



**Conference Report to Accompany
Food, Agriculture, Conservation, and Trade
Act of 1990**

H.R. Rep. No. 101-916 (1990)

Part 5 of 14

Title XVI- Research (pp. 360-443)

The digitization of this Report was performed by the National Agricultural Law Center under Specific Cooperative Agreement No. 58-8201-6-140 with the United States Department of Agriculture, National Agricultural Library.

SEC. 1575. AMENDMENT TO THE AGRICULTURAL ACT OF 1949.

The Agricultural Act of 1949 is amended by striking subsection (d) of section 416 (7 U.S.C. 1431(d)).

SEC. 1576. AMENDMENT TO THE AGRICULTURAL ACT OF 1956.

Section 201 of the Agricultural Act of 1956 (7 U.S.C. 1851(b)) is amended by striking subsection (b).

SEC. 1577. AMENDMENT TO THE AGRICULTURAL TECHNICAL CORRECTIONS ACT.

Section 13 of Public Law 101-220 (7 U.S.C. 1736cc) is repealed.

SEC. 1578. AMENDMENT TO THE AGRICULTURAL ACT OF 1970.

Section 812 of the Agricultural Act of 1970 (7 U.S.C. 612c-3) is repealed, effective upon the effective date of regulations promulgated under section 404 of the Agricultural Trade Act of 1978, as amended by this title.

TITLE XVI—RESEARCH

Subtitle A—Extensions and Changes to Existing Programs

SEC. 1601. INCREASED AUTHORIZATIONS FOR, AND THE EXTENSION OR REPEAL OF, EXISTING PROGRAMS.

(a) **AGRICULTURAL RESEARCH FACILITIES GRANTS.**—Section 4(a) of the Research Facilities Act (7 U.S.C. 390c(a)) is amended—

(1) by striking “\$20,000,000” and inserting “\$50,000,000”; and

(2) by striking “ending September 30, 1986, through September 30, 1990” and inserting “1991 through 1995”.

(b) **EXTENSION OF PROGRAMS ESTABLISHED IN THE NATIONAL AGRICULTURAL RESEARCH, EXTENSION, AND TEACHING POLICY ACT OF 1977.**—

(1) **ANIMAL HEALTH AND DISEASE CONTINUING RESEARCH.**—Section 1433(a) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3195(a)) is amended by striking “annually for the period beginning October 1, 1981, and ending September 30, 1990,” and inserting “for each of the fiscal years 1991 through 1995,”.

(2) **ANIMAL HEALTH AND DISEASE NATIONAL OR REGIONAL RESEARCH.**—Section 1434(a) of that Act (7 U.S.C. 3196(a)) is amended by striking “annually for the period beginning October 1, 1981, and ending September 30, 1990,” and inserting “for each of the fiscal years 1991 through 1995,”.

(3) **AGRICULTURAL RESEARCH PROGRAMS.**—Section 1463 of that Act (7 U.S.C. 3311) is amended—

(A) in subsection (a), by striking “\$600,000,000” and all that follows through “1990.” and inserting “\$850,000,000 for each of the fiscal years 1991 through 1995.”; and

(B) in subsection (b), by striking “\$270,000,000” and all that follows through “1990.” and inserting “\$310,000,000 for each of the fiscal years 1991 through 1995.”.

(4) **EXTENSION EDUCATION.**—Section 1464 of that Act (7 U.S.C. 3312) is amended by striking “\$370,000,000” and all that fol-

lows through the period and inserting "\$420,000,000 for fiscal year 1991, \$430,000,000 for fiscal year 1992, \$440,000,000 for fiscal year 1993, \$450,000,000 for fiscal year 1994, and \$460,000,000 for fiscal year 1995."

(5) **SUPPLEMENTAL AND ALTERNATIVE CROPS RESEARCH.**—Section 1473D(a) of that Act (7 U.S.C. 3319d(a)) is amended by striking "1990" and inserting "1995".

(6) **RANGELAND RESEARCH ADVISORY BOARD.**—Section 1482(a) of that Act (7 U.S.C. 3335(a)) is amended by striking "1990," and inserting "1995,".

(7) **RANGELAND RESEARCH.**—Section 1483(a) of that Act (7 U.S.C. 3336(a)) is amended by striking "annually for the period beginning October 1, 1981, and ending September 30, 1990." and inserting "for each of the fiscal years 1991 through 1995.".

(c) **DAIRY GOAT RESEARCH.**—Section 1432(b)(5) of the National Agricultural Research, Extension, and Teaching Policy Act Amendments of 1981 (7 U.S.C. 3222 note) is amended by striking "ending September 30, 1986, through September 30, 1990," and inserting "1991 through 1995,".

(d)(1) **GRANTS TO UPGRADE 1890 LAND-GRANT COLLEGE EXTENSION FACILITIES.**—Section 1416(b) of the Food Security Act of 1985 (7 U.S.C. 3224(b)) is amended by striking "ending September 30, 1986, through September 30, 1990," and inserting "1991 and 1992,".

(2) **FEDERAL AGRICULTURAL RESEARCH FACILITIES.**—Section 1431 of that Act (99 Stat. 1556) is amended—

(A) in subsection (a), by striking "ending September 30, 1988, through September 30, 1990," and inserting "1991 through 1995,"; and

(B) in subsection (b), by striking "ending September 30, 1986, through September 30, 1990," and inserting "1991 through 1995,".

(e) **CRITICAL AGRICULTURAL MATERIALS RESEARCH.**—Section 16 of the Critical Agricultural Materials Act (7 U.S.C. 178n) is amended—

(1) by striking subsection (a) and inserting the following:

"(a) There are authorized to be appropriated to the Secretary of Agriculture such sums as are necessary to carry out this Act in each of the fiscal years 1991 through 1995."; and

(2) by striking subsection (b);

(3) in subsection (c), by striking "subsections (a) and (b)" and inserting "subsection (a)"; and

(4) by redesignating subsections (c), (d), and (e) as subsections (b), (c), and (d), respectively.

(f) **REPEAL OF PROGRAMS ESTABLISHED IN THE NATIONAL AGRICULTURAL RESEARCH, EXTENSION, AND TEACHING POLICY ACT OF 1977.**—

(1) **REPEALS.**—The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101 et seq.) is amended—

(A) by repealing section 1402 (7 U.S.C. 3101) relating to Congressional findings;

(B) by striking subsection (c) of 1409A (7 U.S.C. 3124a) and redesignating subsections (d) and (e) of that section as subsections (c) and (d), respectively;

(C) by repealing section 1413A (7 U.S.C. 3129) relating to biomass energy;

(D) by repealing subtitle H (7 U.S.C. 3241-3282) relating to solar energy research and development;

(E) by repealing section 1473B (7 U.S.C. 3319b) relating to technology development for small- and medium-sized farming operations; and

(F) by repealing section 1473C (7 U.S.C. 3319c) relating to the special technology development research program.

(2) **CLERICAL AMENDMENTS.**—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended—

(A) in the item relating to subtitle A, by striking "Findings,";

(B) by striking the items relating to section 1402 and 1413A;

(C) by striking the item relating to subtitle H of title XIV and the items relating to the parts and sections of that subtitle; and

(D) by striking the items relating to sections 1473B and 1473C.

SEC. 1602. PURPOSES OF THE AGRICULTURAL RESEARCH AND EXTENSION SYSTEM.

(a) **STATEMENT OF PURPOSES.**—The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101) is amended by inserting before section 1403 the following new section:

"SEC. 1402. PURPOSES OF AGRICULTURAL RESEARCH AND EXTENSION.

"Subject to the varying conditions and needs of States, Federally funded agricultural research and extension programs shall be designed to, among other things, accomplish the following—

"(1) continue to satisfy human food and fiber needs;

"(2) enhance the long-term viability and competitiveness of the food production and agricultural system of the United States within the global economy;

"(3) expand economic opportunities in rural America and enhance the quality of life for farmers, rural citizens, and society as a whole;

"(4) improve the productivity of the American agricultural system and develop new agricultural crops and new uses for agricultural commodities;

"(5) develop information and systems to enhance the environment and the natural resource base upon which a sustainable agricultural economy depends; or

"(6) enhance human health—

"(1) by fostering the availability and affordability of a safe, wholesome, and nutritious food supply that meets the needs and preferences of the consumer; and

"(2) by assisting farmers and other rural residents in the detection and prevention of health and safety concerns."

(b) **CONFORMING AMENDMENT.**—Section 1403 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7

U.S.C. 3102) is amended by striking the section heading and "SEC. 1403." and inserting the following:

"SEC. 1403. ADDITIONAL PURPOSES OF AGRICULTURAL RESEARCH AND EXTENSION."

(c) **CLERICAL AMENDMENTS.**—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended—

(1) by inserting before the item relating to section 1403 the following new item:

"Sec. 1402. Purposes of agricultural research and extension."; and

(2) by striking the item relating to section 1403 and inserting the following new item:

"Sec. 1403. Additional purposes of agricultural research and extension."

SEC. 1603. DEFINITIONS.

Section 1404 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103) is amended—

(1) by striking "and" at the end of paragraph (15);

(2) by inserting "G," after "subtitles E," in paragraph (16); and

(3) by adding at the end the following new paragraphs:

"(17) the term 'sustainable agriculture' means an integrated system of plant and animal production practices having a site-specific application that will, over the long-term—

"(A) satisfy human food and fiber needs;

"(B) enhance environmental quality and the natural resource base upon which the agriculture economy depends;

"(C) make the most efficient use of nonrenewable resources and on-farm resources and integrate, where appropriate, natural biological cycles and controls;

"(D) sustain the economic viability of farm operations; and

"(E) enhance the quality of life for farmers and society as a whole; and

"(18) the term 'Technology Board' means the Agricultural Science Technology Review Board established in section 1408A."

SEC. 1604. JOINT COUNCIL ON FOOD AND AGRICULTURAL SCIENCES AND NATIONAL AGRICULTURAL RESEARCH AND EXTENSION USERS ADVISORY BOARD.

(a) **JOINT COUNCIL.**—Section 1407 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3122(a)) is amended to read as follows:

"SEC. 1407. JOINT COUNCIL ON FOOD AND AGRICULTURAL SCIENCES.

"(a) **ESTABLISHMENT.**—The Secretary shall establish within the Department of Agriculture a committee to be known as the Joint Council on Food and Agricultural Sciences which shall remain in existence until September 30, 1995.

"(b) **MEMBERSHIP.**—The Joint Council shall be composed of not less than 21 representatives of organizations or agencies which conduct or assist in conducting programs of research, extension, or teaching in the food and agricultural sciences, including the following:

"(1) Six representatives from State cooperative institutions, including at least one from institutions eligible to receive funds under the Act of August 30, 1890 (7 U.S.C. 321 et seq.), including Tuskegee University.

"(2) Four representatives from agencies within the Department of Agriculture which have significant research, extension, and teaching responsibilities.

"(3) One representative from public colleges and universities having a demonstrable capacity to carry out food and agricultural research, extension, or teaching.

"(4) One representative from colleges and universities conducting research related to the food and agricultural sciences.

"(5) Three representatives from private organizations or corporations conducting research in the food and agricultural sciences, including one representative from the food processing industry involved in food technology research.

"(6) One representative from among foundations funding research in the food and agricultural sciences.

"(7) One representative from among farmers, ranchers, and other producers of domestic agricultural commodities.

"(8) One representative from the Office of Science and Technology Policy.

"(9) Two representatives from other Federal agencies determined by the Secretary to be appropriate.

"(10) One representative from the National Academy of Sciences.

"(11) To the extent the Joint Council is composed of more than 21 members, representatives of other public and private institutions, producers, and representatives of the public who are interested in and have the potential to contribute to (as determined by the Secretary) the formulation of national policy in the food and agricultural sciences.

"(c) ADMINISTRATIVE PROVISIONS.—

"(1) **TERMS.**—Members of the Joint Council shall be appointed for a term of up to three years by the Secretary from nominations made by the organizations and agencies described in subsection (b). The terms of the members shall be staggered.

"(2) **CHAIRPERSON.**—The Joint Council shall be jointly chaired by the Assistant Secretary of Agriculture for research, extension, and teaching, and a person to be elected from among the non-Federal membership of the Joint Council.

"(3) **MEETINGS.**—The Joint Council shall meet at least once during each three-month period. At least one meeting each year shall be a combined meeting with the Advisory Board. The meetings of the Joint Council shall be publicly announced in advance and shall be open to the public. Appropriate records of the activities of the Joint Council shall be kept and made available to the public on request.

"(d) **PRIMARY RESPONSIBILITY.**—The primary responsibility of the Joint Council is to bring about more effective research, extension, and teaching in the food and agricultural sciences in the United States by improving the planning and coordination of publicly and privately supported food and agricultural science activities and by

relating Federal budget development and program management to these processes.

"(e) **OTHER RESPONSIBILITIES.**—The responsibilities of the Joint Council shall also include the following:

"(1) Provide a forum for the interchange of information among the organizations represented by the members of the Joint Council that will assure improved awareness among these organizations concerning the agricultural research, extension, and teaching programs, results, and directions of each organization.

"(2) Analyze and evaluate the economic, environmental, and social impacts of agricultural research, extension, and teaching programs conducted in the United States.

"(3) Determine high priority issues and goals for agricultural research, extension, and teaching programs, and submit annual reports identifying such high priority issues and goals to the Secretary and to Congress.

"(4) Develop and review the effectiveness of a system, for use by the Secretary, of compiling, maintaining, and disseminating information about each federally supported agricultural research or extension project and, to the maximum extent possible, information about private agricultural research and extension projects conducted by colleges and universities, foundations, contract research groups, businesses, and others. Information about private agricultural research and extension shall not be included in this system unless they are partially or entirely funded by the Federal Government or the organizations sponsoring the projects agree to the inclusions of information about such projects.

"(5) Assist the parties in developing, reviewing, and evaluating memoranda of understanding or other documents that detail the terms and conditions between the Secretary and the participants in agricultural research, extension, and teaching programs under this Act and other Acts.

"(6) Assist the Secretary in carrying out the responsibilities assigned to the Secretary under this title through planning and coordination in the food and agricultural sciences, by using, wherever possible, the existing regional research, extension, and teaching organizations of State cooperative institutions to provide regional planning and coordination, and by the development of recommendations and reports describing current and long-range needs, priorities, and goals in the food and agricultural sciences and means to achieve these goals.

"(7) Coordinate with the Secretary in assessing the current status of, and developing a plan for, the effective transfer of new technologies to the farming community;

"(8) In consultation with the Users Advisory Board—

"(A) provide an annual review and prioritize requests for agricultural related special grants and construction grants;

"(B) provide an annual review of the competitive grants made by the Secretary to determine priority research and grant categories and types that best advance the purposes expressed in section 1402; and

"(C) review and make budget recommendations on the research, extension, and teaching budgets for the Agricultural Research Service, the Forest Service, the Economic Research Service, the Extension Service, the National Agricultural Library, the Cooperative State Research Service, and other department agencies.

"(f) REPORTS.—

"(1) ANNUAL REPORT.—Not later than June 30 of each year, the Joint Council shall prepare a report specifying its conclusions on—

"(A) priorities for food and agricultural research, extension, and teaching programs;

"(B) suggested areas of responsibility among Federal, State, and private organizations in carrying out such programs;

"(C) the levels of financial and other support needed to carry out such programs;

"(D) the progress made toward accomplishing the priorities and associated levels of financial and other support recommended in the annual report issued in the prior year; and

"(E) the activities of the Board in meeting its responsibilities under this section.

"(2) FIVE-YEAR PLAN.—Not later than November 30, 1990, the Joint Council shall prepare a report outlining a five-year plan for food and agricultural sciences that reflects the coordinated views of the research, extension, and teaching community. The Joint Council shall update this plan every two years thereafter in reports reflecting the progress being made toward implementing the plan.

"(3) SUBMISSION OF REPORTS.—Each report prepared under this subsection shall be submitted to the Secretary. Minority views, if timely submitted, shall be included in each such report."

(b) USERS ADVISORY BOARD.—Section 1408 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3123) is amended to read as follows:

"SEC. 1408. NATIONAL AGRICULTURAL RESEARCH AND EXTENSION USERS ADVISORY BOARD.

"(a) ESTABLISHMENT.—The Secretary shall establish within the Department of Agriculture a board to be known as the National Agricultural Research and Extension Users Advisory Board which shall remain in existence until September 30, 1995.

"(b) MEMBERSHIP.—The Advisory Board shall be composed of 21 members appointed by the Secretary. The members shall be appointed to serve staggered terms, in a manner determined appropriate by the Secretary. The members of the Advisory Board shall consist of the following:

"(1) One member who is a producer representing farm cooperatives.

"(2) Two members who are producers representing general farm organizations.

"(3) Four members who are producers representing agricultural commodities, forest product, and aquacultural product groups from various geographic regions.

"(4) One member representing agricultural farm suppliers.

"(5) One member representing food and fiber processors.

"(6) One member representing animal health interests.

"(7) One member engaged in transportation of food and agricultural products to domestic or foreign markets.

"(8) One member representing labor organizations primarily concerned with the production, processing, distribution, or transport of food and agricultural products.

"(9) One member representing food marketing interests.

"(10) One member representing private nonprofit organizations and foundations involved in agricultural research, sustainable agricultural research, education, and extension.

"(11) One member representing private sector organizations involved in development programs and issues in developing countries.

"(12) One member representing agencies of the Department of Agriculture that do not have research capabilities.

"(13) One member engaged in rural development work.

"(14) One member engaged in human nutrition work.

"(15) Two members representing consumer interests, including one member who represents nonprofit consumer advocacy organizations.

"(16) One member representing nonprofit environmental protection organizations.

"(c) **CHAIRPERSON; VICE-CHAIRPERSON.**—At the first meeting each year of the Advisory Board, the members of the Advisory Board shall elect a chairperson and vice-chairperson from the members. The chairperson and vice-chairperson shall serve in such positions for a term of one year.

"(d) **MEETINGS.**—The Advisory Board shall meet a sufficient number of times each year to carry out its responsibilities under subsection (f). At least one meeting each year shall be held as a combined meeting with the Joint Council.

"(e) **PANELS.**—The Advisory Board may establish such panels as the Advisory Board considers appropriate to develop information, reports, advice, and recommendations for the use of the Advisory Board in meeting the responsibilities of the Advisory Board. Members of such panels may include members of the Advisory Board, Advisory Board staff members, individuals from the Department of Agriculture and other departments and agencies of the Federal government, and individuals from the private sector who have expertise in the subject to be examined by the panel.

"(f) **RESPONSIBILITIES.**—

"(1) **ADVISORY OPINIONS.**—The Advisory Board shall have general responsibility for preparing independent advisory opinions on the food and agricultural sciences.

