal Government participants to maximize the utility of public and private partnerships for agricultural genome research;

(6) to allow resources developed under this section, including data, software, germplasm, and other biological materials, to be openly accessible to all persons, subject to any confidentiality requirements imposed by law; and

(7) to encourage international partnerships with each partner country responsible for financing its own strategy for agricultural genome research.

<sup>1</sup> Subsection enacted without a paragraph (2).

(b) DUTIES OF SECRETARY.—The Secretary of Agriculture (referred to in this section as the “Secretary”) shall conduct a research initiative (to be known as the “Agricultural Genome Initiative”) for the purpose of—

(1) studying and mapping agriculturally significant genes to achieve sustainable and secure agricultural production;

(2) ensuring that current gaps in existing agricultural genetics knowledge are filled;

(3) identifying and developing a functional understanding of genes responsible for economically important traits in agriculturally important species, including emerging plant and animal pathogens and diseases causing economic hardship;

(4) ensuring future genetic improvement of agriculturally important species;

(5) supporting preservation of diverse germplasm;

(6) ensuring preservation of biodiversity to maintain access to genes that may be of importance in the future;

(7) reducing the economic impact of plant pathogens on commercially important crop plants; and

(8) otherwise carrying out this section.

(c) GRANTS AND COOPERATIVE AGREEMENTS.—

(1) AUTHORITY.—The Secretary may make grants or enter into cooperative agreements with individuals and organizations in accordance with section 1472 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3318).

(2) COMPETITIVE BASIS.—A grant or cooperative agreement under this subsection shall be made or entered into on a competitive basis.

(d) ADMINISTRATION.—Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i) shall apply with respect to the making of a grant or cooperative agreement under this section.

(e) MATCHING OF FUNDS.—

(1) GENERAL REQUIREMENT.—If a grant or cooperative agreement under this section provides a particular benefit to a specific agricultural commodity, the Secretary shall require the recipient to provide funds or in-kind support to match the amount of funds provided by the Secretary under the grant or cooperative agreement.

(2) WAIVER.—The Secretary may waive the matching funds requirement of paragraph (1) with respect to a research project if the Secretary determines that—

(A) the results of the project, while of particular benefit to a specific agricultural commodity, are likely to be applicable to agricultural commodities generally; or

(B) the project involves a minor commodity, the project deals with scientifically important research, and the recipient is unable to satisfy the matching funds requirement.

(f) **CONSULTATION WITH NATIONAL ACADEMY OF SCIENCES.**—The Secretary may use funds made available under this section to consult with the National Academy of Sciences regarding the administration of the Agricultural Genome Initiative.

**SEC. 1672. [7 U.S.C. 5925] HIGH-PRIORITY RESEARCH AND EXTENSION INITIATIVES.**

(a) **COMPETITIVE SPECIALIZED RESEARCH AND EXTENSION GRANTS AUTHORIZED.**—The Secretary of Agriculture (referred to in this section as the “Secretary”) may make competitive grants to support research and extension activities specified in subsections (e) through (i). The Secretary shall make the grants in consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board.

(b) **ADMINISTRATION.**—

(1) **IN GENERAL.**—Except as otherwise provided in this section, paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i) shall apply with respect to the making of grants under this section.

(2) **USE OF TASK FORCES.**—To facilitate the making of research and extension grants under this section in the research and extension areas specified in subsections (e) through (i), the Secretary may appoint a task force for each such area to make recommendations to the Secretary. The Secretary may not incur costs in excess of \$1,000 for any fiscal year in connection with each task force established under this paragraph.

(c) **MATCHING FUNDS REQUIRED.**—

(1) **IN GENERAL.**—The Secretary shall require the recipient of a grant under this section to provide funds or in-kind support from non-Federal sources in an amount at least equal to the amount provided by the Federal Government.

(2) **WAIVER AUTHORITY.**—The Secretary may waive the matching funds requirement specified in paragraph (1) with respect to a research project if the Secretary determines that—

(A) the results of the project, while of particular benefit to a specific agricultural commodity, are likely to be applicable to agricultural commodities generally; or

(B) the project involves a minor commodity, the project deals with scientifically important research, and the grant

recipient is unable to satisfy the matching funds requirement.

(d) PARTNERSHIPS ENCOURAGED.—Following the completion of a peer review process for grant proposals received under this section, the Secretary shall provide a priority to those grant proposals, found in the peer review process to be scientifically meritorious, that involve the cooperation of multiple entities.

(e) HIGH-PRIORITY RESEARCH AND EXTENSION AREAS.—

(1) ETHANOL RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of carrying out or enhancing research on ethanol derived from agricultural crops as an alternative fuel source.

(2) AFLATOXIN RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of identifying, improving, and eventually commercializing, aflatoxin controls in corn and other affected agricultural products and crops.

(3) PRICKLY PEAR RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of investigating enhanced genetic selection and processing techniques of prickly pears.

(4) DEER TICK ECOLOGY RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of studying the population ecology of deer ticks and other insects and pests that transmit Lyme disease.

(5) PEANUT MARKET ENHANCEMENT RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of evaluating the economics of applying innovative technologies for peanut processing in a commercial environment.

(6) DAIRY FINANCIAL RISK MANAGEMENT RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of providing research, development, or education materials, information, and outreach programs regarding risk management strategies for dairy producers and for dairy cooperatives and other processors and marketers of milk.

(7) COTTON RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of improving pest management, fiber quality enhancement, economic assessment, textile production, and optimized production systems for short staple cotton.