"(2) **SPECIFIC DUTIES.**—The Advisory Board shall have specific responsibility to perform the following duties:

"(A) Review the policies, plans, and goals of programs within the Department of Agriculture involving the food and agricultural sciences, and related programs in other

Federal and State departments and agencies and in the colleges and universities developed by the Secretary under this title.

"(B) Review and assess the extent of agricultural research, teaching, and extension being conducted by the private sector and the relationships and coordination of such activities with Federally supported agricultural research, teaching, and extension programs.

"(C) Review and provide consultation to the Secretary on national policies, priorities, and strategies for agricultural research and extension for both the short and long term.

"(D) Assess the overall adequacy of the distribution of resources and the allocation of funds for the agricultural research, extension, and teaching activities of the Department of Agriculture and make recommendations with regard to such distribution and allocation to the Secretary, Federal agencies, and private organizations that are contributing to the funding of agricultural research, extension, and teaching.

"(E) Identify emerging agricultural research, teaching, and extension issues and suggest programs and technology transfer solutions for use by the public and private agricultural science and education community.

"(F) Evaluate the results and the effectiveness of research and extension programs with regard to their influence on long-term goals of agriculture expressed in sections 1402 and 1403 and consumer needs.

"(g) REPORTS BY THE ADVISORY BOARD.—

"(1) EXAMINATION OF FEDERALLY SUPPORTED AGRICULTURAL RESEARCH AND EXTENSION PROGRAMS.—Not later than July 1 of each year, the Advisory Board shall provide an oral briefing to the Secretary (by the chairperson of the Advisory Board) and a written report to Congress and the Secretary of recommendations concerning the allocation of responsibilities and levels of funding among Federally supported agricultural research and extension programs. The Advisory Board shall include in each oral briefing and written report prepared under this paragraph—

"(A) a review and assessment of the allocation of funds for agricultural research and extension made for the preceding fiscal year by the Department of Agriculture;

"(B) an evaluation of—

"(i) the effectiveness of coordination of Federal and private research initiatives;

"(ii) new research and extension programs that need to be conducted by the research system; and

"(iii) the effectiveness of the private and public research and extension system; and

"(C) minority views, if timely submitted.

"(2) REVIEW OF BUDGET AND SECRETARY'S REPORT.—Not later than February 20 of each year, the Advisory Board shall submit to the President, the Committees on Agriculture and Appropriations of the House of Representatives, and the Committees on

Agriculture, Nutrition, and Forestry and Appropriations of the Senate a report containing—

"(A) an appraisal by the Advisory Board of the proposed budget of the President for the food and agricultural sciences for the fiscal year beginning in the year that report is submitted;

"(B) the recommendations of the Secretary contained in the annual report submitted by the Secretary pursuant to section 1410; and

"(C) separate views of members of the Advisory Board, if timely submitted.

"(3) REQUIREMENT OF REPORTS.—*Each report prepared by the Advisory Board shall list the membership of the Advisory Board as of the time the report was prepared, including the organizational and employment affiliation of each member of the Advisory Board.*

"(h) REPORT BY SECRETARY.—*Not later than February 1 of each year, 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 the manner in which the recommendations of the Advisory Board have been incorporated into the budget and programs of the Department of Agriculture."*

SEC. 1605. AGRICULTURAL SCIENCE AND TECHNOLOGY REVIEW BOARD.

(a) IN GENERAL.—*The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101) is amended by inserting after section 1408 the following new section:*

"SEC. 1408A. AGRICULTURAL SCIENCE AND TECHNOLOGY REVIEW BOARD.

"(a) ESTABLISHMENT.—*The Secretary, acting through the Joint Council, shall establish and oversee an Agricultural Science Technology Review Board.*

"(b) MEMBERSHIP.—

"(1) COMPOSITION.—*The Technology Board shall be composed of 11 individuals, to be appointed by the Secretary, who have expertise in technology assessment, environmental sciences, international agricultural issues, the social sciences, agricultural sciences (both basic and applied), technology transfer, and education, including representatives of—*

"(A) the Agricultural Research Service;

"(B) the Cooperative State Research Service;

"(C) the Extension Service;

"(D) private foundations and nonprofit organizations who have expertise in agricultural research, education, and technology transfer;

"(E) private agricultural research and technology transfer firms; and

"(F) the Land Grant University System.

"(2) MANNER OF APPOINTMENT.—*The Secretary shall appoint members of the Technology Board in a manner determined to be appropriate by the Secretary.*

"(3) PRIVATE SECTOR REPRESENTATION.—*A majority of the members of the Technology Board appointed under paragraph (1) shall be from the private sector.*

"(4) *TERM.*—Members of the Technology Board shall serve for staggered terms of 3 years, as determined appropriate by the Secretary.

"(5) *CHAIRPERSON.*—The Technology Board shall select a chairperson from its membership, who shall serve in that position for a term of 1 year.

"(c) *TECHNICAL INTERPRETATION AND ASSESSMENTS.*—

"(1) *IN GENERAL.*—The Technology Board shall—

"(A) provide technical interpretation and translation of current and emerging agricultural and environmental science issues for use by the Joint Council and the Advisory Board in setting priorities and conducting evaluations; and

"(B) provide technology assessment of current and emerging public and private agricultural research and technology transfer initiatives, including emerging technologies from private industry and public institutions that would influence agriculture, environment, nutrition, and the broad social, economic, and health consequences on urban and rural communities.

"(2) *ASSESSMENTS.*—The Technology Board may conduct assessments to consider to what extent agricultural research and extension programs foster—

"(A) the development of farming systems that most effectively take advantage of natural processes and beneficial biological interactions and other sustainable agriculture techniques;

"(B) genetics research that results in crop varieties and livestock that enhance management options, farm productivity, use of inputs, and a diversity of products that can be marketed by the farm operator;

"(C) research to develop farming systems appropriate to climatological uncertainty;

"(D) research to increase the demand for current farm products, and to develop new farm crops and enterprises, that are economically and environmentally advantageous and enhance agricultural diversity;

"(E) research to enhance economic and societal well-being;

"(F) research that develops rural economic development strategies that build on the entrepreneurial skills, self-employment tradition, and the resource base of rural communities and extension programs to disseminate those strategies;

"(G) innovative extension and education programs that transfer new technology to the rural community including small- and moderate-sized family farmers and potential beginning and minority farmers with limited resources; and

"(H) extension programs that substantially involve a broad range of interested individuals, commodity groups, agri-industry groups, farm groups, rural organizations, community groups, farmerworkers, and environmental organizations to broaden input into research and extension priority setting.

"(d) *TECHNOLOGY ASSESSMENT REPORT.*—

"(1) *IN GENERAL.*—Not later than December 31 of each year, the Technology Board shall prepare a report that contains a technology assessment of emerging public and private agricultural research initiatives and activities, including—

"(A) recommendations on how such research would be best directed to advance the purposes set forth in section 1402; and

"(B) an assessment of activities conducted by the Secretary, research components of public and private colleges and universities, and emerging private agricultural research initiatives.

"(2) *RECIPIENTS.*—The Technology Board shall submit the report required under paragraph (1) to the appropriate Committees of Congress, to the Secretary, to the heads of other Federal agencies who support agricultural research, and (on request) to private organizations who have a significant involvement in agricultural research.

"(3) *MINORITY VIEWS.*—The Technology Board shall include minority views in the report, if timely submitted."

(b) *CONFORMING AMENDMENTS.*—

(1) *SUPPORT.*—Section 1412 of that Act (7 U.S.C. 3127) is amended—

(A) by striking the heading and "SEC. 1412." and inserting the following:

"SEC. 1412. *SUPPORT FOR THE JOINT COUNCIL, ADVISORY BOARD, AND TECHNOLOGY BOARD.*";

(B) in subsection (a)—

(i) by striking "and the Advisory Board" in the matter preceding the paragraphs and inserting ", the Advisory Board, and the Technology Board";

(ii) by inserting "and the Technology Board" immediately before the dash;

(iii) in paragraph (1), by inserting "and the Technology Board" before "may direct";

(iv) in paragraph (2), by striking "Council and" and inserting "Council,"; and

(v) in paragraph (2), by inserting before the period the following: "and one shall serve as the executive secretary to the Technology Board";

(C) in subsection (b), by striking "and the Advisory Board" and inserting ", the Advisory Board, and the Technology Board"; and

(D) in subsection (c), by striking "and the Advisory Board" and inserting ", the Advisory Board, and the Technology Board".

(2) *GENERAL PROVISIONS.*—Section 1413 of that Act (7 U.S.C. 3128) is amended—

(A) in subsection (a), by striking "or the Advisory Board" and inserting ", the Advisory Board, or the Technology Board";

(B) in subsection (b), by striking "and Advisory Board" and inserting ", the Advisory Board, and the Technology Board"; and

(C) by striking subsection (d) and redesignating subsection (e) as subsection (d).

(3) **COORDINATION.**—Section 1405(12) of that Act (7 U.S.C. 3121(12)) is amended by inserting “, after coordination with the Technology Board,” after “establish”.

(4) **ANNUAL REPORT OF THE SECRETARY.**—Paragraph (2) of section 1410 of that Act (7 U.S.C. 3125) is amended to read as follows:

“(2) the recommendations of the Joint Council developed under section 1407(f), the recommendations of the Advisory Board developed under section 1408(g), and the recommendations of the Technology Board developed under section 1408A(d); and”.

(c) **CLERICAL AMENDMENTS.**—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended—

(1) by inserting after the item relating to section 1408 the following new item:

“Sec. 1408A. Agricultural Science and Technology Review Board.”; and

(2) by striking the item relating to section 1412 and inserting the following new item:

“Sec. 1412. Support for the Joint Council, Advisory Board, and Technology Board.”.

SEC. 1606. NATIONAL AGRICULTURAL LIBRARY.

(a) **IN GENERAL.**—The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101 et seq.) is amended by inserting after section 1410 the following new section:

“SEC. 1410A. NATIONAL AGRICULTURAL LIBRARY.

“(a) **PURPOSE.**—The purpose of this section is to consolidate and expand the statutory authority for the operation of the library of the Department of Agriculture established pursuant to section 520 of the Revised Statutes (7 U.S.C. 2201) as the primary agricultural information resource of the United States.

“(b) **ESTABLISHMENT.**—There is established in the Department of Agriculture the National Agricultural Library to serve as the primary agricultural information resource of the United States.

“(c) **DIRECTOR.**—The Secretary shall appoint a Director for the National Agricultural Library who shall be subject to the direction of the Secretary.

“(d) **FUNCTIONS OF DIRECTOR.**—The Director may—

“(1) acquire, preserve, and manage information and information products and services in all phases of agriculture and allied sciences;

“(2) organize agricultural information and information products and services by cataloging, indexing, bibliographical listing, and other appropriate techniques;

“(3) provide agricultural information and information products and services to agencies of the Department of Agriculture and the Federal Government, public and private organizations, and individuals, within the United States and internationally;

“(4) plan for, coordinate, and evaluate information and library needs related to agricultural research and education;

"(5) cooperate with and coordinate efforts among agricultural college and university libraries, in conjunction with private industry and other agricultural library and information centers, toward the development of a comprehensive agricultural library and information network; and

"(6) coordinate the development of specialized subject information services among the agricultural and library information communities.

"(e) **LIBRARY PRODUCTS AND SERVICES.**—The Director may—

"(1) make copies of the bibliographies prepared by the National Agricultural Library;

"(2) make microforms and other reproductions of books and other library materials in the Department;

"(3) provide any other library and information products and services; and

"(4) sell those products and services at such prices (not less than the estimated total cost of disseminating the products and services) as the Secretary may determine appropriate.

"(f) **RECEIPTS.**—Funds received from sales under subsection (e) shall be deposited in the Treasury of the United States to the credit of the applicable appropriation and shall remain available until expended.

"(g) **AGREEMENTS.**—

"(1) **IN GENERAL.**—The Director may enter into agreement with, and receive funds from any State, and other political subdivision, organization, business, or individual for the purpose of conducting activities to carry out this section.

"(2) **FUNDS.**—Funds received under this subsection for payments for library products and services or other activities shall be deposited to the miscellaneous contributed fund account, and shall remain available until expended.

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

(b) **CONFORMING AMENDMENTS.**—

(1) **SALES OF COPIES.**—The Act of May 23, 1908 (35 Stat. 264, chapter 192; 7 U.S.C. 2242) is amended—

(A) in the second unnumbered paragraph following the heading "LIBRARY.", by striking the second sentence; and

(B) in the second sentence of the second unnumbered paragraph following the heading "OFFICE OF EXPERIMENT STATIONS.", by striking "the Secretary of Agriculture hereafter may furnish" and all that follows through "miscellaneous receipts; and".

(2) **SALES OF COPIES.**—The Act of March 4, 1915 (38 Stat. 1109, chapter 144; 7 U.S.C. 2242) is amended by striking the eleventh unnumbered paragraph following the heading "STATES RELATIONS SERVICE."

(3) **SALES OF COPIES.**—Section 708 of the Act of September 21, 1944 (58 Stat. 742, chapter 412; 7 U.S.C. 2244) is repealed.

(c) **CLERICAL AMENDMENT.**—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended by inserting after the item relating to section 1410 the following new item:

"Sec. 1410A. National Agricultural Library."

SEC. 1607. GRANTS TO ENHANCE RESEARCH CAPACITY IN SCHOOLS OF VETERINARY MEDICINE.

(a) **IN GENERAL.**—Section 1415 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3151) is amended—

(1) in subsection (a), by striking the first sentence and inserting the following: "The Secretary shall conduct a program of competitive grants to States for the purpose of meeting the costs of renovation, improving compliance with Federal regulations, employing faculty, acquiring equipment, and taking other action related to the improvement of schools of veterinary medicine to ensure agricultural competitiveness on a worldwide basis.";

(2) in subsection (b)(1), by striking ", or has made a reasonable effort to establish," and by striking the final "and"; and

(3) by amending subsection (b)(2) to read as follows and adding a new subsection (b)(3) as follows:

"(2) the clinical training of the school to be improved shall emphasize care and preventive medical programs for food animals and companion animals (including horses) which support industries of major economic importance; and

"(3) the Secretary may set aside a portion of funds appropriated for the award of grants under this section and make such amounts available only for grants to eligible colleges and universities that the Secretary determines have unique capabilities for achieving the objective of full participation of minority groups in research in the Nation's schools of veterinary medicine.".

(b) **CONFORMING AMENDMENTS.**—Such section is further amended—

(1) by striking the section heading and "SEC. 1415. (a)" and inserting the following:

"SEC. 1415. GRANTS TO ENHANCE RESEARCH CAPACITY IN SCHOOLS OF VETERINARY MEDICINE.

"(a) COMPETITIVE GRANT PROGRAM.—";

(2) by inserting "PREFERENCE.—" after "(b)"; and

(3) by inserting "APPORTIONMENT AND DISTRIBUTION OF FUNDS.—" after "(c)".

(b) **CLERICAL AMENDMENT.**—The item in the table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) relating to section 1415 is amended to read as follows:

"Sec. 1415. Grants to enhance research capacity in schools of veterinary medicine."

SEC. 1608. GRANTS AND FELLOWSHIPS FOR FOOD AND AGRICULTURAL SCIENCES EDUCATION.

Section 1417 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3152) is amended to read as follows:

"SEC. 1417. GRANTS AND FELLOWSHIPS FOR FOOD AND AGRICULTURAL SCIENCES EDUCATION.

"(a) HIGHER EDUCATION TEACHING PROGRAMS.—The Secretary shall promote and strengthen higher education in the food and agri-

cultural sciences by formulating and administering programs to enhance college and university teaching programs in agriculture, natural resources, forestry, veterinary medicine, home economics, and disciplines closely allied to the food and agricultural system.

"(b) GRANTS.—The Secretary may make competitive grants (or grants without regard to any requirement for competition) to land-grant colleges and universities, to colleges and universities having significant minority enrollments and a demonstrable capacity to carry out the teaching of food and agricultural sciences, and to other colleges and universities having a demonstrable capacity to carry out the teaching of food and agricultural sciences, for a period not to exceed 5 years—

"(1) to strengthen institutional capacities, including curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention, to respond to identified State, regional, national, or international educational needs in the food and agricultural sciences;

"(2) to attract and support undergraduate and graduate students in order to educate the students in national need areas of the food and agricultural sciences;

"(3) to facilitate cooperative initiatives between two or more eligible institutions, or between eligible institutions and units of State government or organizations in the private sector, to maximize the development and use of resources such as faculty, facilities, and equipment to improve food and agricultural sciences teaching programs;

"(4) to design and implement innovative food and agricultural educational programs;

"(5) to conduct undergraduate scholarship programs to meet national and international needs for training food and agricultural scientists and professionals; and

"(6) to conduct graduate and postdoctoral fellowship programs to attract highly promising individuals to research or teaching careers in the food and agricultural sciences.

"(c) ELIGIBILITY FOR GRANTS.—

"(1) IN GENERAL.—To be eligible for a grant under subsection (b), a recipient institution must have a significant demonstrable commitment to higher education teaching programs in the food and agricultural sciences and to each specific subject area for which the grant is to be used.

"(2) MINORITY GROUPS.—The Secretary may set aside a portion of the funds appropriated for the awarding of grants under subsection (b), and make such amounts available only for grants to eligible colleges and universities that the Secretary determines have unique capabilities for achieving the objective of full representation of minority groups in the food and agricultural sciences workforce of the United States.

"(d) EVALUATION OF TEACHING PROGRAMS.—The Secretary shall conduct programs to develop, analyze, and provide to colleges and universities data and information that are essential to the evaluation of the quality of teaching programs and to facilitate the design of more effective programs comprising the food and agricultural sciences higher education system of the United States.

"(e) **CONTINUING EDUCATION.**—The Secretary shall conduct special programs with colleges and universities, and with organizations in the private sector, to support educational initiatives to enable food and agricultural scientists and professionals to maintain their knowledge of changing technology, the expanding knowledge base, societal issues, and other factors that impact the skills and competencies needed to maintain the expertise base available to the agricultural system of the United States. The special programs shall include grants and technical assistance.

"(f) **TRANSFERS OF FUNDS AND FUNCTIONS.**—Funds authorized in section 22 of the Act of June 29, 1935 (49 Stat. 439, chapter 338; 7 U.S.C. 329) are transferred to and shall be administered by the Secretary of Agriculture. There are transferred to the Secretary all the functions and duties of the Secretary of Education under such Act applicable to the activities and programs for which funds are made available under section 22 of such Act.

"(g) **NATIONAL FOOD AND AGRICULTURAL SCIENCES TEACHING AWARDS.**—

"(1) **ESTABLISHMENT.**—The Secretary shall establish a National Food and Agricultural Sciences Teaching Awards program to recognize and promote excellence in teaching food and agricultural sciences at a college or university. The Secretary shall make at least one cash award in each fiscal year to a nominee selected by the Secretary for excellence in teaching a food and agricultural science at a college or university.