(8) METHYL BROMIDE RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of—

(A) developing and evaluating chemical and nonchemical alternatives, and use and emission reduction strategies, for pre-planting and post-harvest uses of methyl bromide; and

(B) transferring the results of the research for use by agricultural producers.

(9) POTATO RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of developing and evaluating new strains of potatoes that are resistant to blight and other diseases, as well as insects. Emphasis may be placed on developing potato varieties that lend themselves to innovative marketing approaches.

(10) WOOD USE RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of developing new uses for wood from underused tree species as well as investigating methods of modifying wood and wood fibers to produce better building materials.

(11) WETLANDS USE RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of better use of wetlands in diverse ways to provide various economic, agricultural, and environmental benefits.

(12) FOOD SAFETY, INCLUDING PATHOGEN DETECTION AND LIMITATION, RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of increasing food safety, including the identification of advanced detection and processing methods to limit the presence of pathogens (including hepatitis A and E. coli 0157:H7) in domestic and imported foods.

(13) FINANCIAL RISK MANAGEMENT RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of providing research, development, or education materials, information, and outreach programs regarding financial risk management strategies for agricultural producers and for cooperatives and other processors and marketers of any agricultural commodity.

(14) ORNAMENTAL TROPICAL FISH RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of meeting the needs of commercial producers of ornamental tropical fish and aquatic plants for improvements in the areas of fish reproduction, health, nutrition, predator control, water use, water quality control, and farming technology.

(15) GYPSY MOTH RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of developing biological control, management, and

eradication methods against nonnative insects, including *Lymantria dispar* (commonly known as the “gypsy moth”), that contribute to significant agricultural, economic, or environmental harm.

(16) TOMATO SPOTTED WILT VIRUS RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of control, management, and eradication of tomato spotted wilt virus.

(17) GENETICALLY MODIFIED AGRICULTURE PRODUCTS (GMAP) RESEARCH.—Research grants may be made under this section for the purposes of providing unbiased, science-based evaluation of the risks and benefits to the public and the environment of specific genetically modified plant and animal products. Grants may be used to form interdisciplinary teams to review and conduct research on scientific, social, economic, and ethical issues during the review process, to answer questions raised by the release of new genetically modified agriculture products, to conduct fundamental studies on the health and environmental safety of genetically modified agriculture products (including quantitative risk assessment, the effect of specific genetically modified agriculture products on human health, and gene flow studies), to communicate the risk of genetically modified agriculture products through extension and education programs, and to engage the public and industry in relevant issues.

(18) LAND USE MANAGEMENT RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purposes of evaluating the environmental benefits of land use management tools such as those provided in the Farmland Protection Program.

(19) WATER AND AIR QUALITY RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of better understanding agricultural impacts to air and water quality and means to address them.

(20) REVENUE AND INSURANCE TOOLS RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purposes of better understanding the impact of revenue and insurance tools on farm income.

(21) AGROTOURISM RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of better understanding the economic, environmental, and food systems impacts of agrotourism.

(22) NITROGEN-FIXATION BY PLANTS.—Research and extension grants may be made under this section for the purpose of enhancing the nitrogen-fixing ability and efficiency of legumes, developing new varieties of legumes that fix nitrogen more effi-

ciently, and developing new varieties of other commercially important crops that potentially are able to fix nitrogen.

(23) ENVIRONMENT AND PRIVATE LANDS RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of researching the use of computer models to aid in assessment of best management practices on a watershed basis, working with government, industry, and private landowners to help craft industry-led solutions to identified environmental issues, researching and monitoring water, air, or soil environmental quality to aid in the development of new approaches to local environmental concerns, and working with local, State, and federal officials to help craft effective environmental solutions that respect private property rights and agricultural production realities.

(24) LIVESTOCK DISEASE RESEARCH AND EXTENSION.—Research and extension grants may be made under this section for the purpose of identifying possible livestock disease threats, educating the public regarding livestock disease threats, training persons to deal with such threats, and conducting related research.

(25) PLANT GENE EXPRESSION.—Research grants may be made under this section for the purpose of plant gene expression research to accelerate the application of basic plant genomic science to the development and testing of new varieties of enhanced food crops, crops that can be used as renewable energy sources, and other alternative uses of agricultural crops.

(26) ANIMAL INFECTIOUS DISEASES RESEARCH.—Research and extension grants may be made under this section for the purpose of developing prevention and control methodologies for animal infectious diseases (including evaluation under field conditions in countries in which an animal disease occurs) such as laboratory tests for quicker detection of infected animals and presence of disease, prevention strategies (including vaccination programs), and rapid diagnostic techniques for animal disease agents considered to be risks for agricultural bioterrorism attack.

(27) PROGRAM TO COMBAT CHILDHOOD OBESITY.—Research and extension grants may be made under this section to institutions of higher education with demonstrated capacity in basic and clinical obesity research, nutrition research, and community health education research to develop and evaluate community-wide strategies that catalyze partnerships between families and health care, education, recreation, mass media, and other community resources to reduce the incidence of childhood obesity.

(28) INTEGRATED PEST MANAGEMENT.—Research and extension grants may be made under this section to coordinate and improve research, education, and outreach on, and implementation on farms of, integrated pest management.

(29) SUGARCANE GENETICS.—Research grants may be made under this section for the purpose of maintaining acceptable yields under reduced production inputs, implementing marker-assisted breeding strategies and other basic plant genomic technologies to screen for improved plant resistance to diseases, weeds, and insects toward minimizing pesticide use, enhancing food, fiber and energy production, and developing varieties for maximum performance under prevailing conditions, including management for improved soil and water conservation.

(30) AIR EMISSIONS FROM LIVESTOCK OPERATIONS.—Research and extension grants may be made under this section for the purpose of conducting field verification tests and developing mitigation options for air emissions from animal feeding operations.

(31) SWINE GENOME PROJECT.—Research grants may be made under this section to conduct swine genome research, including the mapping of the swine genome.

(32) CATTLE FEVER TICK PROGRAM.—Research and extension grants may be made under this section to study cattle fever ticks to facilitate understanding of the role of wildlife in the persistence and spread of cattle fever ticks, to develop advanced methods for eradication of cattle fever ticks, and to improve management of diseases relating to cattle fever ticks that are associated with wildlife, livestock, and human health.

(33) SYNTHETIC GYPSUM.—Research and extension grants may be made under this section to study the uses of synthetic gypsum from electric power plants to remediate soil and nutrient losses.

(34) CRANBERRY RESEARCH PROGRAM.—Research and extension grants may be made under this section to study new technologies to assist cranberry growers in complying with Federal and State environmental regulations, increase production, develop new growing techniques, establish more efficient growing methodologies, and educate cranberry producers about sustainable growth practices.

(35) SORGHUM RESEARCH INITIATIVE.—Research and extension grants may be made under this section to study the use of sorghum as a bioenergy feedstock, promote diversification in, and the environmental benefits of sorghum production, and promote water conservation through the use of sorghum.

(36) MARINE SHRIMP FARMING PROGRAM.—Research and extension grants may be made under this section to establish a research program to advance and maintain a domestic shrimp farming industry in the United States.

(37) TURFGRASS RESEARCH INITIATIVE.—Research and extension grants may be made under this section to study the production of turfgrass (including the use of water, fertilizer, pesticides, fossil fuels, and machinery for turf establishment and maintenance) and environmental protection and enhancement relating to turfgrass production.

(38) AGRICULTURAL WORKER SAFETY RESEARCH INITIATIVE.—Research and extension grants may be made under this section—

(A) to study and demonstrate methods to minimize exposure of farm and ranch owners and operators, pesticide handlers, and agricultural workers to pesticides, including research addressing the unique concerns of farm workers resulting from long-term exposure to pesticides; and

(B) to develop rapid tests for on-farm use to better inform and educate farmers, ranchers, and farm and ranch workers regarding safe field re-entry intervals.

(39) HIGH PLAINS AQUIFER REGION.—Research and extension grants may be made under this section to carry out interdisciplinary research relating to diminishing water levels and increased demand for water in the High Plains aquifer region.

(40) DEER INITIATIVE.—Research and extension grants may be made under this section to support collaborative research focusing on the development of viable strategies for the prevention, diagnosis, and treatment of infectious, parasitic, and toxic diseases of farmed deer and the mapping of the deer genome.

(41) PASTURE-BASED BEEF SYSTEMS RESEARCH INITIATIVE.—Research and extension grants may be made under this section to study the development of forage sequences and combinations for cow-calf, heifer development, stocker, and finishing systems, to deliver optimal nutritive value for efficient production of cattle for pasture finishing, to optimize forage systems to improve marketability of pasture-finished beef, and to assess the effect of forage quality on reproductive fitness.

(42) AGRICULTURAL PRACTICES RELATING TO CLIMATE CHANGE.—Research and extension grants may be made under this section for field and laboratory studies that examine the ecosystem from gross to minute scales and for projects that explore the relationship of agricultural practices to climate change.

(43) BRUCELLOSIS CONTROL AND ERADICATION.—Research and extension grants may be made under this section to conduct research relating to the development of vaccines and vaccine delivery systems to effectively control and eliminate brucellosis in wildlife, and to assist with the controlling of the spread of brucellosis from wildlife to domestic animals.

(44) BIGHORN AND DOMESTIC SHEEP DISEASE MECHANISMS.—Research and extension grants may be made under this section to conduct research relating to the health status of (including the presence of infectious diseases in) bighorn and domestic sheep under range conditions.

(45) AGRICULTURAL DEVELOPMENT IN THE AMERICAN-PACIFIC REGION.—Research and extension grants may be made under this section to support food and agricultural science at a consortium of land-grant institutions in the American-Pacific region.

(46) TROPICAL AND SUBTROPICAL AGRICULTURAL RESEARCH.—Research grants may be made under this section, in equal dollar amounts to the Caribbean and Pacific Basins, to support tropical and subtropical agricultural research, including pest and disease research, at the land-grant institutions in the Caribbean and Pacific regions.

(47) VIRAL HEMORRHAGIC SEPTICEMIA.—Research and extension grants may be made under this section to study—

(A) the effects of viral hemorrhagic septicemia (referred to in this paragraph as “VHS”) on freshwater fish throughout the natural and expanding range of VHS; and

(B) methods for transmission and human-mediated transport of VHS among waterbodies.

(48) FARM AND RANCH SAFETY.—Research and extension grants may be made under this section to carry out projects to decrease the incidence of injury and death on farms and ranches, including—

(A) on-site farm or ranch safety reviews;

(B) outreach and dissemination of farm safety research and interventions to agricultural employers, employees, youth, farm and ranch families, seasonal workers, or other individuals; and

(C) agricultural safety education and training.