"(2) **FUNDING.**—The Secretary may transfer funds from amounts appropriated for the conduct of any agricultural research, extension, or teaching program to an account established pursuant to this section for the purpose of making the awards. The Secretary may accept gifts in accordance with Public Law 95-442 (7 U.S.C. 2269) for the purpose of making the awards.

"(h) **ADMINISTRATION.**—The Federal Advisory Committee Act (5 U.S.C. App. 2) and title XVIII of the Food and Agriculture Act of 1977 (7 U.S.C. 2281 et seq.) shall not apply to a panel or board created for the purpose of reviewing applications and proposals for grants or nominations for awards submitted under this section.

"(i) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated for carrying out this section \$60,000,000 for each of the fiscal years 1990 through 1995. Of amounts appropriated to carry out this section for a fiscal year, not less than \$10,000,000 shall be used for the national needs graduate fellowship program referred to in subsection (b)(6)."

SEC. 1609. GRANTS FOR RESEARCH ON THE PRODUCTION AND MARKETING OF ALCOHOLS AND INDUSTRIAL HYDROCARBONS FROM AGRICULTURAL COMMODITIES AND FOREST PRODUCTS.

(a) **GRANTS.**—Section 1419 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3154) is amended to read as follows:

"SEC. 1419. GRANTS FOR RESEARCH ON THE PRODUCTION AND MARKETING OF ALCOHOLS AND INDUSTRIAL HYDROCARBONS FROM AGRICULTURAL COMMODITIES AND FOREST PRODUCTS.

"(a) AUTHORITY OF SECRETARY.—The Secretary may award grants under this section to colleges, universities, and Federal laboratories for the purpose of conducting research related to—

"(1) alcohol fuels, including ethanol and methanol or their ethers;

"(2) industrial oilseed crops for diesel fuel and petrochemical substitutes;

"(3) other forms of biomass fuels, including gaseous and solid fuels;

"(4) other industrial hydrocarbons made from agricultural commodities and forest products; and

"(5) the development of the most economical and commercially feasible means of producing, collecting, and transporting agricultural crops, wastes, residues, and byproducts for use as feedstocks for the production of alcohol and other forms of biomass energy and the development of new markets for byproducts.

"(b) SET ASIDE OF FUNDS FOR CERTAIN GRANT PROJECTS.—Of the amounts appropriated in any fiscal year pursuant to the authorization contained in subsection (c), not less than 50 percent of those amounts shall be made available for grants for research relating to the development of technologies for increasing the energy efficiency and commercial feasibility of alcohol production, including—

"(1) processes of cellulose conversion and membrane technology,

"(2) research to improve the quality and value of byproducts to increase digestibility and performance of livestock, poultry, and fish, and

"(3) development of new markets for byproducts.

"(c) MINORITY GROUPS.—The Secretary may set aside a portion of funds appropriated for the award of grants under this section and make such amounts available only for grants to eligible colleges and universities that the Secretary determines have unique capabilities for achieving the objective of full participation of minority groups in research on the production and marketing of alcohols and industrial hydrocarbons from agricultural commodities and forest products.

"(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for the purposes of carrying out this section \$20,000,000 for each of the fiscal years 1991 through 1995."

(b) CLERICAL AMENDMENT.—The item relating to section 1419 in the table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended by striking ", and agricultural chemicals and other products from coal derivatives".

SEC. 1610. FOOD SCIENCE AND NUTRITION RESEARCH CENTER.

(a) GRANT AUTHORIZED.—Subtitle D of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3171 et seq.) is amended by inserting after section 1423 the following new section:

"SEC. 1424. FOOD SCIENCE AND NUTRITION RESEARCH CENTER.

"(a) ESTABLISHMENT OF CENTER.—The Secretary may award a grant to a research facility described in subsection (b) to establish not less than one food science and nutrition research center for the Southeast Region of the United States.

"(b) RESEARCH FACILITY DESCRIBED.—The research facility referred to in subsection (a) is a research facility that is part of a land-grant college or university system and, on October 1, 1990, benefits from a dedicated non-Federal nutrition endowment of not less than \$100,000,000.

"(c) ADMINISTRATION OF FUNDS.—The Cooperative State Research Service, in consultation with the Agricultural Research Service, shall administer funds appropriated to carry out this section—

"(1) to assure a coordinated approach to human nutrition research; and

"(2) to avoid duplication of research conducted at any research center established under subsection (a) with research conducted at Federal human nutrition research centers.

"(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for each of the fiscal years 1991 through 1995 such sums as may be necessary to carry out this section."

(b) CLERICAL AMENDMENT.—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended by inserting after the item relating to section 1423 the following new item:

"Sec. 1424. Food science and nutrition research center."

SEC. 1611. ANIMAL HEALTH AND DISEASE RESEARCH STUDY AND ANIMAL HEALTH SCIENCE RESEARCH ADVISORY BOARD.

(a) STUDY OF ANIMAL CARE DELIVERY SYSTEM.—Section 1431 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3193) is amended—

(1) by striking the section heading and "SEC. 1431." and inserting the following:

"SEC. 1431. AUTHORIZATION TO THE SECRETARY OF AGRICULTURE.

"(a) AUTHORITY TO COOPERATE WITH, ENCOURAGE, AND ASSIST STATES.—"; and

(2) by adding at the end the following new subsection:

"(b) STUDY OF ANIMAL CARE DELIVERY SYSTEM.—(1) The Secretary shall commission the National Academy of Sciences, working through the Board on Agriculture of the National Research Council, to conduct a study of the delivery system utilized to provide farmers, including small and limited resource farmers, and ranchers with animal care and veterinary medical services, including animal drugs.

"(2) The study required by this subsection shall assess opportunities to—

"(A) improve the flow of information to producers regarding animal husbandry practices, and diagnostic and treatment methods, including the costs and conditions necessary for the effective use of such practices and methods;

"(B) foster achievement of food safety goals; and

"(C) advance the well-being and treatment of farm animals, with particular emphasis on disease prevention strategies.

"(3) The study required by this subsection shall include recommendations for changes in research and extension policies or priorities, food safety programs and policies, and policies and procedures governing the approval, use, and monitoring of animal drugs."

(b) **CHANGES IN ANIMAL HEALTH SCIENCE RESEARCH ADVISORY BOARD.**—Section 1432 of that Act (7 U.S.C. 3194) is amended—

(1) by striking the section heading and "Sec. 1432(a)." and inserting the following:

"SEC. 1432. ANIMAL HEALTH SCIENCE RESEARCH ADVISORY BOARD.

"(a) ESTABLISHMENT AND MEMBERSHIP—";

(2) in subsection (a)—

(A) by striking "1990" in the matter preceding the paragraphs and inserting "1995";

(B) by striking "eleven" in the matter preceding the paragraphs and inserting "12";

(C) by striking "Bureau of" in paragraph (4) and inserting "Center for"; and

(D) in paragraph (5)—

(i) by striking "seven" and inserting "eight";

(ii) by striking "and" at the end of subparagraph (B);

(iii) by redesignating subparagraph (C) as subparagraph (D); and

(iv) by inserting after subparagraph (B) the following new subparagraph:

"(C) one person representing an organization concerned with the general protection and well-being of animals, and"; and

(3) by striking subsection (b) and inserting the following new subsection:

"(b) DUTIES.—The Board shall meet at the call of the Secretary, but at least once annually, to consult with and advise the Secretary with respect to the implementation of any animal health and disease research program provided for under this title, under such rules and procedures for conducting business as the Secretary may prescribe."

SEC. 1612. GRANT PROGRAMS FOR 1890 LAND-GRANT COLLEGES, INCLUDING TUSKEGEE UNIVERSITY.

(a) **RESIDENT INSTRUCTION.**—The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3101 et seq.) is amended by inserting after section 1445 (7 U.S.C. 3222) the following new section:

"SEC. 1446. RESIDENT INSTRUCTION AT 1890 LAND-GRANT COLLEGES, INCLUDING TUSKEGEE UNIVERSITY.

"(a) PURPOSE.—It is the purpose of this section to promote and strengthen higher education in the food and agricultural sciences at colleges eligible to receive funds under the Act of August 30, 1890 (7 U.S.C. 321 et seq.), including Tuskegee University (hereinafter in this section referred to as 'eligible institutions') by formulating and administering programs to enhance teaching programs in agriculture, natural resources, forestry, veterinary medicine, home econom-

ics, and disciplines closely allied to the food and agriculture production and delivery system.

"(b) **GRANTS.**—The Secretary shall make competitive grants, or grants without regard to any requirement for competition, to those eligible institutions having a demonstrable capacity to carry out the teaching of food and agricultural sciences.

"(c) **USE OF GRANT FUNDS.**—Grants made under subsection (b) shall be used to—

"(1) strengthen institutional educational capacities, including libraries, curriculum, faculty, scientific instrumentation, instruction delivery systems, and student recruitment and retention, in order to respond to identified State, regional, national, or international educational needs in the food and agricultural sciences;

"(2) attract and support undergraduate and graduate students in order to educate them in identified areas of national need in the food and agricultural sciences;

"(3) facilitate cooperative initiatives between two or more eligible institutions or between eligible institutions and units of State government, or organizations in the private sector, to maximize the development and use of resources such as faculty, facilities, and equipment to improve food and agricultural sciences teaching programs; and

"(4) conduct undergraduate scholarship programs to assist in meeting national needs for training food and agricultural scientists.

"(d) **GRANT REQUIREMENTS.**—(1) The Secretary shall ensure that each eligible institution, prior to receiving grant funds under subsection (b), shall have a significant demonstrable commitment to higher education programs in the food and agricultural sciences and to each specific subject area for which grant funds under this subsection are to be used.

"(2) The Secretary may require that any grant awarded under this section contain provisions that require funds to be targeted to meet the needs identified in section 1402.

"(e) **MINORITY SET-ASIDE.**—The Secretary may set aside a portion of the funds appropriated for grants under this section and make such amounts available only for grants to eligible institutions that the Secretary determines have unique capabilities for achieving the objective or full representation of minority groups that are under-represented in the Nation's food and agricultural sciences work force.

"(f) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated \$11,000,000 for each of the fiscal years 1991 through 1995 to carry out this section."

(b) **AGRICULTURAL AND FOOD SCIENCES FACILITIES.**—Such Act is further amended by inserting after section 1446 (as added by subsection (a)) the following new section:

"SEC. 1447. GRANTS TO UPGRADE AGRICULTURAL AND FOOD SCIENCES FACILITIES AT 1890 LAND-GRANT COLLEGES, INCLUDING TUSKEGEE UNIVERSITY.

"(a) **PURPOSE.**—It is hereby declared to be the intent of Congress to assist the institutions eligible to receive funds under the Act of August 30, 1890, including Tuskegee University (hereafter referred

to in this section as 'eligible institutions') in the acquisition and improvement of agricultural and food sciences facilities and equipment, including libraries, so that the eligible institutions may participate fully in the production of human capital.

"(b) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary of Agriculture for the purposes of carrying out the provisions of this section \$8,000,000 for each of the fiscal years 1991 through 1995, and such sums shall remain available until expended.

"(c) **USE OF GRANT FUNDS.**—Four percent of the sums appropriated pursuant to this section shall be available to the Secretary for administration of this grants program. The remaining funds shall be available for grants to eligible institutions for the purpose of assisting them in the purchase of equipment and land, the planning, construction, alteration, or renovation of buildings to strengthen their capacity in the production of human capital in the food and agricultural sciences and can be used at the discretion of the eligible institutions in the areas of research, extension, and resident instruction or any combination thereof.

"(d) **METHOD OF AWARDING GRANTS.**—Grants awarded pursuant to this section shall be made in such amounts and under such terms and conditions as the Secretary shall determine necessary for carrying out the purposes of this section.

"(e) **PROHIBITION OF CERTAIN USES.**—Federal funds provided under this section may not be utilized for the payment of any overhead costs of the eligible institutions.

"(f) **REGULATIONS.**—The Secretary may promulgate such rules and regulations as the Secretary may consider necessary to carry out the provisions of this section."

(c) **NATIONAL RESEARCH AND TRAINING CENTENNIAL CENTERS.**—Such Act is further amended by inserting after section 1447 (as added by subsection (b)) the following new section:

"SEC. 1448. **NATIONAL RESEARCH AND TRAINING CENTENNIAL CENTERS.**

"(a) **COMPETITIVE GRANTS AUTHORIZED.**—The Secretary of Agriculture may make a competitive grant to five national research and training centennial centers located at colleges (or a consortia of such colleges) eligible to receive funds under the Act of August 30, 1890 (7 U.S.C. 321 et seq.), including Tuskegee University, that—

"(1) have been designated by the Secretary for the fiscal years 1991 through 1995 as national research and training centennial centers; and

"(2) have the best demonstrable capacity, as determined by the Secretary, to provide administrative leadership as—

"(A) a National Center for Goat Research and Training;

"(B) a National Center for Agricultural Engineering Development, Research, and Training;

"(C) a National Center for Water Quality and Agricultural Production Research and Training;

"(D) a National Center for Sustainable Agriculture Research and Training; and

"(E) a National Center for Domestic and International Trade and Development Research and Training.

"(b) USE OF GRANTS.—A grant made under subsection (a) may be expended by a center to—

"(1) pay expenses incurred in conducting research for which the center was designated;

"(2) print and disseminate the results of such research;

"(3) plan, administer, and direct such research; and

"(4) alter or repair buildings necessary to conduct such research.

"(c) PRIORITY.—In making a grant determination under subsection (a), the Secretary shall give priority to those centers that—

"(1) will assure dissemination of information between eligible institutions described in subsection (a) and among agricultural producers; and

"(2) will attract students and needed professionals in the food and agricultural sciences.

"(d) PAYMENTS.—(1) Under the terms of a grant made under subsection (a), funds appropriated under subsection (f) for a fiscal year shall be paid (upon vouchers approved by the Secretary) to a center receiving the grant in equal quarterly installments beginning on or about the first day of October of such year.

"(2) Not later than 60 days after the end of each fiscal year for which funds are paid under this section to a center, the research director of such center shall submit to the Secretary a detailed statement of the disbursements in such fiscal year of funds received by such center under this section.

"(3) If any of the funds received by a center under this section are misapplied, lost, or diminished by any action or contingency on the part of the center—

"(A) the center shall replace such funds; and

"(B) the Secretary shall not distribute to such center any other funds under this subsection until such funds are replaced.

"(e) PROHIBITED USES OF FUNDS.—Funds provided under this section may not be used—

"(1) to acquire or construct a building; or

"(2) to pay the overhead costs of the college (or consortia of colleges) receiving the grant.

"(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated \$2,000,000 for each of the fiscal years 1991 through 1995 for grants under this section.

"(g) CENTER DEFINED.—For purposes of this section, the term 'center' means a national research and training centennial center that receives a grant under this subsection.

"(h) COORDINATION OF CENTER ACTIVITIES.—(1) The center designated under subsection (a)(2)(C) shall coordinate its activities with the water quality research activities conducted under subtitle G of title XIV of the Food, Agriculture, Conservation, and Trade Act of 1990.

"(2) The center designated under subsection (a)(2)(D) shall coordinate its activities with the sustainable agriculture research and education program established under subtitle B of title XVI of the Food, Agriculture, Conservation, and Trade Act of 1990."

(d) CLERICAL AMENDMENT.—The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amend-

ed by inserting after the item relating to section 1445 the following new items:

"Sec. 1446. Resident instruction at 1890 land-grant colleges, including Tuskegee University.

"Sec. 1447. Grants to upgrade agricultural and food sciences facilities at 1890 land-grant colleges, including Tuskegee University.

"Sec. 1448. National research and training centennial centers."

SEC. 1613. INTERNATIONAL AGRICULTURAL SCIENCE, EDUCATION, AND DEVELOPMENT AND INTERNATIONAL TRADE DEVELOPMENT CENTERS.

(a) **SCIENCE, EDUCATION, AND DEVELOPMENT.**—Subsection (a) of section 1458 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3291(a)) is amended to read as follows:

"(a) **AUTHORITY OF THE SECRETARY.**—To carry out the policy of this subtitle, the Secretary (in consultation with the Agency for International Development and subject to such coordination with other Federal officials, Departments, and agencies as the President may direct) may—

"(1) expand the operational coordination of the Department of Agriculture with institutions and other persons throughout the world performing agricultural and related research and extension activities by—

"(A) exchanging research materials and results with the institutions or persons; and

"(B) conducting with the institutions or persons joint or coordinated research and extension on problems of significance to food and agriculture in the United States;

"(2) enter into cooperative arrangements with Departments and Ministries of Agriculture in other nations to conduct research, extension, and education activities in support of the development of a viable and sustainable global agricultural system, including efforts to establish a global system for plant genetic resources conservation;

"(3) enter into agreements with land-grant colleges and universities, the Agency for International Development, and international organizations (such as the United Nations, World Bank, regional development banks, the International Agricultural Research Center), or other organizations, institutions or individuals with comparable goals, to promote and support the development of a viable and sustainable global agricultural system.

"(4) further develop within the Department highly qualified and experienced scientists and experts who specialize in international programs, to be available to carry out the activities described in this section;

"(5) work with transitional and more advanced countries in food, agricultural, and related research, development, and extension (including providing technical assistance, training, and advice to persons from the countries engaged in the activities and the stationing of scientists and other specialists at national and international institutions in the countries);

"(6) expand collaboration and coordination with the Agency for International Development regarding food and agricultural

research, extension, and education programs in developing countries;

"(7) assist colleges and universities in strengthening their capabilities for food, agricultural, and related research and extension that is relevant to agricultural development activities in other countries through—

"(A) the provision of support to State universities and land-grant colleges and universities to do collaborative research with other countries on issues relevant to United States agricultural competitiveness;

"(B) the provision of support for cooperative extension education in global agriculture and to promote the application of new technology developed in foreign countries to United States agriculture; and

"(C) the provision of support for the internationalization of resident instruction programs of the universities and colleges described in subparagraph (A); and

"(8) establish, in cooperation with the Secretary of State, a program, to be coordinated through the International Arid Land Consortium, to enhance collaboration and cooperation between institutions possessing research capabilities applied to the development, management, and reclamation of arid lands."

(b) **SPECIALIZED OR TECHNICAL SERVICES.**—Subsection (c) of section 1458 of that Act (7 U.S.C. 3291) is amended by inserting after "universities" the following: "and other nongovernmental organizations".