(49) WOMEN AND MINORITIES IN STEM FIELDS.—Research and extension grants may be made under this section to increase participation by women and underrepresented minorities from rural areas in the fields of science, technology, engineering, and mathematics, with priority given to eligible institu-

tions that carry out continuing programs funded by the Secretary.

(50) ALFALFA AND FORAGE RESEARCH PROGRAM.—Research and extension grants may be made under this section for the purpose of studying improvements in alfalfa and forage yields, biomass and persistence, pest pressures, the bioenergy potential of alfalfa and other forages, and systems to reduce losses during harvest and storage.

(51) FOOD SYSTEMS VETERINARY MEDICINE.—Research grants may be made under this section to address health issues that affect food-producing animals, food safety, and the environment, and to improve information resources, curriculum, and clinical education of students with respect to food animal veterinary medicine and food safety.

(52) BIOCHAR RESEARCH.—Grants may be made under this section for research, extension, and integrated activities relating to the study of biochar production and use, including considerations of agronomic and economic impacts, synergies of co-production with bioenergy, and the value of soil enhancements and soil carbon sequestration.

(f) IMPORTED FIRE ANT CONTROL, MANAGEMENT, AND ERADICATION.—

(1) TASK FORCE.—The Secretary shall establish a task force pursuant to subsection (b)(2) regarding the control, management, and eradication of imported fire ants. The Secretary shall solicit and evaluate grant proposals under this subsection in consultation with the task force.

(2) INITIAL GRANTS.—

(A) REQUEST FOR PROPOSALS.—The Secretary shall publish a request for proposals for grants for research or demonstration projects related to the control, management, and possible eradication of imported fire ants.

(B) SELECTION.—Not later than 1 year after the date of publication of the request for proposals, the Secretary shall evaluate the grant proposals submitted in response to the request and may select meritorious research or demonstration projects related to the control, management, and possible eradication of imported fire ants to receive an initial grant under this subsection.

(3) SUBSEQUENT GRANTS.—

(A) EVALUATION OF INITIAL GRANTS.—If the Secretary awards grants under paragraph (2)(B), the Secretary shall evaluate all of the research or demonstration projects conducted under the grants for their use as the basis of a national plan for the control, management, and possible

eradication of imported fire ants by the Federal Government, State and local governments, and owners and operators of land.

(B) SELECTION.—On the basis of the evaluation under subparagraph (A), the Secretary may select the projects that the Secretary considers most promising for additional research or demonstration related to preparation of a national plan for the control, management, and possible eradication of imported fire ants. The Secretary shall notify the task force of the projects selected under this subparagraph.

(4) SELECTION AND SUBMISSION OF NATIONAL PLAN.—

(A) EVALUATION OF SUBSEQUENT GRANTS.—If the Secretary awards grants under paragraph (3)(B), the Secretary shall evaluate all of the research or demonstration projects conducted under the grants for use as the basis of a national plan for the control, management, and possible eradication of imported fire ants by the Federal Government, State and local governments, and owners and operators of land.

(B) SELECTION.—On the basis of the evaluation under subparagraph (A), the Secretary shall select 1 project funded under paragraph (3)(B), or a combination of those projects, for award of a grant for final preparation of the national plan.

(C) SUBMISSION.—The Secretary shall submit to Congress the final national plan prepared under subparagraph (B) for the control, management, and possible eradication of imported fire ants.

(g) FORMOSAN TERMITE RESEARCH AND ERADICATION.—

(1) RESEARCH PROGRAM.—The Secretary may make competitive research grants under this subsection to regional and multijurisdictional entities, local government planning organizations, and local governments for the purpose of conducting research for the control, management, and possible eradication of Formosan termites in the United States.

(2) ERADICATION PROGRAM.—The Secretary may enter into cooperative agreements with regional and multijurisdictional entities, local government planning organizations, and local governments for the purposes of—

(A) conducting projects for the control, management, and possible eradication of Formosan termites in the United States; and

(B) collecting data on the effectiveness of the projects.

(3) FUNDING PRIORITY.—In allocating funds made available to carry out paragraph (2), the Secretary shall provide a higher priority for regions or locations with the highest historical rates of infestation of Formosan termites.

(4) MANAGEMENT COORDINATION.—The program management of research grants, cooperative agreements, and projects under this subsection shall be conducted under existing authority in coordination with the national formosan<sup>1</sup> termite management and research demonstration program conducted by the Agricultural Research Service.

(h) POLLINATOR PROTECTION.—

(1) RESEARCH AND EXTENSION.—

(A) GRANTS.—Research and extension grants may be made under this section—

(i) to survey and collect data on bee colony production and health;

(ii) to investigate pollinator biology, immunology, ecology, genomics, and bioinformatics;

(iii) to conduct research on various factors that may be contributing to or associated with colony collapse disorder, and other serious threats to the health of honey bees and other pollinators, including—

(I) parasites and pathogens of pollinators; and

(II) the sublethal effects of insecticides, herbicides, and fungicides on honey bees and native and managed pollinators;

(iv) to develop mitigative and preventative measures to improve native and managed pollinator health; and

(v) to promote the health of honey bees and native pollinators through habitat conservation and best management practices.

(B) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this paragraph \$10,000,000 for each of fiscal years 2008 through 2012.

(2) DEPARTMENT OF AGRICULTURE CAPACITY AND INFRASTRUCTURE.—

(A) IN GENERAL.—The Secretary shall, to the maximum extent practicable, increase the capacity and infrastructure of the Department—

(i) to address colony collapse disorder and other long-term threats to pollinator health, including the hiring of additional personnel; and

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<sup>1</sup> So in law. Should probably be capitalized.