(c) **INTERNATIONAL TRADE DEVELOPMENT CENTERS.**—Section 1458A of that Act (7 U.S.C. 3292) is amended—

(1) in subsection (a)—

(A) by inserting "GRANT PROGRAM.—" after "(a)";

(B) by striking "grants to States" in the first sentence and inserting "grants to States (or regional groupings of States)";

(C) by striking "State funding" in the second sentence and inserting "State or regional funding"; and

(D) by striking "State from" in the second sentence and inserting "State or region from";

(2) by redesignating subsections (b), (c), and (d) as subsections (c), (d), and (e), respectively;

(3) by inserting after subsection (a) the following new subsection:

"(b) **LOCATION AND FUNDING OF CERTAIN CENTERS.**—The Secretary shall make determinations regarding the location and funding of international trade development centers established after the date of the enactment of this subsection based on a national plan for agricultural export promotion through international trade development centers. Grants under this section shall be made available on a competitive basis in accordance with such plan."; and

(4) in subsection (c) (as redesignated by paragraph (2))—

(A) by inserting "PREFERENCES.—" after "(c)";

(B) by inserting after "shall" in the matter preceding the paragraphs the following: "; consistent with the plan developed under subsection (b),"; and

(C) by striking "States" and inserting "States (or regional groupings of States)".

(d) **STYLISTIC AMENDMENTS.**—(1) Section 1458 of that Act (7 U.S.C. 3291) (as amended by subsections (a) and (b)) is further amended—

(A) by striking "Sec. 1458." and inserting the following:

"SEC. 1458. INTERNATIONAL AGRICULTURAL RESEARCH AND EXTENSION.;"

(B) by inserting "ENHANCING LINKAGES.—" after "(b)";

(C) by inserting "PROVISION OF SPECIALIZED OR TECHNICAL SERVICES.—" after "(c)".

(2) Section 1458A of that Act (7 U.S.C. 3292) (as amended by subsection (b)) is further amended—

(A) by striking the section heading and "Sec. 1458A." and inserting the following:

"SEC. 1458A. GRANTS TO STATES FOR INTERNATIONAL TRADE DEVELOPMENT CENTERS.;"

(B) by inserting "ACTIVITIES OF CENTERS.—" after "(d)"; and

(C) by inserting "AUTHORIZATION OF APPROPRIATIONS.—" after "(e)".

SEC. 1614. AQUACULTURE ASSISTANCE PROGRAMS.

(a) **FOOD SAFETY; CLOSED-SYSTEM PRODUCTION; AND REPORTS.**—Section 1475 of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3322) is amended—

(1) in subsection (a)—

(A) by inserting "RESEARCH AND EXTENSION PROGRAM.—" after "(a)"; and

(B) by striking "United States," and inserting "United States and to enhance further the safety of food products derived from the aquaculture industry,;"

(2) in subsection (b)—

(A) by inserting "GRANTS.—" after "(b)";

(B) by inserting "and sea grant" after "land-grant"; and

(C) by striking the period at the end of the first sentence and inserting "and to enhance further the safety and wholesomeness of those species and products, including the development of reliable supplies of seed stock and therapeutic compounds.;"

(3) in subsection (c), by inserting "AQUACULTURE DEVELOPMENT PLANS.—" after "(c)";

(4) in subsection (d)—

(A) by inserting "AQUACULTURAL CENTERS.—" after "(d)";

(B) by striking "four aquacultural research, development, and demonstration centers" in the first sentence and inserting "five aquacultural research, development, and demonstration centers"; and

(C) by adding at the end the following new sentence: "To the extent practicable, the Secretary shall ensure that equitable efforts are made at these centers in addressing the research needs of those segments of the domestic aquaculture industry located within that region.;"

(5) in subsection (e)—

(A) by striking "Not later" and all that follows through "subsequent year," and inserting "Reports.—(1) Not later than March 1 of each year,"; and

(B) by adding at the end the following new paragraph:

"(2) The Secretary shall, in consultation with the interagency aquaculture coordinating group established under section 6(a) of the National Aquaculture Act of 1980 (16 U.S.C. 2805(a)), conduct a study to assess the economic impact of animal damage to the United States aquaculture industry. In conducting such study, the Secretary shall provide for the consideration of all types of animal damage, including predation, that have an impact on aquaculture enterprises, including fish farming. The Secretary shall submit a report detailing the results of such study to the Committee on Agriculture and the Committee on Merchant Marine and Fisheries of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate not later than January 1, 1992."; and

(6) by adding at the end the following new subsections:

"(f) **LISTING OF LAWS ON AQUACULTURE.**—The interagency aquaculture coordinating group established under section 6(a) of the National Aquaculture Act of 1980 (16 U.S.C. 2805(a)) shall, in consultation with appropriate Federal and State agencies, compile a listing of Federal and State laws, rules, and regulations materially affecting the production, processing, marketing, and transportation of aquaculturally produced commodities and the products thereof. The interagency aquaculture coordinating group shall make such listing available to the public not later than January 1, 1992, and shall update and revise such listing not later than January 1, 1996, to show such laws, rules, and regulations as in effect on that date.

"(g) **FISH DISEASE PROGRAM.**—The Secretary shall implement, in consultation with the Joint Subcommittee on Aquaculture referred to in section 6 of the National Aquaculture Act of 1980 (16 U.S.C. 2805), a fish disease program to include the development of new diagnostic procedures for fish diseases, the determination of the effect of water environment on the development of the fish immune system, and the development of therapeutic, synthetic, or natural systems, for the control of fish diseases."

(b) **AQUACULTURE RESEARCH FACILITY.**—(1) Subtitle L of that Act (7 U.S.C. 3321 et seq.) is amended by inserting after section 1475 the following new section:

"SEC. 1476. AQUACULTURE RESEARCH FACILITIES.

"(a) **GRANT AUTHORIZED.**—In order to gain further knowledge of intensive water recirculating aquaculture systems, the Secretary may make grants for the purpose of further developing and expanding aquaculture research facilities at Illinois State University in Normal, Illinois, and Virginia Polytechnic Institute and State University in Blacksburg, Virginia, and to conduct such programs as are necessary to do basic and applied research for intensive water recirculating aquaculture systems.

"(b) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized, in the event the Secretary decides to take action under subsection (a), to be appropriated \$500,000 for each of the two facilities for fiscal years 1991 through 1995 to carry out this section."

(2) The table of contents of the Food and Agriculture Act of 1977 (Public Law 95-113; 91 Stat. 913) is amended by inserting after the item relating to section 1475 the following new item:

"Sec. 1476. Aquaculture research facilities."

(c) **PROGRAM EXTENSION AND CONSTRUCTION PROHIBITION.**—Section 1477 of that Act (7 U.S.C. 3324) is amended—

(1) by striking "each fiscal year" and all that follows through "1990." and inserting "each of the fiscal years 1991 through 1995."; and

(2) by adding at the end the following new sentence: "Funds appropriated under this section or section 1476 may not be used to acquire or construct a building."

(d) **APPROPRIATIONS FOR AQUACULTURE.**—To authorize appropriations to carry out the National Aquaculture Act of 1980 for fiscal years 1991, 1992, and 1993, paragraphs (1), (2), and (3) of section 10 of the National Aquaculture Act of 1980 (16 U.S.C. 2809) are amended to read as follows:

"(1) to the Department of Agriculture, \$1,000,000 for each of the fiscal years 1991, 1992, and 1993;

"(2) to the Department of Commerce, \$1,000,000 for each of the fiscal years 1991, 1992, and 1993; and

"(3) to the Department of Interior, \$1,000,000 for each of the fiscal years 1991, 1992, and 1993."

SEC. 1615. NATIONAL COMPETITIVE RESEARCH INITIATIVE.

(a) **INITIATIVE ESTABLISHED.**—Subsection (b) of section 2 of Public Law 89-106 (7 U.S.C. 450i) is amended—

(1) by inserting "COMPETITIVE GRANTS.—(1)" after "(b)"; and

(2) by striking the third sentence and all that follows and inserting the following new paragraphs:

"(2) **HIGH PRIORITY RESEARCH.**—For purposes of this subsection, the term 'high priority research' means basic and applied research that focuses on both national and regional research needs (and methods to transfer such research to onfarm or inmarket practice) in—

"(A) plant systems, including plant genome structure and function; molecular and cellular genetics and plant biotechnology; plant-pest interactions and biocontrol systems; crop plant response to environmental stresses; unproved nutrient qualities of plant products; and new food and industrial uses of plant products;

"(B) animal systems, including aquaculture, cellular and molecular basis of animal reproduction, growth, disease, and health; identification of genes responsible for improved production traits and resistance to disease; improved nutritional performance of animals; and improved nutrient qualities of animal products, and uses, and the development of new and improved animal husbandry and production systems that take into account production efficiency and animal well-being, and animal systems applicable to aquaculture;

"(C) nutrition, food quality, and health, including microbial contaminants and pesticides residues related to human health; links between diet and health; bioavailability of nutrients;

postharvest physiology and practices; and improved processing technologies;

"(D) natural resources and the environment, including fundamental structures and functions of ecosystems; biological and physical bases of sustainable production systems; minimizing soil and water losses and sustaining surface water and ground water quality; global climate effects on agriculture; forestry; and biological diversity;

"(E) engineering, products, and processes, including new uses and new products from traditional and non-traditional crops, animals, byproducts, and natural resources; robotics, energy efficiency, computing, and expert systems; new hazard and risk assessment and mitigation measures; and water quality and management; and

"(F) markets, trade, and policy, including optional strategies for entering and being competitive in overseas markets; new decision tools for onfarm and inmarket systems; choices and applications of technology; technology assessment; and new approaches to rural economic development.

"(3) TYPES OF GRANTS.—In addition to making research grants under paragraph (1), the Secretary may conduct a program to improve research capabilities in the agricultural, food, and environmental sciences and award the following categories of competitive grants:

"(A) Grants may be awarded to a single investigator or coinvestigators within the same discipline.

"(B) Grants may be awarded to teams of researchers from different areas of agricultural research and scientific disciplines.

"(C) Grants may be awarded to multidisciplinary teams that are proposing research on long-term applied research problems, with technology transfer a major component of all such grant proposals.

"(D) Grants may be awarded to an institution to allow for the improvement of the research, development, technology transfer, and education capacity of the institution through the acquisition of special research equipment and the improvement of agricultural education and teaching. The Secretary shall use not less than 25 percent, and not more than 40 percent, of the funds made available for grants under this subparagraph to provide fellowships to outstanding pre- and post-doctoral students for research in the agricultural sciences.

"(E) Grants may be awarded to single investigators or coinvestigators who are beginning their research careers and do not have an extensive research publication record. To be eligible for a grant under this subparagraph, an individual shall have less than 5 years of post-graduate research experience.

"(F) Grants may be awarded to ensure that the faculty of small and mid-sized institutions who have not previously been successful in obtaining competitive grants under this subsection receive a portion of the grants.

"(4) TERM.—The term of a competitive grant made under this subsection may not exceed 5 years.

"(5) DIRECTOR.—The Secretary shall appoint a director for the grant program authorized by this subsection. The Secretary, acting

through the director, shall be responsible for the overall direction of the grant program and implementation of general policies respecting the management and operation of programs and activities in the program.

"(6) **PARTICIPATION IN GRANT PROCESS.**—In seeking proposals for grants under this subsection and in performing peer review evaluations of such proposals, the Secretary shall seek the widest participation of qualified scientists in the Federal Government, colleges and universities, State agricultural experiment stations, and the private sector.

"(7) **CONSTRUCTION PROHIBITED.**—A grant made under paragraph (1) may not be used for any purpose for which a grant may be made under subsection (d) or for the planning, repair, rehabilitation, acquisition, or construction of a building or facility.

"(8) **MATCHING FUNDS.**—(A) Except as provided in subparagraph (B), the Secretary may not take the offer or availability of matching funds into consideration in making a grant under this subsection.

"(B) In the case of grants under paragraph (3)(D), the amount provided under this subsection may not exceed 50 percent of the cost the special research equipment or other equipment acquired.

"(9) **ANNUAL REPORT.**—The Secretary shall transmit to Congress an annual report describing the policies, priorities, and operations of the grant program authorized by this subsection during the preceding fiscal year. The report shall—

"(A) include a description of the progress being made to comply with subsection (j); and

"(B) be transmitted not later than January 1 of each year.

"(10) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to carry out this subsection \$150,000,000 for fiscal year 1991, \$275,000,000 for fiscal year 1992, \$350,000,000 for fiscal year 1993, and \$400,000,000 for fiscal year 1994, and \$500,000,000 for fiscal year 1995, of which each fiscal year—

"(A) not less than 10 percent for fiscal year 1991, 20 percent for fiscal year 1992, and 30 percent for fiscal year 1993 and each fiscal year thereafter shall be available to make grants for research to be conducted by multidisciplinary teams;

"(B) not less than 20 percent shall be available to make grants for research to be conducted by persons conducting mission-linked systems research;

"(C) not less than 10 percent shall be available to make grants under subparagraphs (D) and (F) of paragraph (3) for awarding grants in research and education strengthening and research opportunity;

"(D) not more than two percent may be used for equipment grants under subparagraph (3)(D); and

"(E) not more than four percent may be retained by the Secretary to pay administrative costs incurred by the Secretary in carrying out this subsection."

(b) **ADMINISTRATIVE PROVISIONS.**—Such section is further amended by adding at the end the following new subsections:

"(j) **EMPHASIS ON SUSTAINABLE AGRICULTURE.**—The Secretary of Agriculture shall ensure that grants made under subsections (b) and (c) are, where appropriate, consistent with the development of systems of sustainable agriculture. For purposes of this section, the

term 'sustainable agriculture' has the meaning given that term in section 1404(17) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103(17)).

"(k) **REPORTS.**—The Secretary of Agriculture shall prepare and submit to Congress on January 1 of each year a report on awards made under subsections (b) and (c) during the previous fiscal year.

"(l) **CONSULTATION WITH TECHNOLOGY BOARD.**—The Secretary of Agriculture may consult with the Agricultural Science and Technology Review Board regarding the policies, priorities, and operation of subsections (b) and (c)."

(c) **STYLISTIC AMENDMENTS.**—Such section is further amended—

(1) by striking "SEC. 2. (a)" and inserting the following:

"SEC. 2. **COMPETITIVE, SPECIAL, AND FACILITIES RESEARCH GRANTS.**

"(a) **ESTABLISHMENT OF GRANT PROGRAM.**—";

(2) in subsection (d), by inserting "FACILITIES GRANTS.—" after "(d)";

(3) in subsection (e), by inserting "RECORD KEEPING.—" after "(e)";

(4) in subsection (f), by inserting "LIMITS ON OVERHEAD COSTS.—" after "(f)";

(5) in subsection (g), by inserting "AUTHORIZATION OF APPROPRIATIONS.—" after "(g)";

(6) in subsection (h), by inserting "RULES.—" after "(h)"; and

(7) in subsection (i), by inserting "APPLICATION OF OTHER LAWS.—" after "(i)".

SEC. 1616. **SPECIAL RESEARCH GRANTS.**

Subsection (c) of section 2 of the Act of August 4, 1965 (7 U.S.C. 450i), is amended to read as follows:

"(c) **SPECIAL GRANTS.**—(1) The Secretary of Agriculture may make grants, for periods not to exceed 5 years—

"(A) to State agricultural experiment stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals for the purpose of conducting research to facilitate or expand promising breakthroughs in areas of the food and agricultural sciences of importance to the United States; and

"(B) to State agricultural experiment stations, land-grant colleges and universities, research foundations established by land-grant colleges and universities, colleges and universities receiving funds under the Act of October 10, 1962 (16 U.S.C. 582a et seq.), and accredited schools or colleges of veterinary medicine for the purpose of facilitating or expanding ongoing State-Federal food and agricultural research programs that—

"(i) promote excellence in research on a regional and national level;

"(ii) promote the development of regional research centers;

"(iii) promote the research partnership between the Department of Agriculture, colleges and universities, research foundations, and State agricultural experiment stations for regional research efforts; and

"(iv) facilitate coordination and cooperation of research among States through regional research grants.

"(2) LIMITATIONS.—The Secretary may not make a grant under this subsection—

"(A) for any purpose for which a grant may be made under subsection (d); or

"(B) for the planning, repair, rehabilitation, acquisition, or construction of a building or facility.

"(3) MATCHING FUNDS.—Grants made under this subsection shall be made without regard to matching funds.

"(4) SET ASIDES.—Of amounts appropriated for a fiscal year to carry out this subsection—

"(A) ninety percent of such amounts shall be used for grants for regional research projects; and

"(B) four percent of such amounts may be retained by the Secretary to pay administrative costs incurred by the Secretary to carry out this subsection."

SEC. 1617. MINIMIZATION OF CONFLICTS OF INTEREST OF EMPLOYEES OF COLLEGES RECEIVING FUNDS UNDER THE SMITH-LEVER ACT.

Section 4 of the Act of May 8, 1914 (commonly known as the Smith-Lever Act) (7 U.S.C. 344), is amended by inserting after the second sentence the following: "The Secretary shall ensure that each college seeking to receive funds under this Act has in place appropriate guidelines, as determined by the Secretary, to minimize actual or potential conflicts of interest among employees of such college whose salaries are funded in whole or in part with such funds."

SEC. 1618. AGRICULTURAL EXPERIMENT STATIONS AND TRANSPORTATION OF VIRUS OF FOOT-AND-MOUTH DISEASE.

(a) REAPPORTIONMENT OF WITHHELD ALLOTMENTS FOR AGRICULTURAL EXPERIMENT STATIONS.—Section 3(d) of the Act of March 2, 1887 (7 U.S.C. 361c(d)) is amended by inserting before the period at the end the following: "and reapportioned among the States".

(b) CERTAIN TRANSPORTATION AUTHORIZED UNDER ADEQUATE SAFEGUARDS.—The proviso in the first sentence in section 12 of the Act of May 29, 1884 (21 U.S.C. 113a) is amended—

(1) by striking "United States except" and inserting "United States (except"; and

(2) by striking "tunnel, and" and inserting the following: "tunnel) unless the Secretary determines that it is necessary and in the public interest for the conduct of research and study in the United States (except at Brookhaven National Laboratory in Upton, New York) and issues a permit under such rules as the Secretary shall promulgate to protect animal health,".

Subtitle B—Sustainable Agriculture Research and Education

SEC. 1619. 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(17) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103(17)).

(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(7) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103(7)).

(6) The term "Secretary" means the Secretary of Agriculture.

(7) The term "Advisory Council" means the National Sustainable Agriculture Advisory Council established under section 1622(c).

(8) 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 Marianas Islands, the Trust Territory of the Pacific Islands, or federally recognized Indian tribes.

(9) The term "State agricultural experiment stations" shall have the same meaning given to that term by section 1404(13) of the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (7 U.S.C. 3103(13)).