(ii) to conduct research on colony collapse disorder and other pollinator issues at the facilities of the Department.

(B) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this paragraph \$7,250,000 for each of fiscal years 2008 through 2012.

(3) HONEY BEE PEST AND PATHOGEN SURVEILLANCE.—There is authorized to be appropriated to conduct a nationwide honey bee pest and pathogen surveillance program \$2,750,000 for each of fiscal years 2008 through 2012.

(4) ANNUAL REPORT ON RESPONSE TO HONEY BEE COLONY COLLAPSE DISORDER.—The Secretary shall submit to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate an annual report describing the progress made by the Department of Agriculture in—

(A) investigating the cause or causes of honey bee colony collapse; and

(B) finding appropriate strategies to reduce colony loss.

(i) REGIONAL CENTERS OF EXCELLENCE.—

(1) ESTABLISHMENT.—The Secretary shall prioritize regional centers of excellence established for specific agricultural commodities for the receipt of funding under this section.

(2) COMPOSITION.—A regional center of excellence shall be composed of 1 or more colleges and universities (including land-grant institutions, schools of forestry, schools of veterinary medicine, or NLGCA Institutions (as defined in section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103))) that provide financial support to the regional center of excellence.

(3) CRITERIA FOR REGIONAL CENTERS OF EXCELLENCE.—The criteria for consideration to be a regional center of excellence shall include efforts—

(A) to ensure coordination and cost-effectiveness by reducing unnecessarily duplicative efforts regarding research, teaching, and extension;

(B) to leverage available resources by using public/private partnerships among agricultural industry groups, institutions of higher education, and the Federal Government;

(C) to implement teaching initiatives to increase awareness and effectively disseminate solutions to target audiences through extension activities;

(D) to increase the economic returns to rural communities by identifying, attracting, and directing funds to high-priority agricultural issues; and

(E) to improve teaching capacity and infrastructure at colleges and universities (including land-grant institutions, schools of forestry, and schools of veterinary medicine).

(j) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section for each of fiscal years 1999 through 2012.

**SEC. 1672A. [7 U.S.C. 5925a] NUTRIENT MANAGEMENT RESEARCH AND EXTENSION INITIATIVE.**

(a) COMPETITIVE RESEARCH AND EXTENSION GRANTS AUTHORIZED.—The Secretary of Agriculture (referred to in this section as the “Secretary”) may make competitive grants to support research and extension activities specified in subsection (e). The Secretary shall make the grants in consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board.

(b) ADMINISTRATION.—

(1) IN GENERAL.—Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i) shall apply with respect to the making of grants under this section.

(2) USE OF TASK FORCES.—To facilitate the making of research and extension grants under this section in the research and extension areas specified in subsection (e), the Secretary may appoint a task force for each such area to make recommendations to the Secretary. The Secretary may not incur costs in excess of \$1,000 for any fiscal year in connection with each task force established under this paragraph.

(c) MATCHING FUNDS REQUIRED.—

(1) IN GENERAL.—The Secretary shall require the recipient of a grant under this section to provide funds or in-kind support from non-Federal sources in an amount at least equal to the amount provided by the Federal Government.

(2) WAIVER AUTHORITY.—The Secretary may waive the matching funds requirement specified in paragraph (1) with respect to a research project if the Secretary determines that—

(A) the results of the project, while of particular benefit to a specific agricultural commodity, are likely to be applicable to agricultural commodities generally; or

(B) the project involves a minor commodity, the project deals with scientifically important research, and the grant recipient is unable to satisfy the matching funds requirement.

(d) PRIORITY.—Following the completion of a peer review process for grant proposals received under this section, the Secretary shall give priority to those grant proposals that involve—

(1) the cooperation of multiple entities; and

(2) States or regions with a high concentration of livestock, dairy, or poultry operations.

(e) NUTRIENT MANAGEMENT RESEARCH AND EXTENSION AREAS.—

(1) ANIMAL WASTE AND ODOR MANAGEMENT.—Research and extension grants may be made under this section for the purpose of—

(A) identifying, evaluating, and demonstrating innovative technologies for animal waste management and related air quality management and odor control;

(B) investigating the unique microbiology of specific animal wastes, such as swine waste and dairy and beef cattle waste, to develop improved methods to effectively manage air and water quality; and

(C) conducting information workshops to disseminate the results of the research.

(2) WATER QUALITY AND AQUATIC ECOSYSTEMS.—Research and extension grants may be made under this section for the purpose of investigating the impact on aquatic food webs, especially commercially important aquatic species and their habitats, of microorganisms of the genus *Pfiesteria* and other microorganisms that are a threat to human or animal health.

(3) RURAL AND URBAN INTERFACE.—Research and extension grants may be made under this section for the purpose of identifying, evaluating, and demonstrating innovative technologies to be used for animal waste management (including odor control) in rural areas adjacent to urban or suburban areas in connection with waste management activities undertaken in urban or suburban areas.

(4) ANIMAL FEED.—Research and extension grants may be made under this section for the purpose of maximizing nutrition management for livestock, while limiting risks, such as mineral bypass, associated with livestock feeding practices.

(5) ALTERNATIVE USES AND RENEWABLE ENERGY.—Research and extension grants may be made under this section for the purpose of finding innovative methods and technologies to allow agricultural operators to make use of animal waste, such as use as fertilizer, methane digestion, composting, and other useful byproducts.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section for each of fiscal years 1999 through 2012.