(10) 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. 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 recommendations of the Advisory Council;

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

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

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

(E) 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) are recommended by the Advisory Council;

(B) closely coordinate research and extension activities;

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

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

(E) involve a multidisciplinary systems approach; and

(F) 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. 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, Agricultural Research Service, and other appropriate agencies;*

(2) *establish the Advisory Council in accordance with subsection (c);*

(3) *establish a minimum of four Regional Administrative Councils in accordance with subsection (e); and*

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

(b) REPORTS.—*The Secretary shall, not later than April 1, 1991, and each April 1 thereafter, prepare and submit to the Committee on Agriculture of the House of Representatives, the Committee on Agriculture, Nutrition, and Forestry of the Senate, and the Advisory Council—*

(1) *a report describing the results of the programs carried out under sections 1621, 1623, and 1627; and*

(2) *a report describing the progress of projects conducted under this subtitle, including—*

(A) *a summary and analysis of data collected under such projects;*

(B) *recommendations based on such data for new basic or applied research;*

(C) *the number, length, and type of projects proposed, funded and carried out, by region; and*

(D) *the national and regional economic, social, and environmental implications of the adoption of practices developed under this subtitle and section 1650.*

(c) NATIONAL SUSTAINABLE AGRICULTURE ADVISORY COUNCIL.—*The membership of the National Sustainable Agriculture Advisory Council shall include representatives of—*

(1) *the Agricultural Research Service;*

(2) *the Cooperative State Research Service;*

(3) *the Soil Conservation Service;*

(4) *the Extension Service;*

(5) *State cooperative extension services;*

(6) *State agricultural experiment stations;*

(7) *the Economic Research Service;*

(8) *the National Agricultural Library;*

(9) *the Environmental Protection Agency;*

(10) *the Farmers Home Administration;*

(11) *the Board on Agriculture of the National Academy of Sciences;*

(12) *private nonprofit organizations with demonstrable expertise;*

(13) *farmers utilizing systems and practices of sustainable agriculture;*

(14) *the United States Geological Survey;*

(15) *agribusiness; and*

(16) *other specialists in agricultural research or technology transfer, including individuals from colleges eligible to receive*

funds under the Act of August 30, 1890 (7 U.S.C. 321 et seq.), including Tuskegee University, or other colleges or universities with demonstrable expertise.

(d) **RESPONSIBILITIES OF ADVISORY COUNCIL.**—The Advisory Council shall—

(A) make recommendations to the Secretary concerning research and extension projects that should receive funding under sections 1621 and 1623;

(B) promote the programs established under this chapter at the national level;

(C) coordinate research and extension activities funded under such programs;

(D) establish general procedures for awarding and administering funds under this chapter;

(E) consider recommendations for improving such programs;

(F) facilitate cooperation and integration between sustainable agriculture, national water quality, integrated pest management, food safety, and other related programs; and

(G) prepare and submit an annual report concerning its activities to the Secretary.

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

(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;

(D) State cooperative extension services;

(E) State agricultural experiment stations;

(F) the Soil Conservation Service;

(G) State departments engaged in sustainable agriculture programs;

(H) nonprofit organizations with demonstrable expertise;

(I) farmers utilizing systems and practices of sustainable agriculture;

(J) agribusiness;

(K) the State or United States Geological Survey; and

(L) other persons knowledgeable about sustainable agriculture and its impact on the environment and rural communities.

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

(A) make recommendations to the Advisory Council concerning research and extension projects that merit funding under sections 1621 and 1623;

(B) promote the programs established under this subtitle at the regional level;

(C) establish goals and criteria for the selection of projects authorized under this subtitle within the applicable region;

(D) appoint a technical committee to evaluate the proposals for projects to be considered under this subtitle by such council;

(E) review and act on the recommendations of the technical committee, and coordinate its activities with the regional host institution; and

(F) 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 administration council or a technical committee may not participate 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. 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. 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 1623.

CHAPTER 2—INTEGRATED MANAGEMENT SYSTEMS

SEC. 1627. 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 in 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.

CHAPTER 3—SUSTAINABLE AGRICULTURE TECHNOLOGY DEVELOPMENT AND TRANSFER PROGRAM

SEC. 1628. 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 Advisory Council, the Soil 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 education 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. 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, 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 insure 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.—

(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, section 1650, 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, section 1650, and other appro-

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, section 1650, 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, 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 Genetics Resources Program

SEC. 1632. 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) make available upon request, without charge and without regard to the country from which such request originates, the genetic material which the program assembles;

(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. 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) **DUTY**

(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. 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 committee established under this section.

SEC. 1635. 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 1995.

Subtitle D—National Agricultural Weather Information System

SEC. 1637. 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. 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, 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 Academy of Sciences, the National Sciences 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 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.

SEC. 1639. NATIONAL ADVISORY BOARD ON AGRICULTURAL WEATHER.

(a) **ESTABLISHMENT.**—The Secretary of Agriculture shall establish the Advisory Board on Agricultural Weather (hereinafter referred to in this section as the "Board") to advise the Director of the Agricultural Weather Office with respect to carrying out this Act.

(b) **COMPOSITION.**—The Board shall be composed of nine members, appointed by the Secretary in consultation with the Director of the National Weather Service. Two of the members shall be from each of the four regions of the cooperative extension service. Of the two members from each region, one shall be an agricultural producer and one shall be an agricultural or atmospheric scientist. At least two members of the Board shall be appointed from among individuals who are engaged in providing private meteorology services or consulting with a private meteorology firm.

(c) **CHAIRPERSON.**—The Board shall elect a chairperson from among its members.

(d) **TERM.**—Each Board member shall be appointed for a three-year term, except that to ensure that members of the Board serve staggered terms, the Secretary shall appoint three of the original

members of the Board to appointments for one year, and three of the original members to appointments for two years.

(e) **MEETINGS.**—The Board shall meet not less than twice annually.

(f) **COMPENSATION.**—Members of the Board shall serve without compensation, but while away from their homes or regular places of business in the performance of services for the Board, members of the Board shall be allowed travel expenses, including a per diem allowance in lieu of subsistence, in the same manner as individuals employed in Government service are allowed travel expenses under section 5703 of title 5, United States Code.

(g) **FEDERAL ADVISORY COMMITTEE ACT.**—Section 14(a)(2) of the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply with respect to the Board.

SEC. 1640. 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, 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 take into consideration the recommendation of the Advisory Board on Agricultural Weather and consult with the Director.

(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. 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 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 Service 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 1991 through 1995.

Subtitle E—Research Regarding the Production, Preparation, Processing, Handling, and Storage of Agricultural Products

SEC. 1644. RESEARCH AND GRANT PROGRAM.

(a) **RESEARCH PROGRAM.**—The Secretary of Agriculture shall establish a research program to—

(1) establish a statistical framework to measure microbiological and chemical agents in or affecting agricultural products that seriously undermine product wholesomeness and fitness;

(2) identify any microbiological or chemical agent under the statistical framework established under paragraph (1); and

(3) identify the means to avoid microbiological and chemical agents in or affecting agricultural products or to control or reduce such agents, including—

(A) developing techniques for the rapid detection and identification of such microbiological and chemical agents;

(B) analyzing the production, preparation, processing, handling, storage, and distribution of agricultural products, to determine those points at which intervention could occur to control microbiological or chemical agents in or affecting an agricultural product; and

(C) research to develop or enhance existing techniques to control microbiological or chemical agents in or affecting

an agricultural product, including food irradiation research.

(b) **COMPETITIVE GRANT PROGRAM.**—The Secretary of Agriculture may make competitive grants, after consultation with the committee established under section 1645, for periods not to exceed five years, to persons and governmental entities for research to be carried out for any of the activities specified in subsection (a). The Secretary shall require the recipient of any such grant to provide matching funds for such research unless the Secretary determines that the research should be performed notwithstanding the lack of matching funds.

(c) **PROHIBITED USES.**—No grant may be made under subsection (b) (or expended by the recipient of such a grant) for the planning, repair, rehabilitation, acquisition, or construction of a building or a facility.

(d) **ELIGIBILITY REQUIREMENTS.**—To be eligible to receive a grant under subsection (b), a person or governmental entity shall submit to the Secretary an application that contains—

(1) a proposal to carry out research for one or more of the activities specified in subsection (a);

(2) an assurance that such person or entity will submit to the Secretary a detailed report of the research conducted with such grant; and

(3) such other terms and conditions as the Secretary may require by rule.

(e) **EFFECT ON OTHER PROGRAMS.**—Nothing in this section shall be construed or interpreted—

(1) to limit or otherwise affect the research programs of any agency or department of the Federal Government currently conducted or to be conducted under any other statutory authority; or

(2) to implement any changes to current production, preparation, processing, handling and storage methods and procedures for agricultural products.

(f) **AGRICULTURAL PRODUCT DEFINED.**—For purposes of this section, the term "agricultural product" means the product of an agricultural commodity produced in the United States from a plant or animal or silvicultural activities, or an aquacultural species, including those raised and propagated in a controlled environment.

SEC. 1645. ADVISORY COMMITTEE AND GRANT PROCESS.

(a) **ADVISORY COMMITTEE.**—The Secretary of Agriculture shall establish a committee to set research priorities for, and evaluate, proposed research projects for which grants under section 1644(b) are requested.

(b) **MEMBERSHIP.**—The committee shall be comprised of 13 members as follows:

(1) The Secretary or the designee of the Secretary *ex officio*.

(2) Two members appointed by the Secretary from among scientists who are employed by colleges, universities, or State agricultural experiment stations and who are specially qualified to serve on the committee by virtue of their demonstrated, generally recognized expertise in food science, microbiology, veterinary

medicine, pathology, or any other appropriate scientific discipline.

(3) Two members appointed by the Secretary from among scientists or public health professionals who are employed by private research organizations or other entities involved in food research and who are specially qualified to serve on the committee by virtue of their demonstrated, generally recognized expertise in food science, microbiology, veterinary medicine, pathology, or any other appropriate scientific discipline.

(4) Two members appointed by the Secretary from among individuals who are employees of the Federal Government and who are specially qualified to serve on the committee by virtue of their demonstrated, generally recognized expertise in food science, microbiology, veterinary medicine, pathology, or any other appropriate scientific discipline.

(5) Three members appointed by the Chairman of the Committee on Agriculture of the House of Representatives (in consultation with the ranking minority member of that Committee) from persons who are specially qualified to serve on the committee by virtue of their demonstrated, generally recognized expertise in food science, microbiology, veterinary medicine, pathology, or any other appropriate scientific discipline.

(6) Three members appointed by the Chairman of the Committee on Agriculture, Nutrition, and Forestry of the Senate (in consultation with the ranking minority member of that Committee) from persons who are specially qualified to serve on the committee by virtue of their demonstrated, generally recognized expertise in food science, microbiology, veterinary medicine, pathology, or any other appropriate scientific discipline.

(c) **PUBLIC NOTICE.**—

(1) **PROPOSED RESEARCH PRIORITIES.**—On receipt of the committee's recommendations with respect to research priorities for grants awarded under section 1644(b), the Secretary shall publish in the Federal Register—

(A) the proposed research priorities, and

(B) a notice requesting persons and governmental entities to submit written comments on the priorities to the Secretary not later than sixty days after publication of such notice.

(2) **FINAL RESEARCH PRIORITIES.**—After review of comments received under paragraph (1), the Secretary shall establish final research priorities by notice in the Federal Register.

(d) **REVIEW OF RESEARCH PROPOSALS.**—

(1) **ROLE OF COMMITTEE.**—On receipt of an application submitted under section 1644(b) for research, the Secretary shall refer the research proposal contained in such application to the committee established by this section for its review.

(2) **PEER REVIEW.**—To assist the committee in its deliberations, the committee shall establish peer review panels to review the scientific and technical merits of research proposals. The committee shall seek the widest participation of qualified scientists and public health professionals in such panels. The peer review panels shall report their findings and recommendations to the committee.

(3) **CONSULTATION AND COORDINATION.**—Both the committee and the peer review panels shall consult and coordinate with other appropriate Federal advisory committees.

(4) **RECOMMENDATIONS.**—After due consideration of the review panel comments, the committee shall recommend to the Secretary which grants should be made under this subtitle.

(e) **BASIC AND APPLIED RESEARCH.**—In reviewing research proposals received under subsection (d), the committee and the peer review panels shall identify both—

(1) proposals for basic research, and

(2) proposals for applied research, taking into consideration the practical application of the results of basic research and applied research.

(f) **REVIEW OF COMPLETED PROJECTS.**—When a research project is completed, the grant recipient shall forward the results of the project to the committee for its review. The committee shall submit the results to the Secretary along with any recommendations or suggestions of the committee.

(g) **APPLICATION OF THE FEDERAL ADVISORY COMMITTEE ACT.**—The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply with respect to the committee or peer review panels established under this section.

SEC. 1646. REPORTS TO CONGRESS.

(a) **REPORT ON IMPLEMENTATION.**—Not later than one year after the date of the enactment of this Act, the Secretary of Agriculture shall submit to the Committee on Agriculture of the House of Representatives and to the Committee on Agriculture, Nutrition, and Forestry of the Senate a report on the implementation of this subtitle.

(b) **REPORTS ON RESEARCH.**—For each fiscal year in which funding is provided to carry out this subtitle, the Secretary shall report on the findings of the research for which grants were made during such fiscal year under this subtitle and include in such report any recommendations for implementation of the findings to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate.

SEC. 1647. AUTHORIZATION OF APPROPRIATIONS.

(a) **AUTHORIZATION.**—There are authorized to be appropriated for each of the fiscal years 1991 through 1995 such sums as may be necessary to carry out this subtitle to be available until expended without fiscal year limitation.

(b) **ADMINISTRATIVE EXPENSES.**—Not more than four percent of the amount appropriated for a fiscal year under subsection (a) may be expended by the Secretary of Agriculture for administrative costs incurred by the Secretary to carry out this subtitle.

Subtitle F—Plant and Animal Pest and Disease Control Program

SEC. 1650. PLANT AND ANIMAL PEST AND DISEASE CONTROL PROGRAM.

(a) **INTEGRATED PEST MANAGEMENT RESEARCH.**—

(1) **PROGRAM REQUIRED.**—The Secretary shall undertake or assist in the conduct of research regarding integrated pest man-

agement, including research by grant or contract with Federal or State agencies or private industries, institutions, or organizations, as may be necessary to carry out this subtitle. Such research shall include integrated pest management research to benefit floriculture.

(2) **IMPLEMENTATION.**—Implementation of integrated pest management strategies shall be conducted through the Extension Service.

(b) **EFFECT ON OTHER LAWS.**—Nothing in this Act shall be construed as limiting or repealing the authority of the Administrator of the Environmental Protection Agency to conduct research regarding integrated pest management under section 20(a) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136r(a)).

(c) **INTEGRATED PEST MANAGEMENT DEFINED.**—For purposes of this section, the term "integrated pest management" means a pest or disease population management system that uses all suitable techniques, such as biological and cultural controls as well as pesticides, in a total production system to anticipate and prevent pests and diseases from reaching economically damaging levels.

SEC. 1651. PEST AND DISEASE CONTROL DATA BASE AND PESTICIDE RESISTANCE MONITORING.

(a) **DATA BASE REQUIRED.**—The Secretary of Agriculture shall establish and maintain a data base on available materials and methods of pest and disease control available to agricultural producers. The data base required by this subsection shall include a listing (by crop, animal, and pest or disease) of information—

(1) on currently available materials or methods of chemical, biological, cultural, or other means of controlling plant and animal pests and diseases; and

(2) on the extent of pest or disease resistance developed under the monitoring required by subsection (d).

(b) **PRIORITIES FOR RESEARCH AND EXTENSION ACTIVITIES.**—When the information in the data base established under subsection (a) indicates a shortage of available pest or disease control materials or methods to protect a particular crop or animal, the Secretary of Agriculture shall set priorities designed to overcome this shortage in its pest and disease control research and extension programs conducted under this subtitle.

(c) **DISSEMINATION OF INFORMATION IN THE DATA BASE.**—The Secretary of Agriculture shall—

(1) make the information contained in the data base established under subsection (a) available through the National Agricultural Library; and

(2) provide such information on an annual basis to the Administrator of the Environmental Protection Agency in support of the activities of that Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.).

(d) **PESTICIDE RESISTANCE MONITORING.**—The Secretary of Agriculture shall establish a national pesticide resistance monitoring program in accordance with the report developed by the Secretary under section 1437 of the Food Security Act of 1985 (Public Law 99-198; 99 Stat. 1558).

(e) **PESTICIDE DEFINED.**—For purposes of this section and section 1652, the term “pesticide” shall have the same meaning as given that term in section 2(u) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136(u)).

SEC. 1652. RESEARCH ON EXOTIC PESTS.

(a) **PURPOSE.**—The purpose of this section is to expand the research capacity of the Department of Agriculture and State cooperative institutions in the control and eradication of exotic pests.

(b) **RESEARCH PROGRAM.**—The Secretary of Agriculture shall expand ongoing research and grant programs designed to control infestations of exotic pests. Expanded research and grant programs shall include—

(1) improvement of existing methods of pest control, including sterile insect release, and development of safer pesticides, including pheromones; and

(2) expansion of research capacity to develop new methods of pest control, including containment of pests for research purposes.

SEC. 1653. STUDY OF THE BIOLOGY AND BEHAVIOR OF CHINCH BUGS, INCLUDING FACTORS LEADING TO CROP LOSS AND DEVELOPMENT OF IMPROVED MANAGEMENT PRACTICES.

The Secretary of Agriculture shall establish a research and education program to study the biology and behavior of chinch bugs. The purpose of this study shall be—

(1) to characterize the relationship between environmental and climatic factors and chinch bug outbreaks in an attempt to predict when these outbreaks occur;

(2) to determine chinch bug dispersal habits, overwintering habitat preferences, and overwintering survival in native and introduced grasses;

(3) to describe the population dynamics of chinch bugs in small grain and noncrop grass hosts in the spring and assess yield losses in small grain crop hosts; and

(4) to investigate various aspects of chinch bug behavior (including host habitat preferences, oviposition, and pheromones) that may result in the development of novel management strategies.

SEC. 1654. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated such sums as may be necessary to carry out this subtitle.

Subtitle G—Alternative Agricultural Research and Commercialization

SEC. 1657. SHORT TITLE, PURPOSES, AND DEFINITIONS.

(a) **SHORT TITLE.**—This subtitle may be cited as the “Alternative Agricultural Research and Commercialization Act of 1990”.