**SEC. 1672B. [7 U.S.C. 5925b] ORGANIC AGRICULTURE RESEARCH AND EXTENSION INITIATIVE.**

(a) COMPETITIVE SPECIALIZED RESEARCH AND EXTENSION GRANTS AUTHORIZED.—In consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board, the Secretary of Agriculture (referred to in this section as the “Secretary”) may make competitive grants to support research and extension activities regarding organically grown and processed agricultural commodities for the purposes of—

(1) facilitating the development of organic agriculture production, breeding, and processing methods;

(2) evaluating the potential economic benefits to producers and processors who use organic methods;

(3) exploring international trade opportunities for organically grown and processed agricultural commodities;

(4) determining desirable traits for organic commodities;

(5) identifying marketing and policy constraints on the expansion of organic agriculture;

(6) conducting advanced on-farm research and development that emphasizes observation of, experimentation with, and innovation for working organic farms, including research relating to production and marketing and to socioeconomic conditions;

(7) examining optimal conservation and environmental outcomes relating to organically produced agricultural products; and

(8) developing new and improved seed varieties that are particularly suited for organic agriculture.

(b) GRANT TYPES AND PROCESS, PROHIBITION ON CONSTRUCTION.—Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i) shall apply with respect to the making of grants under this section.

(c) MATCHING FUNDS REQUIRED.—

(1) IN GENERAL.—The Secretary shall require the recipient of a grant under this section to provide funds or in-kind support from non-Federal sources in an amount at least equal to the amount provided by the Federal Government.

(2) WAIVER AUTHORITY.—The Secretary may waive the matching funds requirement specified in paragraph (1) with respect to a research project if the Secretary determines that—

(A) the results of the project, while of particular benefit to a specified agricultural commodity, are likely to be applicable to agricultural commodities generally; or

(B) the project involves a minor commodity, the project deals with scientifically important research, and the grant recipient is unable to satisfy the matching funds requirement.

(d) **PARTNERSHIPS ENCOURAGED.**—Following the completion of a peer review process for grant proposals received under this section, the Secretary may provide a priority to those grant proposals, found in the peer review process to be scientifically meritorious, that involve the cooperation of multiple entities.

(e) **FUNDING.**—On October 1, 2003, and each October 1 thereafter through October 1, 2007, out of any funds in the Treasury not otherwise appropriated, the Secretary of the Treasury shall transfer \$3,000,000 to the Secretary of Agriculture for this section.

(f) **FUNDING.**—

(1) **IN GENERAL.**—Of the funds of the Commodity Credit Corporation, the Secretary shall make available to carry out this section—

(A) \$18,000,000 for fiscal year 2009; and

(B) \$20,000,000 for each of fiscal years 2010 through 2012.

(2) **ADDITIONAL FUNDING.**—In addition to amounts made available under paragraph (1), there is authorized to be appropriated to carry out this section \$25,000,000 for each of fiscal years 2009 through 2012.

**SEC. 1672C. [7 U.S.C. 5925E] AGRICULTURAL BIOENERGY FEEDSTOCK AND ENERGY EFFICIENCY RESEARCH AND EXTENSION INITIATIVE.**

(a) **ESTABLISHMENT AND PURPOSE.**—There is established within the Department of Agriculture an agricultural bioenergy feedstock and energy efficiency research and extension initiative (referred to in this section as the “Initiative”) for the purpose of enhancing the production of biomass energy crops and the energy efficiency of agricultural operations.

(b) **COMPETITIVE RESEARCH AND EXTENSION GRANTS AUTHORIZED.**—In carrying out this section, the Secretary shall make competitive grants to support research and extension activities specified in subsections (c) and (d).

(c) **AGRICULTURAL BIOENERGY FEEDSTOCK RESEARCH AND EXTENSION AREAS.**—

(1) **IN GENERAL.**—Agricultural bioenergy feedstock research and extension activities funded under the Initiative shall focus

on improving agricultural biomass production, biomass conversion in biorefineries, and biomass use by—

(A) supporting on-farm research on crop species, nutrient requirements, management practices, environmental impacts, and economics;

(B) supporting the development and operation of on-farm, integrated biomass feedstock production systems;

(C) leveraging the broad scientific capabilities of the Department of Agriculture and other entities in—

(i) plant genetics and breeding;

(ii) crop production;

(iii) soil and water science;

(iv) use of agricultural waste; and

(v) carbohydrate, lipid, protein, and lignin chemistry, enzyme development, and biochemistry; and

(D) supporting the dissemination of any of the research conducted under this subsection that will assist in achieving the goals of this section.

(2) **SELECTION CRITERIA.**—In selecting grant recipients for projects under paragraph (1), the Secretary shall consider—

(A) the capabilities and experiences of the applicant, including—

(i) research in actual field conditions; and

(ii) engineering and research knowledge relating to biofuels or the production of inputs for biofuel production;

(B) the range of species types and cropping practices proposed for study (including species types and practices studied using side-by-side comparisons of those types and practices);

(C) the need for regional diversity among feedstocks;

(D) the importance of developing multiyear data relevant to the production of biomass feedstock crops;

(E) the extent to which the project involves direct participation of agricultural producers;

(F) the extent to which the project proposal includes a plan or commitment to use the biomass produced as part of the project in commercial channels; and

(G) such other factors as the Secretary may determine.

(d) **ENERGY-EFFICIENCY RESEARCH AND EXTENSION AREAS.**—On-farm energy-efficiency research and extension activities funded under the Initiative shall focus on developing and demonstrating technologies and production practices relating to—

(1) improving on-farm renewable energy production;

(2) encouraging efficient on-farm energy use;

- (3) promoting on-farm energy conservation;
- (4) making a farm or ranch energy-neutral; and
- (5) enhancing on-farm usage of advanced technologies to promote energy efficiency.

(e) **BEST PRACTICES DATABASE.**—The Secretary shall develop a best-practices database that includes information, to be available to the public, on—

- (1) the production potential of a variety of biomass crops; and

- (2) best practices for production, collection, harvesting, storage, and transportation of biomass crops to be used as a source of bioenergy.

(f) **ADMINISTRATION.**—

(1) **IN GENERAL.**—Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) shall apply with respect to making grants under this section.

(2) **CONSULTATION AND COORDINATION.**—The Secretary shall—

(A) make the grants in consultation with the National Agricultural Research, Extension, Education, and Economics Advisory Board; and

(B) coordinate projects and activities carried out under the Initiative with projects and activities under section 9008 of the Farm Security and Rural Investment Act of 2002 to ensure, to the maximum extent practicable, that—

(i) unnecessary duplication of effort is eliminated or minimized; and

(ii) the respective strengths of the Department of Agriculture and the Department of Energy are appropriately used.

(3) **GRANT PRIORITY.**—The Secretary shall give priority to grant applications that integrate research and extension activities established under subsections (c) and (d), respectively.

(4) **MATCHING FUNDS REQUIRED.**—As a condition of receiving a grant under this section, the Secretary shall require the recipient of the grant to provide funds or in-kind support from non-Federal sources in an amount that is at least equal to the amount provided by the Federal Government.

(5) **PARTNERSHIPS ENCOURAGED.**—Following the completion of a peer review process for grant proposals received under this section, the Secretary may provide a priority to those grant proposals found as a result of the peer review process—

(A) to be scientifically meritorious; and

(B) that involve cooperation—

- (i) among multiple entities; and
- (ii) with agricultural producers.

(g) **AUTHORIZATION OF APPROPRIATIONS.**—There is authorized to be appropriated to carry out this section \$50,000,000 for each of fiscal years 2008 through 2012.

**SEC. 1672D. [7 U.S.C. 5925f] FARM BUSINESS MANAGEMENT.**

(a) **IN GENERAL.**—The Secretary may make competitive research and extension grants for the purpose of—

- (1) improving the farm management knowledge and skills of agricultural producers; and
- (2) establishing and maintaining a national, publicly available farm financial management database to support improved farm management.

(b) **SELECTION CRITERIA.**—In allocating funds made available to carry out this section, the Secretary may give priority to grants that—

- (1) demonstrate an ability to work directly with agricultural producers;
- (2) collaborate with farm management and producer associations;
- (3) address the farm management needs of a variety of crops and regions of the United States; and
- (4) use and support the national farm financial management database.

(c) **ADMINISTRATION.**—Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of the Competitive, Special, and Facilities Research Grant Act (7 U.S.C. 450i(b)) shall apply with respect to the making of grants under this section.

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated such sums as are necessary to carry out this section.

【Section 1673 repealed May 22, 2008, P.L. 110-246, 122 Stat. 2003.】

【Section 1674 repealed April 4, 1996, P.L. 104-127, 110 Stat. 1174.】

【Section 1675 repealed June 23, 1998, by section 302(c) of P.L. 105-185, 112 Stat. 563.】

**SEC. 1676. [7 U.S.C. 5929] RED MEAT SAFETY RESEARCH CENTER.**

(a) **ESTABLISHMENT OF CENTER.**—The Secretary of Agriculture shall award a grant, on a competitive basis, to a research facility described in subsection (b) to establish a red meat safety research center.

(b) **ELIGIBLE RESEARCH FACILITY DESCRIBED.**—A research facility eligible for a grant under subsection (a) is a research facility that—

(1) is part of a land-grant college or university, or other federally supported agricultural research facility, located in close proximity to a livestock slaughter and processing facility; and

(2) is staffed by professionals with a wide diversity of scientific expertise covering all aspects of meat science.

(c) **RESEARCH CONDUCTED.**—The red meat safety research center established under subsection (a) shall carry out research related to general food safety, including—

(1) the development of intervention strategies that reduce microbiological contamination of carcass surfaces;

(2) research regarding microbiological mapping of carcass surfaces; and

(3) the development of model hazard analysis and critical control point plans.

(d) **ADMINISTRATION OF FUNDS.**—The Secretary of Agriculture shall administer funds appropriated to carry out this section.

(e) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated such sums as are necessary for fiscal year 1997 to carry out this section.

**SEC. 1677. [7 U.S.C. 5930] RESERVATION EXTENSION AGENTS.**

(a) **ESTABLISHMENT.**—The Secretary of Agriculture, acting through the ~~Extension Service~~ *National Institute of Food and Agriculture*<sup>1677-1</sup>, shall establish appropriate extension education programs on Indian reservations and tribal jurisdictions. In establishing these extension programs, the Secretary shall consult with the Bureau of Indian Affairs, the Intertribal Agriculture Council, and the Southwest Indian Agriculture Association, and shall make such interagency cooperative agreements or memoranda of understanding as may be necessary. The programs to be developed and delivered on reservations and within tribal jurisdictions shall be determined with the advice and counsel of reservation or tribal program advisory committees.