(b) **PURPOSE.**—Through the encouragement of and the provision of assistance to agricultural research, development, and commercialization, it is the purpose of this subtitle—

(1) to authorize research in modification of agricultural commodities, and associated research, in order to develop and

produce marketable products other than food, feed, or traditional forest or fiber products;

(2) to commercialize new nonfood, nonfeed uses for traditional and new agricultural commodities in order to create jobs, enhance the economic development of the rural economy, and diversify markets for raw agricultural and forestry products;

(3) to encourage cooperative development and marketing efforts among manufacturers, financiers, universities, and private and government laboratories in order to assist the commercialization of new nonfood, nonfeed uses for agricultural and forestry products;

(4) to direct, to the maximum extent possible, research and commercialization efforts toward the production of new nonfood, nonfeed products from agricultural commodities that can be raised by family-sized agricultural producers; and

(5) to foster economic development in rural areas of the United States through the introduction of new nonfood, nonfeed products obtained from agricultural commodities.

(c) **DEFINITIONS.**—For purposes of this subtitle:

(1) The term “agricultural commodity” means a plant or animal species (including a species propagated or raised in a controlled environment or a tree species) and the products derived from that species.

(2) The term “alternative agricultural product” means a new use, application, or material that—

(A) is derived from an agricultural commodity; and

(B) is not in widespread commercial use and is not expected to significantly displace a use, application, or material derived from an agricultural commodity that already is in widespread commercial use.

(3) The term “Board” means the Alternative Agricultural Research and Commercialization Board.

(4) The term “Center” means the Alternative Agricultural Research and Commercialization Center.

(5) The term “commercialization” or “commercialize” includes—

(A) activities associated with the development of alternative agricultural products or industrial plants;

(B) the application of technology and techniques to the development of industrial products and alternative agricultural products; and

(C) the market development of new nonfood, nonfeed uses of new and traditional agricultural commodities and processes that will lead to the creation of goods and services that may be marketed for profit.

(6) The term “Fund” means the Alternative Agricultural Research and Commercialization Revolving Fund.

(7) The term “host institution” means an existing entity that is located in the region that is—

(A) a university or other institution of higher education;

(B) a Department of Agriculture laboratory;

(C) a State agricultural experiment station;

(D) a State cooperative extension service facility; or

(E) another organization that is involved in the development or commercialization of new nonfood, nonfeed uses for agricultural commodities, or is involved in rural economic development.

(8) The term "new nonfood, nonfeed product development" means targeted research, including fundamental and applied research, concerning—

(A) the production and processing of agricultural commodities for the purposes of developing new nonfood, nonfeed products;

(B) the uses of new nonfood, nonfeed products; and

(C) steps necessary to make a nonfood, nonfeed product available for the marketplace.

(9) The term "new nonfood, nonfeed product" means an item that is primarily not a food, feed, or traditional forest or fiber product, including an item that exists but is not commercially available from an agricultural commodity.

(10) The term "nonprofit organization" means an organization that is—

(A) described in section 501(c) of the Internal Revenue Code of 1986; and

(B) exempt from taxation under section 501(a) of such Code.

(11) The term "Secretary" means the Secretary of Agriculture.

(12) The term "traditional forest or fiber product" means a forest or fiber product that is derived from forest or agricultural materials and does not have substantial new properties.

SEC. 1658. ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION CENTER.

(a) **ESTABLISHMENT.**—The Secretary of Agriculture shall establish an Alternative Agricultural Research and Commercialization Center to carry out the purpose of this subtitle. The Center shall be operated as an independent entity within the Department of Agriculture under the general supervision and policy control of the Secretary.

(b) **FUNCTIONS.**—The Center shall have the authority to—

(1) make grants to, and enter into cooperative agreements and contracts with, eligible applicants for research, development, and demonstration projects in accordance with section 1660;

(2) make loans and interest subsidy payments and invest venture capital in accordance with section 1661;

(3) collect and disseminate information about State, regional, and local commercialization projects;

(4) search for new nonfood, nonfeed products that may be produced from agricultural commodities and for processes to produce such products;

(5) administer, maintain, and dispense funds from the Alternative Agricultural Research and Commercialization Revolving Fund to facilitate the conduct of activities under this subtitle; and

(6) engage in other activities incident to carrying out its functions.

(c) **DIRECTOR.**—The Center shall be headed by a Director, who shall be appointed by the Board and approved by the Secretary of Agriculture. The Director shall receive basic pay at the rate provided for level IV of the Executive Schedule under section 5315 of title 5, United States Code. The Director shall be appointed for a term of five years, subject to removal by the Board before the end of that term.

(d) **RESPONSIBILITIES OF THE DIRECTOR.**—Subject to the general supervision of the Board, the Director shall be responsible for the overall management of the Center and the implementation of general policies respecting the management and operation of programs and activities of the Center. In carrying out such responsibilities on behalf of the Center, the Director shall—

(1) provide for appropriate peer review of—

(A) applications for grants, contracts, and cooperative agreements submitted under section 1660 and applications for financial assistance submitted under section 1661;

(B) the conduct of research for which assistance is provided by the Center; and

(C) research findings or reports resulting from grants, contracts, and cooperative agreements administered by the Center as the Board determines necessary;

(2) require, where appropriate, licensing and patent agreements, copyright fees, royalties, or other fee arrangements on the sales of products, new uses, applications technologies, or processes developed through assistance provided through a grant made, contract or cooperative agreement entered into, or other assistance provided, under this subtitle; and

(3) take appropriate action to ensure that all channels for the dissemination and exchange of agricultural products and processes research are maintained between the Center and other agricultural, scientific, and business entities; and

(e) **STAFF.**—Upon the request of the Director, the Secretary may detail, on a reimbursable basis, any of the personnel of the Department of Agriculture to assist the Director in carrying out the duties of the Director.

(f) **EXPERTS AND CONSULTANTS.**—The Director may procure temporary and intermittent services under section 3109(b) of title 5, United States Code.

SEC. 1659. ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION BOARD.

(a) **ESTABLISHMENT OF BOARD.**—The Secretary shall establish the Alternative Agricultural Research and Commercialization Board.

(b) **MEMBERS.**—The Board shall consist of nine members appointed by the Secretary as follows:

(1) One member who shall be an employee of the Department of Agriculture.

(2) Four members, of whom—

(A) at least one shall be a representative of the leading scientific disciplines relevant to the activities of the Center;

(B) at least one shall be a producer or processor of agricultural commodities; and

(C) at least one shall be a person who is privately engaged in the commercialization of new nonfood, nonfeed products from agricultural commodities.

(3) Two members who—

(A) have expertise in areas of applied research relating to the development or commercialization of new nonfood, nonfeed products; and

(B) shall be appointed from a group of at least four persons nominated by the Director of the National Science Foundation if such nominations are made within 60 days after the date a vacancy occurs.

(4) Two members who—

(A) have expertise in financial and managerial matters; and

(B) shall be appointed from a group of at least four persons nominated by the Secretary of Commerce if such nominations are made within 60 days after the date a vacancy occurs.

(c) **RESPONSIBILITIES.**—The Board shall—

(1) be responsible for the general supervision and policy control of the Center and Regional Centers;

(2) determine (in consultation with the advisory council appointed under section 1661 and those Regional Centers established under section 1663) high priority commercialization areas to receive assistance under that section;

(3) review any grant, contract, or cooperative agreement to be made by the Center under section 1660 and any financial assistance to be provided under section 1661;

(4) make the final decision, by majority vote, on whether and how to provide assistance to an applicant;

(5) establish program policy, objectives, research and development, and commercialization priorities to implement this subtitle, through a process of public hearings to be initiated as soon as practicable after the establishment of the Board; and

(6) using the results of such hearings and other information and data collected under paragraph (5), develop and establish a budget plan and a long-term operating plan to implement this subtitle.

(d) **MEETINGS.**—The Board shall meet at the call of the chairperson or at the request of the Director, but at least three times each fiscal year. The location of the meetings of the Board shall be subject to the approval of the Director. A quorum of the Board shall consist of a majority of the members of the Board. The decisions of the Board shall be made by majority vote.

(e) **TERM; VACANCIES.**—The term of office of a member of the Board shall be four years, except that the members initially appointed shall be appointed to serve staggered terms. A member appointed to fill a vacancy for an unexpired term may be appointed only for the remainder of such term. A vacancy on the Board shall be filled in the same manner as the original appointment.

(f) **CHAIRPERSON.**—The members of the Board shall select a chairperson from among the members. The term of office of the chairperson shall be two years. The member appointed under subsection (b)(1) may not serve as chairperson.

(g) **COMMITTEES.**—The Board may establish one or more temporary committees with agricultural, scientific, technical, or other expertise, whose duties shall be to provide information, analysis, and recommendations, at the request and direction of the Board, on scientific, technological, policy, and other matters, as determined necessary by the Board.

(h) **COMPENSATION.**—Members of the Board who are officers or employees of the United States shall not receive any additional compensation by reason of service on the Board. Other members of the Board shall receive, for each day (including travel time) they are engaged in the performance of the functions of the Board, compensation at a rate not to exceed the daily equivalent of the annual rate in effect for grade GS-18 of the General Schedule. All members of the Board shall be reimbursed for travel, subsistence, and other necessary expenses incurred by them in the performance of their duties.

(i) **RESTRICTIONS.**—

(1) **CONFLICT OF INTEREST.**—Except as provided in paragraph (3), no member of the Board shall vote on any matter respecting any application, contract, claim, or other particular matter pending before the Center, in which, to the knowledge of the member, such member, spouse or child of such member, partner or organization in which such member is serving as officer, director, trustee, partner, or employee, or any person or organization with whom such member is negotiating or has any arrangement concerning prospective employment, has a financial interest.

(2) **VIOLATIONS.**—Action by a member of the Board that is contrary to the prohibition contained in paragraph (1) shall be cause for removal of such member, but shall not impair or otherwise affect the validity of any otherwise lawful action by the Center in which the member or officer participated.

(3) **EXCEPTIONS.**—The prohibitions contained in paragraph (1) shall not apply if a member of the Board advises the Board of the nature of the particular matter in which such member proposes to participate in, and if such member makes a full disclosure of such financial interest, prior to any participation, and the Board determines, by majority vote, that the financial interest is too remote or too inconsequential to affect the integrity of such member's services to the Center in that matter. The member involved shall not participate in such determination.

(j) **AUTHORITY OF THE SECRETARY.**—Any final decision made under subsection (c) may be vetoed by the Secretary, and the Secretary shall inform the Board of the reasons for such veto.

SEC. 1660. RESEARCH AND DEVELOPMENT GRANTS, CONTRACTS, AND AGREEMENTS.

(a) **ELIGIBILITY.**—All public and private educational institutions, other public and private research institutions and organizations, Federal agencies, and individuals shall be eligible to receive a grant from, or enter into a contract or cooperative agreement with, the Center for a research, development, or demonstration project, as provided in this section.

(b) **COMPETITIVE BASIS FOR AWARDS.**—Grants made, and contracts and cooperative agreements entered into, under this section shall be

selected on a competitive basis on the recommendation of a peer review system to be established by the Center. Such system shall contain peer review expertise in commercial production, product development, processing, and marketing of agricultural commodities as well as in scientific research.

(c) **SELECTION CRITERIA.**—The Board may select a research, development, or demonstration project to receive a grant, contract, or cooperative agreement under this section based on the likelihood that the project will result in creating or improving economically viable commercial nonfood, nonfeed products, applications, processes, or technologies that involve the use of raw or processed agricultural commodities. The criteria to be considered may include the following:

(1) the prospect of developing technologies that could make it possible to use or modify existing agricultural commodities to provide an economically viable quantity of new nonfood, nonfeed products;

(2) the potential market size of the new nonfood, nonfeed product, the likely time period needed to bring the product into the stream of commerce for general use, and the likely availability of the agricultural commodity used to produce the product;

(3) the potential for job creation in an economically distressed rural area;

(4) the anticipated State or local participation;

(5) the anticipated financial participation of private entities;

(6) the likely impact on reducing Federal crop subsidies and other Federal agricultural assistance program costs;

(7) the unavailability of adequate funding from other sources;

(8) the likely positive impact on resource conservation and the environment; and

(9) the likely positive effect of helping family-sized farmers and rural communities near the affected agricultural and forested areas.

(d) **SET-ASIDE OF FUNDS FOR CERTAIN PROJECTS.**—

(1) **IN GENERAL.**—Not less than two-thirds of the funds obligated each fiscal year for grants, contracts, and cooperative agreements under this section shall be awarded only for research, development, and demonstration projects for which the applicant—

(A) has committed substantial funding and support from its own resources; and

(B) has entered into a cooperative agreement or other contractual arrangement with a commercial company domiciled in the United States that commits such company to—

(i) provide funds for at least 20 percent of the total cost of such project; and

(ii) engage in commercial production and sale of the marketable products, processes, uses, applications, or technologies developed through the project, under appropriate licensing, royalty, or other agreements.

(2) **ANIMAL SOURCES.**—Not more than 25 percent of the funds obligated each fiscal year for grants, contracts, and cooperative agreements under this section shall be awarded only for projects

concerning new nonfood, nonfeed products derived from animal sources.

(e) **LIMITATION ON FUNDS PROVIDED.**—Funds committed by the Center for any project under a grant, contract, or cooperative agreement under this section shall in no case exceed two-thirds of the total cost of the project.

(f) **PREFERENCE.**—In selecting projects to receive funds, the Center may give preference to those projects for which the ratio of Center funds to non-Center funds would be lowest.

SEC. 1661. COMMERCIALIZATION ASSISTANCE.

(a) **ASSISTANCE AUTHORIZED.**—The Center, at the discretion of the Board, may provide to entities described in subsection (b) for projects commercializing new nonfood, nonfeed products using agricultural commodities, financial assistance in the form of—

- (1) loans made or insured by the Center;
- (2) interest subsidy payments made by the Center (pursuant to an agreement between the Center, the lender, and the borrower) to the lender in amounts determined pursuant to the agreement;
- (3) venture capital invested by the Center in the form of a convertible debenture; and
- (4) repayable grants that are matched by private or local public funds and that are repaid as agreed in a contract between the Center and the entity.

(b) **ELIGIBLE ENTITIES.**—To obtain financial assistance for commercialization of nonfood, nonfeed products from the Center, an entity shall be a university or other institution of higher education, a nonprofit organization, a cooperative, or a business concern.

(c) **ADVISORY COUNCIL.**—The Board shall appoint an Advisory Council to advise the Board and Regional Centers concerning all applications for assistance submitted under this section. The conflict of interest provisions of subsection (i) of section 1659 shall apply to the Advisory Council. In appointing members of the Advisory Council, the Board shall ensure regional participation on the Advisory Council. The Advisory Council shall—

- (1) review (or coordinate the review of) the technical, engineering, financial, and managerial soundness and marketing potential of the applications;
- (2) by majority vote, make a nonbinding recommendation on each application submitted under this section;
- (3) monitor the progress of ongoing projects and provide technical and business counseling as needed;
- (4) monitor the operation of the Regional Centers; and
- (5) provide technical and business counseling to entities that are not seeking financial assistance from the Center, but which are engaged in commercializing nonfood, nonfeed uses of agricultural commodities.

(d) APPLICATION REQUIREMENTS.—

(1) **FILED WITH DIRECTOR.**—To obtain financial assistance from the Center under this section, an eligible entity shall file an application with the Director.

(2) **CONTENTS.**—An application submitted to the Director under paragraph (1) shall—

(A) describe the proposal of the entity for the commercialization of a new product consistent with this section, including documentation that such proposal is—

- (i) scientifically sound;
- (ii) technologically feasible; and
- (iii) marketable;

(B) provide documentation that adequate private sector funding is not available, but that the applicant has the ability to obtain matching funds from the public or private sectors;

(C) provide documentation that the applicant has invested in the project a significant amount of the applicant's own resources, including time and money;

(D) provide documentation that the product or process has broad application and has the potential to be commercially viable without continual assistance;

(E) provide documentation that the proposal has broad participation by representatives of the public sector, the financial community, the private business community, State and local governments, educational institutions, the farm community, the science and engineering communities;

(F) provide documentation that an established relationship exists between the applicant and other entities to give the applicant access to private business assistance;

(G) provide assurances of legal compliance by the applicant with the terms and conditions of the receipt of assistance under this section; and

(H) provide assurances that the project will result in the creation of new jobs in rural communities.

(e) **PRIORITIES.**—The Board shall give priority to—

- (1) applications that shall create jobs in economically distressed rural areas;
- (2) applications that have State or local government financial participation; and
- (3) applications that have private financial participation.

(f) **ADDITIONAL CRITERIA.**—The Board shall establish additional criteria for use in selecting among equivalent applications. Such criteria shall emphasize—

- (1) the quantity and quality of jobs that are likely to be created in rural communities;
- (2) the amount of the financial participation by State or local governments or private entities;
- (3) the qualifications of the management to be used in the project;
- (4) the potential market demand for the potential product to be marketed proportional to the financial assistance requested; and
- (5) the likely level of returns to the Fund and the items described in paragraphs (2), (6), (8), and (9) of section 1660(c).

SEC. 1662. GENERAL RULES REGARDING THE PROVISION OF ASSISTANCE.

(a) **NOTICE OF RECEIPT OF APPLICATIONS.**—Not later than 30 days before the start of each period established by the Board for receipt of applications for financial assistance under section 1660 or 1661,

the Board shall publish in the Federal Register a notice that it will receive such applications.

(b) **MONITORING.**—The Board shall monitor the progress of projects that receive financial assistance under this subtitle. Such monitoring may include on-site reviews by representatives of the Board, a Regional Center, or the Advisory Council, the requirement of written reports by recipients of assistance, and supportive business and technical counseling as needed by the recipient. The Board may use the Advisory Council appointed under section 1661 to assist in such monitoring.

(c) **AUDITING AND ACCOUNTABILITY.**—

(1) **REQUIRED.**—The Board shall establish a thorough and effective system of auditing and accountability to ensure that funds paid under section 1660 or 1661 are used by recipients only for the purposes for which those funds are provided by the Center.

(2) **DEMONSTRATED COMPLIANCE.**—The Board may require that recipients of financial assistance demonstrate that the use of financial assistance is in compliance with the agreement by which that assistance is provided.

(d) **INFORMATION EXEMPT FROM DISCLOSURE.**—With respect to research, development, demonstration, or commercialization projects carried out with the participation of private research institutions or commercial companies, information received by the Center incident thereto shall be exempt from disclosure under section 552 of title 5, United States Code, and shall not be made available publicly except—

(1) with the approval of the person providing the information; or

(2) in a judicial or administrative proceeding in which such information is subject to protective order.

(e) **OVERHEAD AND ADMINISTRATIVE COSTS.**—The Board shall require that applications or responses to requests for proposals issued by the Center for grants, contracts, or cooperative agreements include detailed estimates of project overhead and administrative costs. In selecting such applications or proposals for awards, the Center shall give preference to those with the lowest effective costs.