(b) **ADMINISTRATION AND MANAGEMENT.**—Extension agents shall be employees of, and administratively responsible to, the Cooperative Extension Service of the State within which the reservation or tribal jurisdiction is located, and employment and personnel management responsibilities shall be vested with the State Cooper-

<sup>1677-1</sup> Effective October 1, 2009, sec. 7511(c)(23) of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246; 122 Stat. 2028) amends this paragraph by striking “Extension Service” and inserting “National Institute of Food and Agriculture”.

ative Extension Service. In cases where a reservation or tribal jurisdiction is located in two or more States, the Secretary of Agriculture shall make the determination of administrative responsibility, including possible divisions along State boundaries.

(c) **ADVISORY COMMITTEES.**—At the request of a State Extension Director, and with the assistance of the tribal authorities, the Secretary of Agriculture may form an advisory committee to give overall policy and program advice to that State Extension Director with regard to programs conducted on reservations or within tribal jurisdictions. Program advisory committees may be formed to assist extension staff in development and conduct of program activities.

(d) **STAFFING.**—Insofar as possible, agent and specialist staff shall include individuals representative of the tribal grouping being served. Programs shall emphasize training and employment of local people in positions such as program aides, master gardeners, and volunteers. Staffing at a particular location shall be dependent on the needs and priorities of that location, as identified by the advisory committees and the State Extension Director, and the Director may make use of existing personnel and facilities as appropriate.

(e) **PLACING OF AGENTS.**—The number of offices and their placement shall be jointly determined by the State Extension Directors and tribal authorities of the respective States by taking into consideration the agricultural acreage within the boundaries of an Indian reservation or tribal jurisdiction, the soil classifications of such acreage, and the population of such reservation or tribal jurisdiction.

(f) **REDUCED REGULATORY BURDEN.**—On a determination by the Secretary of Agriculture that a program carried out under this section has been satisfactorily administered for not less than 2 years, the Secretary shall implement a reduced reapplication process for the continued operation of the program in order to reduce regulatory burdens on participating university and tribal entities.

(g) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated such sums as may be necessary to carry out this section.

**[Sections 1678 and 1679 repealed April 4, 1996, P.L. 104-127, 110 Stat. 1174.]**

**SEC. 1680. [7 U.S.C. 5933] ASSISTIVE TECHNOLOGY PROGRAM FOR FARMERS WITH DISABILITIES.**

(a) **SPECIAL DEMONSTRATION GRANTS.**—

(1) **IN GENERAL.**—The Secretary of Agriculture, in consultation with other appropriate Federal agencies, shall make demonstration grants to support cooperative programs between State Cooperative Extension Service agencies and private non-

profit disability organizations to provide on-the-farm agricultural education and assistance directed at accommodating disability in farm operations for individuals with disabilities who are engaged in farming and farm-related occupations and their families.

(2) **ELIGIBLE SERVICES.**—Grants awarded under paragraph (1) may be used to support programs serving individuals with disabilities, and their families, who are engaged in farming and farm-related occupations.

(3) **ELIGIBLE PROGRAMS.**—Grants awarded under paragraph (1) may be used to initiate, expand, or sustain programs that—

(A) provide direct education and assistance to accommodate disability in farming to individuals with disabilities who engage in farming and farm-related occupations;

(B) provide on-the-farm technical advice concerning the design, fabrication, and use of agricultural and related equipment, machinery, and tools, and assist in the modification of farm worksites, operations, and living arrangements to accommodate individuals with disabilities who engage in farming, farm living and farm-related tasks;

(C) involve community and health care professionals, including Extension Service agents and others, in the early identification of farm and rural families that are in need of services related to the disability of an individual;

(D) provide specialized education programs to enhance the professional competencies of rural agricultural professionals, rehabilitation and health care providers, vocational counselors, and other providers of service to individuals with disabilities, and their families, who engage in farming or farm-related occupations; and

(E) mobilize rural volunteer resources, including peer counseling among farmers with disabilities and rural ingenuity networks promoting cost effective methods or accommodating disabilities in farming and farm-related activities.

(4) **EXTENSION SERVICE AGENCIES.**—Grants shall be awarded under this subsection directly to State Extension Service agencies to enable them to enter into contracts, on a multiyear basis, with private nonprofit community-based direct service organizations to initiate, expand, or sustain cooperative programs described under paragraphs (2) and (3).

(5) **MINIMUM AMOUNT.**—A grant awarded under this subsection may not be less than \$150,000.

(6) **CONSIDERATION FOR GRANTS FOR NEW PROGRAMS.**—For each fiscal year that amounts are made available for grants

under this subsection, the Secretary may make grants in a manner that ensures that eligible entities who apply for grants, but have not previously received a grant under this subsection, are given full consideration.

(b) NATIONAL GRANT FOR TECHNICAL ASSISTANCE, TRAINING AND DISSEMINATION.—The Secretary of Agriculture shall award a competitive grant to a national private nonprofit disability organization to enable such organization to provide technical assistance, training, information dissemination and other activities to support community-based direct service programs of on-site rural rehabilitation and assistive technology for individuals with disabilities, and their families, who are engaged in farming or farm-related occupations.

(c) AUTHORIZATION OF APPROPRIATIONS.—

(1) IN GENERAL.—Subject to paragraph (2), there is authorized to be appropriated to carry out this section \$6,000,000 for each of fiscal years 1999 through 2012.

(2) NATIONAL GRANT.—Not more than 15 percent of the amounts made available under paragraph (1) for a fiscal year shall be used to carry out subsection (b).

【Section 1681 repealed May 22, 2008, P.L. 110-246, 122 Stat. 2003.】