(f) **PROHIBITION ON CERTAIN USES OF ASSISTANCE.**—No grant may be awarded, or contract or cooperative agreement entered into under this subtitle, for the acquisition or construction of a building or a facility.

(g) **REPORTS.**—

(1) **PREPARATION.**—As soon as practicable after the end of each fiscal year, the Board shall prepare and submit to the Secretary a report on the activities, progress, and accomplishments of the Center during such fiscal year. The report shall include—

(A) a description of the progress, activities, and accomplishments of the Center during that fiscal year and the expenditures by the Center for its information and other service activities; and

(B) a copy of the operating plan prepared by the Board under section 1659(c)(6).

(2) **TRANSMITTAL.**—The Secretary shall transmit each report received under paragraph (1) to the President and Congress not

later than 30 days after the date on which the Secretary receives the report.

SEC. 1663. REGIONAL CENTERS.

(a) ESTABLISHMENT.—

(1) **REQUIRED.**—Except as provided in paragraph (2), the Board shall establish not less than two nor more than six Regional Centers to carry out the activities specified in this section and such other activities as the Board shall from time to time specify.

(2) **EXCEPTION.**—A Regional Center may not be established or operated in a fiscal year unless at least \$5,000,000 has been appropriated for that fiscal year to carry out this subtitle.

(b) METHOD OF ESTABLISHMENT.—

(1) **REGIONAL BASIS.**—Each Regional Center established under this section shall be located at a host institution. The Regional Centers shall be established in different States to reflect the different regional climatic conditions and rural economic stresses in the United States.

(2) **COMPETITION.**—An organization that desires to be selected as a host institution for a Regional Center shall submit an application to the Board. The Board shall determine the location of the Regional Centers based on a competitive review of the contents of such applications and shall consider the ability of the applicant to carry out the activities specified in this section.

(c) MATCHING OF FUNDS.—

(1) **ASSURANCES OF APPLICANTS.**—Each institution submitting an application for a Regional Center under this section shall provide assurances—

(A) that adequate funds or in-kind support (including office space, equipment and staff support) shall be provided to match the amount of funds used for administrative costs that are provided by the Federal Government under this subtitle;

(B) that the institution is qualified to carry out the activities required of a Regional Center; and

(C) concerning such other matters as the Board determines to be appropriate.

(2) **CONSORTIUM.**—The matching funds required under paragraph (1) may be provided by a consortia that may include the host institution and other public or private entities existing within various regions of the United States, including State and local governments, entities created by State and local governments, charitable organizations, public and private universities and other institutions of higher education, cooperatives, and economic development organizations.

(d) **DIRECTOR.**—Each Regional Center shall be headed by a full-time Regional Director who shall—

(1) be selected by the Board; and

(2) have a scientific or engineering background or have experience in the development of new products or processes in the public or private sector.

(e) **ACTIVITIES.**—Each Regional Center shall—

(1) encourage interaction among the private and Federal laboratories, National Science Foundation centers, Department of Agriculture research programs, other Federal resources, State and local regional economic development programs, universities, colleges, the private sector, and the financial community, for the purpose of evaluating and commercializing new nonfood, nonfeed uses of agricultural commodities;

(2) identify broad areas where commercialization of new nonfood, nonfeed products and processes can contribute to economic growth in rural areas of the United States, through the development of new nonfood, nonfeed uses for agricultural commodities by private companies and businesses;

(3) provide technical assistance and related business and financial counseling for small domestic businesses to commercialize new nonfood, nonfeed uses of agricultural commodities;

(4) identify new nonfood, nonfeed products and processes that are worthy of financial assistance;

(5) make use of existing programs in scientific, engineering, technical, and management education that will support the accelerated commercialization of new nonfood, nonfeed products and processes using agricultural commodities;

(6) advise the Board on the viability of specific applications submitted for financial assistance and on the type of assistance, if any, to be provided;

(7) coordinate their activities with the Small Business Development Centers; and

(8) coordinate their activities with the Center.

(f) REVIEW OF PROPOSALS FOR ASSISTANCE.—

(1) **SUBMISSION TO REGIONAL CENTER.**—If a Regional Center is established that includes the area in which a person applying for assistance under this subtitle is located, that person shall submit the application to the Regional Center for review.

(2) **REVIEW.**—The Directors of the Regional Centers shall work in consultation with the Advisory Council appointed under section 1661(c) to obtain peer review and evaluation of applications submitted to the Regional Centers.

(3) **ROLE OF ADVISORY COUNCIL.**—The Advisory Council shall review applications submitted to the Regional Centers. The Advisory Council shall, by majority vote, make a nonbinding recommendation on each proposal to the appropriate Regional Director.

(4) **RECOMMENDATION.**—The Regional Director, after consideration of the Advisory Council's recommendation and based on the comments of the reviewers, shall make and submit a recommendation to the Board along with the recommendation of the Advisory Council. A recommendation submitted by a Regional Director or the Advisory Council shall not be binding on the Board.

SEC. 1664. ALTERNATIVE AGRICULTURAL RESEARCH AND COMMERCIALIZATION REVOLVING FUND.

(a) **ESTABLISHMENT.**—There is established in the Treasury of the United States a revolving fund to be known as the Alternative Agricultural Research and Commercialization Revolving Fund. The

Fund shall be available to the Center, without fiscal year limitation, to carry out the authorized programs and activities of the Center under this subtitle.

(b) **CONTENTS OF FUND.**—There shall be deposited in the Fund—

(1) such amounts as may be appropriated or transferred to support the programs and activities of the Center;

(2) payments received from any source for products, services, or property furnished in connection with the activities of the Center;

(3) fees and royalties collected by the Center from licensing or other arrangements relating to commercialization of products developed through projects funded in whole or part by grants, contracts, or cooperative agreements executed by the Center;

(4) donations or contributions accepted by the Center to support authorized programs and activities; and

(5) any other funds acquired by the Center.

(c) **FUNDING ALLOCATIONS.**—Funding of projects and activities under this subtitle shall be subject to the following restrictions:

(1) Of the total amount of funds made available for a fiscal year under this subtitle—

(A) not more than 5 percent may be set aside to be used for authorized administrative expenses of the Center in carrying out its functions;

(B) not more than 5 percent may be set aside to be used for information collection and dissemination and technology transfer programs authorized in this subtitle; and

(C) not less than 85 percent shall be set aside to be awarded to qualified applicants who file project applications with, or respond to requests for proposals from, the Center under sections 1660 and 1661.

(2) Any funds remaining uncommitted at the end of a fiscal year shall be credited to the Fund and added to the total program funds available to the Center for the next fiscal year.

(d) **TERMINATION OF THE FUND.**—On expiration of the provisions of this subtitle, all assets (after payment of all outstanding obligations) of the Fund shall revert to the general fund of the Treasury.

(e) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Fund—

(1) \$10,000,000 for fiscal year 1991;

(2) \$20,000,000 for fiscal year 1992;

(3) \$30,000,000 for fiscal year 1993;

(4) \$50,000,000 for fiscal year 1994, and

(5) \$75,000,000 for each of the fiscal years 1995 through 2000.

Subtitle H—Miscellaneous Research Provisions

SEC. 1668. BIOTECHNOLOGY RISK ASSESSMENT RESEARCH.

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

(1) authorize and support environmental assessment research to the extent necessary to help address general concerns about environmental effects of biotechnology; and

(2) authorize research to help regulators develop policies, as soon as practicable, concerning the introduction into the environment of such technology.

(b) **GRANT PROGRAM.**—The Secretary of Agriculture shall establish a grant program within the Cooperative State Research Service and the Agricultural Research Service to provide the necessary funding for environmental assessment research concerning the introduction of genetically engineered organisms into the environment.

(c) **TYPES OF RESEARCH.**—Types of research for which grants may be made under this section shall include the following:

(1) Research designed to develop methods to physically and biologically contain genetically engineered animals, plants, and microorganisms once they are introduced into the environment.

(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 rates and methods of gene transfer that may occur between genetically engineered organisms and related wild and agricultural organisms.

(4) 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, the Office of Agricultural Biotechnology, and the Agricultural Biotechnology Research Advisory Committee.

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

SEC. 1669. GRADUATE SCHOOL OF THE DEPARTMENT OF AGRICULTURE.

(a) **TRAINING SERVICES.**—Notwithstanding any other provision of law, the head of a Federal agency or major organizational unit within any agency, including agencies and offices within the Department of Agriculture, may place an order (or enter into an agreement) with the Graduate School of the Department of Agriculture under the provisions of section 1535 of title 31, United States Code,

for training and other services incidental to the provision of such training.

(b) **GOODS OR SERVICES.**—The Graduate School may obtain any goods or services necessary to the fulfillment of an order under subsection (a) or its obligations under such agreement without regard to the requirements of—

(1) the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 471 et seq.); or

(2) any other law that prescribes procedures for the procurement of property or services by an executive agency.

(c) **AUDITS OF RECORDS.**—The financial records of the Graduate School relating to orders or agreements under subsection (a) shall be made available to the Comptroller General for purposes of conducting an audit.

(d) **DEFINITIONS.**—For purposes of this section:

(1) The term "Graduate School" means the Graduate School of the Department of Agriculture.

(2) The term "training" has the meaning given that term in section 4101(4) of title 5, United States Code.

SEC. 1670. LIVESTOCK PRODUCT SAFETY AND INSPECTION PROGRAM.

(a) **ESTABLISHMENT.**—The Assistant Secretary for Science and Education, acting through the Cooperative State Research Service special grants program, may provide assistance to eligible entities to encourage and assist efforts made by research institutions to improve the efficiency and effectiveness of safety and inspection systems for livestock products.

(b) **ELIGIBLE ENTITIES.**—To be eligible to receive assistance under this section an entity shall be a land-grant college or university or any other college or university which demonstrates capability in the agriculture sciences, an individual research institution, or a consortia of such institutions.

(c) **CONTRIBUTION BY ENTITY.**—

(1) **REQUIREMENT.**—To be eligible to receive assistance under this section, an entity shall agree that such entity will, with respect to the costs to be incurred by the entity in conducting the research for which the assistance is provided, make available (directly or through donations) non-Federal contributions toward such costs in an amount equal to 50 percent of such costs.

(2) **NON-FEDERAL CONTRIBUTIONS.**—Non-Federal contributions required under paragraph (1) may be in cash or in kind, fairly evaluated, including plant, equipment, or services. Amounts provided by the Federal Government, or services assisted or subsidized to any significant extent by the Federal Government, may not be included in determining the amount of such non-Federal contributions.

(d) **ADMINISTRATION.**—In providing assistance under this section, the Assistant Secretary for Science and Education shall to the extent practicable ensure that the amount of such assistance is provided equally to eligible entities representing the beef, pork, lamb, poultry, and aquaculture industries.

(e) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to carry out this section, such sums as necessary for each of the fiscal years 1991 through 1995.

SEC. 1671. PLANT GENOME MAPPING PROGRAM.

(a) **PROGRAM REQUIRED.**—The Secretary of Agriculture (hereinafter in this section referred to as the "Secretary") shall conduct a research program for the purpose of—

- (1) supporting basic and applied research and technology development in the area of plant genome structure and function;
- (2) providing United States leadership in biotechnology; and
- (3) providing crop varieties that may be cultivated profitably without negatively impacting the environment.

(b) **COMPETITIVE GRANTS.**—The Secretary may make competitive grants, for periods not to exceed five years, to State agricultural experiment stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals for research projects in the research areas identified in subsection (c).

(c) **RESEARCH AREAS.**—Grants available under subsection (b) shall be awarded in the following research areas:

- (1) Construction of plant genome maps.
- (2) Identification, characterization, transfer, and expression of genes of agricultural importance.
- (3) Technology development in the areas of plant genome mapping, sequencing, gene transfer, and data management.
- (4) Research on microorganisms associated with plants, such as plant pathogens and plant symbionts.

(d) **PLAN FOR MAKING GRANTS.**—Not later than 90 days after the date of the enactment of this Act, the Secretary shall submit to the Congress a detailed plan for awarding grants under this section.

(e) **COORDINATION OF EFFORTS.**—The Secretary shall coordinate activities under this section with related activities sponsored by the National Science Foundation, the National Institutes of Health, the Department of Energy, and the Department of Commerce.

(f) **PROPRIETARY INTERESTS.**—The Secretary shall require (when the Secretary considers it to be appropriate) licensing and patent agreements, copyright fees, royalties, or other fee arrangements on the sales of products and new uses, applications, technologies, or processes developed through assistance provided under this section.

(g) **REPORTS.**—The Secretary shall submit to the Congress an annual report describing the operations of the grant program authorized by this section during the preceding fiscal year.

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

SEC. 1672. SPECIALIZED RESEARCH PROGRAMS.

(a) **ANIMAL LEAN CONTENT RESEARCH.**—The Secretary of Agriculture is encouraged to fund research for the development of technology which will ascertain the lean content of animal carcasses to be used for human consumption.

(b) **ETHANOL RESEARCH.**—In order to further carry on and enhance needed ethanol research, the facility of the Agricultural Research Service located at Peoria, Illinois (authorized by section 202

of the Agricultural Adjustment Act of 1938 (7 U.S.C. 1292)), may enter into cooperative agreements, contracts, and the exchange of scientific information with the Department of Energy in the area of ethanol research. Such facility shall hereafter be referred to as the National Center for Agricultural Utilization Research, Agricultural Research Service, United States Department of Agriculture.

(c) **AFLATOXIN RESEARCH.**—The Secretary of Agriculture shall conduct a research program for the purpose of determining the presence of aflatoxin in the food and feed chains. The research required under this subsection shall include research in the following areas:

(A) The examination of agricultural commodities, products, and feeds for the presence and quantity of aflatoxin.

(B) The examination of human populations to assess the exposure level to aflatoxin.

(C) The examination of safe levels of aflatoxin in the food and feed chains.

(D) The development and assessment of control methods for aflatoxin, including methods to handle, store, detoxify, and dispose of aflatoxin-contaminated agricultural commodities, products, and feeds.

(E) The development of effective methods of controlling the aflatoxin contamination of agricultural products in international trade when the level of such contamination exceeds an acceptable level.

(F) The development of plants resistant to aflatoxin contamination.

(G) The improvement of sampling and analysis methods for aflatoxin.

(H) The effect of aflatoxin on animal disease through immunosuppression and interaction with other disease agents.

(I) The economic consequences of aflatoxin contamination.

(d) **MESQUITE RESEARCH.**—

(1) **RESEARCH REQUIRED.**—The Secretary of Agriculture shall conduct a research program for the purpose of developing enhanced production methods and commercial uses of mesquite.

(2) **COMPETITIVE GRANTS.**—The Secretary shall make competitive grants, for periods not to exceed 5 years, to a State agricultural experiment station, a college or university, or a consortium of such entities, for a research project in the research areas identified in paragraph (3).

(3) **RESEARCH AREAS.**—A grant available under paragraph (2) shall be awarded to an applicant to conduct research in—

(A) the development of techniques to produce, from small-diameter, short-length, or otherwise irregular mesquite logs, solid-wood products useful as flooring, furniture parts, turning blanks, and such other uses as may have potential economic value;

(B) the development of management techniques designed to improve stands for quality lumber production from mesquite; and

(C) such other methods of production, harvesting, processing, and marketing that are designed to provide viable markets for mesquite and lead to the commercialization of mesquite as a cash crop.

(4) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated \$100,000 for each of the fiscal years 1991 through 1995 to carry out this subsection.

(e) **PRICKLY PEAR RESEARCH.**—

(1) **RESEARCH REQUIRED.**—The Secretary of Agriculture shall conduct a research program for the purpose of investigating enhanced genetic selection and processing techniques of prickly pears.

(2) **COMPETITIVE GRANTS.**—The Secretary shall make competitive grants, for periods not to exceed 5 years, to a State agricultural experiment station, a college or university, or a consortium of such entities, for research projects in the research areas identified in paragraph (3).

(3) **RESEARCH AREAS.**—A grant available under paragraph (2) shall be awarded to an applicant to conduct research—

(A) to investigate, through genetic selection, the development of varieties of prickly pear with improved growth, freeze tolerance, and harvest characteristics;

(B) to develop techniques to produce and process prickly pear as a food source; and

(C) to continue to investigate the nutritional value and health benefits of prickly pears.

(4) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated \$100,000 for each of the fiscal years 1991 through 1995 to carry out this subsection.

(f) **IMMUNOASSAY RESEARCH.**—

(1) **RESEARCH REQUIRED.**—The Secretary of Agriculture shall establish and carry out a program to make grants to colleges and universities for research relating to immunoassay used—

(A) to detect agricultural pesticide residues on agricultural commodities for human consumption; and

(B) to diagnose animal and plant diseases.

(2) **PREFERENCE.**—In making grants under this subsection, the Secretary may give preference to those colleges and universities that, as of the date of the enactment of this Act, are conducting research described in this subsection.

(g) **NICHE MARKET DEVELOPMENT.**—The Secretary shall make research and extension grants available for the development of agricultural production and marketing systems that will service niche markets located in nearby metropolitan areas. In awarding such grants, the Secretary shall pay particular attention to areas—

(1) with a high concentration of small farm operations; and

(2) that experience difficulty in delivering products to market due to geographic isolation.

(h) **SCRAPIE RESEARCH.**—

(1) **RESEARCH AUTHORIZED.**—The Secretary of Agriculture may establish and carry out a program to conduct research on the disease of scrapie in sheep and goats, including research regarding the following:

(A) Methods for detecting infection of animals with scrapie before the animals become symptomatic.

(B) Methods for treatment, prevention, and cure of scrapie.

(C) Methods for controlling the spread of scrapie.

(2) **GRANTS AND CONTRACTS.**—In carrying out a research program established under this subsection, the Secretary may make grants to and contract with Federal, State, and local agencies and any other organizations that are experienced in research regarding animal diseases.

(3) **COORDINATION.**—The Secretary shall coordinate the research program established under this subsection with other research programs regarding encephalopathies, in particular research regarding bovine spongiform encephalopathy in cattle.

(i) **DEER TICK ECOLOGY AND RELATED RESEARCH.**—There are authorized to be appropriated \$250,000 for each of the fiscal years 1991 through 1995 to be used by the Agricultural Research Service to assist research in the field of population ecology of deer ticks and other insects and pests which transmit Lyme disease.

(j) **NEW COMMERCIAL PRODUCTS FROM NATURAL PLANT MATERIALS.**—The Secretary of Agriculture may—

(1) conduct fundamental and applied research related to the development of new commercial products derived from natural plant materials for industrial, medical, and agricultural applications; and

(2) participate with colleges and universities, other Federal agencies, and private sector entities in conducting such research.

(k) **ADMINISTRATIVE PROVISIONS.**—

(1) **PEER REVIEW.**—Except for research funded under subsection (i), research funded under this section shall be subject to peer review at such times as the Secretary considers necessary for the purpose of reviewing the progress and efficacy of the research and the justification and need for continued funding.

(2) **LIMITATION ON USE OF FUNDS.**—Funds provided under this section may not be used for the planning, repair, rehabilitation, acquisition, or construction of a building or facility.

(3) **GENERAL ELIGIBILITY.**—Unless otherwise specified in this section, State agricultural experiment stations, all colleges and universities, other research institutions and organizations, Federal agencies, private organizations or corporations, and individuals shall be eligible to participate in the programs established by this section.

SEC. 1673. AGRICULTURAL TELECOMMUNICATIONS PROGRAM.

(a) **PURPOSE.**—The program (hereafter referred to in this section as the "program") established under this section is intended to encourage the development and utilization of an agricultural communications network to facilitate and to strengthen agricultural extension, resident education and research, and domestic and international marketing of United States agricultural commodities and products through a partnership between eligible institutions and the Department of Agriculture. The network will employ satellite and other telecommunications technology to disseminate and to share academic instruction, cooperative extension programming, agricultural research, and marketing information.

(b) **OBJECTIVES.**—The objectives of the program established under this section are—

(1) to make optimal use of available resources for agricultural extension, resident education, and research by sharing resources between participating institutions;

(2) to improve the competitive position of United States agriculture in international markets by disseminating information to producers, processors, and researchers;

(3) to train students for careers in agriculture and food industries;

(4) to facilitate interaction among leading agricultural scientists;

(5) to enhance the ability of United States agriculture to respond to environmental and food safety concerns; and

(6) to identify new uses for farm commodities and to increase the demand for United States agricultural products in both domestic and foreign markets.

(c) **DEFINITIONS.**—For purposes of this section—

(1) The term “eligible institution” means an accredited institution of higher education determined by the Secretary to be able to meet the objectives identified in subsection (b).

(2) The term “communications network” refers to television or cable television origination or distribution equipment, signal conversion equipment (including both modulators and demodulators), computer hardware and software, programs or terminals, or related devices, used to process and exchange data through a telecommunications system in which signals are generated, modified, or prepared for transmission, or received, via telecommunications terminal equipment or via telecommunications transmission.

(3) The term “delivery” means the transmission and reception of programs by facilities that transmit, receive, or carry data between telecommunications terminal equipment at each end of a telecommunications circuit or path.

(4) The term “facilities” includes microwave antennae, fiber-optic cables and repeaters, coaxial cables, communications satellite ground station complexes, copper cable electronic equipment associated with telecommunications transmission, and similar items as defined by the Secretary.

(5) The term “satellite ground station complex” includes transmitters, receivers, and communications antennae at the Earth station site together with the interconnecting terrestrial transmission facilities (including cables, line, or microwave facilities) and modulating and demodulating equipment necessary for processing traffic received from the terrestrial distribution system prior to transmission via satellite and the traffic received from the satellite prior to transfer to terrestrial distribution systems.

(d) **AUTHORIZATION OF ASSISTANCE TO ELIGIBLE INSTITUTIONS.**—
(1) The Secretary shall establish a program, to be administered by the Assistant Secretary for Science and Education, under which financial and technical assistance may be provided to eligible institutions that participate in a network that distributes programs consistent with the objectives described in subsection (b).

(2) The Secretary may approve all or part of any application submitted by an eligible institution if the proposed activity will contrib-

ute, directly or indirectly, to the purpose and objectives of the program established under this section.

(3) As provided in subsection (f), applications for financial assistance may include requests to fund program production or program delivery, or both.

(e) **PRIORITY.**—The Secretary, in considering applications for assistance under this program, shall establish procedures to ensure a broad dissemination of programming, giving a preference to applications that—

(1) are submitted by institutions affiliated with an established agricultural telecommunications network that distributes programs to a wide geographical area; or

(2) demonstrate the need for such assistance, taking into consideration the relative needs of all applicants and the financial ability of the applicants to otherwise secure or create the telecommunications system.

(f) **APPLICATIONS FOR PROGRAM PRODUCTION AND DELIVERY.**—(1) The Secretary shall consider applications for financial assistance for the production and delivery of programs or cooperative extension, academic instruction in agriculture, agricultural research, and other topics consistent with the objectives described in subsection (b).

(2) Eligible institutions shall request assistance by submitting applications to the Assistant Secretary for Science and Education. Applications shall include—

(A) a detailed description of the telecommunications network and programming proposed to be produced and delivered, including to whom the programming will be distributed, how the programming will contribute to achieving the objectives described in subsection (b), and the total cost of producing and delivering such programming;

(B) the amount of assistance requested for the proposed program authorized under this section and other sources of funding that will be used for the proposed program; and

(C) an analysis of the costs and benefits of purchasing (or leasing) different types of facilities, equipment, components, hardware and software, or other items.

(g) **LIMITATIONS ON ASSISTANCE.**—(1) The Secretary may provide funds totaling not more than 50 percent of the cost of a proposal for which an application is submitted under subsection (f). Notwithstanding the preceding sentence, the Secretary may provide funds totaling up to 100 percent of the cost of such a proposal if the Secretary determines that an eligible institution would otherwise be unable to carry out the proposal.

(2) The Secretary may allocate not more than 10 percent of the funds appropriated under this section for the acquisition and installation of telecommunications transmission facilities.

(h) **AUTHORIZATION OF APPROPRIATIONS.**—For the purposes of implementing the program established under this section, there are hereby authorized to be appropriated not more than \$12,000,000 for each of the fiscal years 1991 through 1995.

SEC. 1674. COMMISSION ON AGRICULTURAL RESEARCH FACILITIES.

(a) **DEFINITIONS.**—For purposes of this section:

(1) **AGRICULTURAL RESEARCH FACILITY.**—The term "agricultural research facility" means a facility at which agricultural research is regularly carried out, or proposed to be carried out, and which is—

(A) an existing Agricultural Research Service facility or a Forest Service facility;

(B) an agricultural facility in the process of being planned or being constructed using Federal funding or a planned agricultural facility that will use Federal funding; or

(C) any other facility under the jurisdiction of the Secretary of Agriculture.

(2) **STUDY COMMISSION.**—The term "Study Commission" means the Agriculture Research Facilities Planning and Closure Study Commission established under this section.

(3) **SECRETARY.**—The term "Secretary" means the Secretary of Agriculture.

(b) **STUDY COMMISSION ESTABLISHED.**—The Secretary shall establish an Agriculture Research Facilities Planning and Closure Study Commission to carry out the activities described in subsection (c).

(c) **GENERAL DUTIES.**—The Study Commission shall—

(1) review all currently operating and planned agricultural research facilities for research importance;

(2) identify those agricultural research facilities that should be closed, realigned, consolidated, or modernized, in order to aid in carrying out the research agenda of the Secretary;

(3) develop recommendations concerning agricultural research facilities; and

(4) evaluate the agricultural research facilities acquisition and modernization system utilized by the Department of Agriculture and recommend improvements in such system.

(d) **ELEMENTS OF STUDY COMMISSION.**—

(1) **MEMBERSHIP.**—The Study Commission shall be composed of 14 members to be appointed not later than 60 days after the date of enactment of this Act, of which—

(A) two members shall be appointed by the Secretary from among private citizens or employees of the Executive Branch;

(B) three members shall be appointed by the Chairman of the Committee on Agriculture, Nutrition, and Forestry of the Senate;

(C) three members shall be appointed by the Ranking Minority Member of the Committee on Agriculture, Nutrition, and Forestry of the Senate;

(D) three members shall be appointed by the Chairman of the Committee on Agriculture of the House of Representatives; and

(E) three members shall be appointed by the Ranking Minority Member of the Committee on Agriculture of the House of Representatives.

(2) **VACANCIES.**—A vacancy occurring on the Study Commission shall be filled in the same manner as that in which the original appointment was made.

(3) **COMPENSATION AND EXPENSES.**—

(A) **COMPENSATION.**—Members of the Study Commission who are not regular full-time employees of the United States government shall, while attending meetings and conferences of the Study Commission or otherwise engaged in the business of the Study Commission (including travel time), be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding the rate specified at the time of such service under GS-18 of the General Schedules established under section 5332 of title 5, United States Code.

(B) **EXPENSES.**—While away from their homes or regular places of business on the business of the Study Commission, members of such Commission may be allowed travel expenses, including per diem in lieu of subsistence, as is authorized under section 5703 of title 5, United States Code, for persons employed intermittently by the Federal Government.

(4) **CHAIRPERSON.**—The Secretary shall designate a member of the Study Commission to serve as the Chairperson.

(5) **MEETINGS.**—The Study Commission shall meet at the call of the Chairperson, of a majority of the members of the Study Commission, or at the call of the Secretary.

(6) **DIRECTOR AND STAFF.**—The Chairperson of the Study Commission may appoint a Director of such Commission, and may request the detailing of the staff of Federal agencies to such Commission to assist it in carrying out its duties. The Chairperson may employ experts and consultants.

(e) **GENERAL POWERS.**—The Study Commission shall have the power to meet and hold hearings, use the mails of the United States, and provide and acquire administrative support services.

(f) **REPORT.**—Not later than 240 days after the date of enactment of this Act, the Study Commission shall prepare and submit to the Secretary, the Committee on Agriculture and Appropriations of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry and Appropriations of the Senate, a report concerning the findings and recommendations developed under subsection (c).

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

SEC. 1675. NATIONAL CENTERS FOR AGRICULTURAL PRODUCT QUALITY RESEARCH.

(a) **PURPOSES.**—The purposes of the national centers for agricultural product quality research shall be to—

(1) serve as regional or commodity specific agricultural product quality research and education focal points involving one or more university and Federal participants;

(2) take advantage of opportunities, and establish linkages between universities and other entities with expertise, in basic biology and engineering, the development of new technology, the application of technology to practice, and related quality assurance and regulatory activities;

(3) develop and enhance explicit relationships (including the possible sharing of the cost of center operations) between the research and development community, the Department, and other Federal agencies, and with all aspects of the involved industries;

(4) provide a mechanism for dealing with the safety and wholesomeness of new food products and processes that use biotechnology (including transgenic plants and animals);

(5) provide factual public information about agricultural product quality and wholesomeness on a continuing basis; and

(6) where appropriate, build on existing institutional strengths and commitments to address issues relating to agricultural product quality and wholesomeness and on demonstrated capability to effectively link with operational units of the Department, other Federal agencies, and private industry.

(b) CHARACTERISTICS OF CENTERS.—

(1) **REGIONAL BASIS.**—The centers shall be regional based units that conduct a broad spectrum of research, development, and education programs to assure the safety and wholesomeness of food through the prevention, detection, and modification of processes and products involved in the food chain that potentially compromise agricultural product quality and wholesomeness.

(2) **RESEARCH APPROACH.**—The centers shall involve multidisciplinary and interdisciplinary approaches to the development of new knowledge and technology. The centers may include multiinstitutional linkages between universities or related Federal laboratories.

(3) **MANAGEMENT.**—The centers shall serve as a management focal point for grants that deal with agricultural product quality research, extension, and teaching, including the provision of mechanisms for sharing resources between cooperating institutions and laboratories.

(4) **RESEARCH LINKAGES.**—Appropriate linkages within the centers shall include related efforts in agriculture, medicine, veterinary medicine, public health, engineering and related life and physical sciences, and social sciences dealing with health related behavior.

(5) **RESEARCH SCOPE.**—Each center shall conduct research and education on the full spectrum of production, processing, transportation, and marketing for commodity classes, such as animals (including animal products and animal feed), agronomic crops, and horticultural crops.

(c) ESTABLISHMENT OF CENTERS.—

(1) **GRANTS.**—The Secretary shall make grants to establish the centers. Such grants establishing centers shall be competitively awarded based on merit and relevance in reference to meeting the purposes specified in subsection (a).

(2) **PERIODS AND PREFERENCES.**—Grants may be awarded for periods of up to five years and may be renewed in competition with demonstration of adequate performance. The Secretary shall give preference to proposals that demonstrate linkages with action agencies of the Department, with other related Fed-

eral research laboratories and agencies, and with private industry.

(3) **PRIMARY INSTITUTION IN CENTER.**—The primary institution involved in a center shall be a land-grant college with other cooperating or collaborating academic institutions, non-profit research and development entities, and Federal laboratories. A center may involve institutions or laboratories in more than one State.

(4) **MATCHING FUNDS.**—The non-Federal sponsors of a center shall contribute an amount of funds for operation of the center equal to not less than the amount awarded by the Federal Government.

(d) **PROGRAM PLAN AND REVIEW.**—

(1) **PLAN.**—A program plan shall be developed by the Department after obtaining the advice of representative users of the centers, including both action agencies and appropriate representatives from various segments of the food industry. The plan shall be submitted to the Congress for review at intervals of not less than once every three years.

(2) **REVIEW.**—Accomplishments and directions of the centers shall be reviewed by the Department on a periodic basis, but not less frequently than at the end of the second and fourth years after the date of the enactment of this Act. The persons conducting the review shall be appointed by, and report to, the Secretary.

(e) **LIMITATION ON USE OF FUNDS.**—Funds provided under this section may not be used for the planning, repair, rehabilitation, acquisition, or construction of a building or facility.

(f) **DEFINITIONS.**—For purposes of this section:

(1) The term "center" means a national center for agricultural product quality research established under this section.

(2) The term "Secretary" means the Secretary of Agriculture.

(3) The term "Department" means the Department of Agriculture.

(g) **AUTHORIZATION OF APPROPRIATIONS.**—(1) There are authorized to be appropriated such funds as may be necessary to carry out this section for each of the fiscal years 1991 through 1995.

(2) The centers shall be funded through the Cooperative State Research Service in the Department.

SEC. 1676. TURKEY RESEARCH CENTER.

There are authorized to be appropriated \$500,000 for fiscal year 1992 to be used by the Agricultural Research Service for planning purposes in the establishment of a facility to be known as the Agricultural Turkey Research Center to be located in Pelican Rapids, Minnesota, and operated in cooperation with the North Dakota State University.

SEC. 1677. RESERVATION EXTENSION AGENTS.

(a) **ESTABLISHMENT.**—The Secretary of Agriculture, acting through the Extension Service, 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 Cooperative 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) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated such sums as may be necessary to carry out this section.

SEC. 1678. SPECIAL GRANT TO STUDY CONSTRAINTS ON AGRICULTURAL TRADE.

(a) **GRANT REQUIRED.**—The Secretary of Agriculture shall provide at least two special grants to land-grant colleges and universities to conduct a study that will evaluate the trade impacts of technical barriers, quality factors, and end-use characteristics in agricultural trade to determine whether such factors are consistent as between commodities. Such study shall be conducted with the objective—

(1) to identify and analyze constraints related to end-use characteristics in trade and competition;

(2) to design production and processing techniques to lessen their impacts; and

(3) to identify public policy alternatives, nationally and internationally, that may reduce the impacts of such trade restrictions.

(b) **JOINT DEVELOPMENT.**—The Secretary shall ensure that the grants provided for in this section provide for the joint development of the methodology and techniques between the recipients of such grants to meet the objectives set forth in subsection (a).

(c) **REPORT.**—Not later than 18 months after the date of the enactment of this Act, the Secretary shall report the results of the study grants under subsection (a) to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate.

(d) **LAND-GRANT COLLEGES AND UNIVERSITIES DEFINED.**—For purposes of this section, the term "land-grant colleges and universities" has the meaning given to that term in section 1404(10) of the National Agricultural Research, Teaching, and Extension Policy Act of 1977 (7 U.S.C. 3103(10)).

SEC. 1679. PILOT PROJECT TO COORDINATE FOOD AND NUTRITION EDUCATION PROGRAMS.

(a) **PILOT PROJECT.**—The Secretary of Agriculture shall establish a five-year pilot project to make available grants to not less than two States, on a competitive basis, for the purpose of implementing in such States, a plan that—

(1) provides for the full coordination of the conceptual design and program delivery of food and nutrition education programs for potential participants within the State; and

(2) provides to the greatest extent possible for the coordination of such food and nutrition education programs with related State programs.

(b) **ELEMENTS OF THE PROJECT.**—In carrying out subsection (a), the Secretary shall—

(1) provide for enhanced intraagency and interagency coordination in the design and delivery of food and nutrition education programs;

(2) develop more efficient methods, and improved agency organization, to inform the public and persons eligible for food and nutrition programs about such education programs (including those education programs regarding nutrition and management of family resources for better nutrition and health) and nutrition education programs available at the Federal, State, and local level; and

(3) provide for an evaluation of the degree to which stated program coordination objectives are being attained, the impact on actual behavioral change of program participants, and the implication of the program outcomes for future public health, budget expenditures, and the general public welfare.

(c) **DEFINITIONS.**—For purposes of this section:

(1) The term "coordination" means the development and implementation of a consistent and coherent program of nutrition education regarding the receipt and increased beneficial use of the resources made available to persons for food and nutrition programs and, to the extent possible, related State and local food and nutrition programs.

(2) The term "food and nutrition education programs" includes any educational programs or components of the food stamp program, the expanded food and nutrition education program, and such other programs administered by the Department of Agriculture as the Secretary determines necessary to effectively implement the programs required under subsection (a).

(d) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for each of the fiscal years 1991 through 1995 such sums as may be necessary to carry out the pilot project established under subsection (a).

SEC. 1680. 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 nonprofit 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) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to carry out this subsection—

(A) not less than \$3,000,000 for each of the fiscal years 1991 and 1992; and

(B) not less than \$5,000,000 for each of the fiscal years 1993 through 1996.

(b) **NATIONAL GRANT FOR TECHNICAL ASSISTANCE, TRAINING AND DISSEMINATION.**—

(1) **IN GENERAL.**—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.

(2) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated \$1,000,000 to carry out this subsection for each of the fiscal years 1991 through 1996.

SEC. 1681. RESEARCH ON HONEYBEE DISEASES.

(a) **SENSE OF CONGRESS.**—It is the sense of Congress that—

(1) diseases affecting the entire honeybee population impact on the ability of honeybees to carry out crop pollination and honey production, and therefore impact negatively on beekeepers, producers and consumers; and

(2) certain diseases (such as those caused by tracheal mite, varroa mite, and the Africanized honeybee) pose a threat to the continued well-being of the general honeybee population, and thus merit further study.

(b) **RESEARCH.**—Notwithstanding any other provision of law, the Secretary of Agriculture shall give priority attention to the funding of research regarding the diseases referred to in subsection (a) that are affecting the honeybee population.

TITLE XVII—FOOD STAMP AND RELATED PROVISIONS

SEC. 1701. SHORT TITLE.

This title may be cited as the "Mickey Leland Memorial Domestic Hunger Relief Act".