

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

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

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

**(d) Eligibility requirements**

Grants under this section shall be—

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

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

**(e) Consultation**

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

**(f) Program coordination**

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

**(g) Authorization of appropriations**

**(1) In general**

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

**(2) Withholdings from biotechnology outlays**

The Secretary of Agriculture shall withhold from outlays of the Department of Agriculture for research on biotechnology, as defined and determined by the Secretary, at least 2 percent of such amount for the purpose of making grants under this section for research on biotechnology risk assessment.

**(3) Application of funds**

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

(Pub. L. 101-624, title XVI, §1668, Nov. 28, 1990, 104 Stat. 3767; Pub. L. 102-237, title IV, §407(9), Dec. 13, 1991, 105 Stat. 1865; Pub. L. 107-171, title VII, §7210, May 13, 2002, 116 Stat. 446; Pub. L. 110-234, title VII, §7511(c)(21), May 22, 2008, 122 Stat. 1269; Pub. L. 110-246, §4(a), title VII, §7511(c)(21), June 18, 2008, 122 Stat. 1664, 2031.)

**Editorial Notes**

CODIFICATION

Pub. L. 110-234 and Pub. L. 110-246 made identical amendments to this section. The amendments by Pub. L. 110-234 were repealed by section 4(a) of Pub. L. 110-246.

AMENDMENTS

2008—Subsec. (b). Pub. L. 110-246, §7511(c)(21), substituted “National Institute of Food and Agriculture”

for “Cooperative State Research, Education, and Extension Service”.

2002—Pub. L. 107-171 reenacted section catchline and amended text generally, substituting substantially similar provisions in subsecs. (a), (b), and (d) to (g), and substituting in subsec. (c), provisions relating to research priorities for provisions relating to types of research.

1991—Subsec. (g)(2). Pub. L. 102-237 substituted “Withholdings” for “Withholdings” in heading.

**Statutory Notes and Related Subsidiaries**

EFFECTIVE DATE OF 2008 AMENDMENT

Amendment of this section and repeal of Pub. L. 110-234 by Pub. L. 110-246 effective May 22, 2008, the date of enactment of Pub. L. 110-234, except as otherwise provided, see section 4 of Pub. L. 110-246, set out as an Effective Date note under section 8701 of this title.

Amendment by section 7511(c)(21) of Pub. L. 110-246 effective Oct. 1, 2009, see section 7511(c) of Pub. L. 110-246, set out as a note under section 1522 of this title.

**§ 5921a. Repealed. Pub. L. 110-234, title VII, § 7411, May 22, 2008, 122 Stat. 1255, and Pub. L. 110-246, § 4(a), title VII, § 7411, June 18, 2008, 122 Stat. 1664, 2017**

Section, Pub. L. 107-171, title X, §10802, May 13, 2002, 116 Stat. 525, related to public information campaign regarding use of biotechnology in producing food for human consumption.

**Editorial Notes**

CODIFICATION

Pub. L. 110-234 and Pub. L. 110-246 repealed this section. Pub. L. 110-234 was repealed by section 4(a) of Pub. L. 110-246.

**Statutory Notes and Related Subsidiaries**

EFFECTIVE DATE OF REPEAL

Repeal of this section and repeal of Pub. L. 110-234 by Pub. L. 110-246 effective May 22, 2008, the date of enactment of Pub. L. 110-234, see section 4 of Pub. L. 110-246, set out as an Effective Date note under section 8701 of this title.

**§ 5922. Repealed. Pub. L. 107-171, title X, § 10705(b), May 13, 2002, 116 Stat. 519**

Section, Pub. L. 101-624, title XVI, §1669, Nov. 28, 1990, 104 Stat. 3768, related to Graduate School of Department of Agriculture.

**Statutory Notes and Related Subsidiaries**

EFFECTIVE DATE OF REPEAL

Repeal of section effective Oct. 1, 2002, see section 10705(c) of Pub. L. 107-171, set out as an Effective Date of 2002 Amendment note under section 2279b of this title.

**§ 5923. Repealed. Pub. L. 113-79, title VII, § 7207, Feb. 7, 2014, 128 Stat. 881**

Section, Pub. L. 101-624, title XVI, §1670, as added Pub. L. 107-171, title VI, §6202, May 13, 2002, 116 Stat. 419; amended Pub. L. 110-234, title VII, §7511(c)(22), May 22, 2008, 122 Stat. 1269; Pub. L. 110-246, §4(a), title VII, §7511(c)(22), June 18, 2008, 122 Stat. 1664, 2031, related to rural electronic commerce extension program.

**Editorial Notes**

PRIOR PROVISIONS

A prior section 5923, Pub. L. 101-624, title XVI, §1670, Nov. 28, 1990, 104 Stat. 3769; Pub. L. 102-237, title IV,

§ 407(10), Dec. 13, 1991, 105 Stat. 1865; Pub. L. 104-127, title VIII, § 834, Apr. 4, 1996, 110 Stat. 1169, authorized establishment of livestock product safety and inspection program, prior to repeal by Pub. L. 105-185, title III, § 302(c), June 23, 1998, 112 Stat. 563.

**§ 5924. Agricultural Genome to Phenome Initiative**

**(a) Goals**

The goals of this section are—

(1) to expand knowledge concerning genomes and phenomes of crops and animals of importance to the agriculture sector of the United States;

(2) to understand how variable weather, environments, and production systems impact the growth and productivity of specific varieties of crops and species of animals in order to provide greater accuracy in predicting crop and animal performance under variable conditions;

(3) to support research that leverages plant and animal genomic information with phenotypic and environmental data through an interdisciplinary framework, leading to a novel understanding of plant and animal processes that affect growth, productivity, and the ability to predict performance, which will result in the deployment of superior varieties and species to producers and improved crop and animal management recommendations for farmers and ranchers;

(4) to catalyze and coordinate research that links genomics and predictive phenomics at different sites across the United States to achieve advances in crops and animals that generate societal benefits;

(5) to combine fields such as genetics, genomics, plant physiology, agronomy, climatology, and crop modeling with computation and informatics, statistics, and engineering;

(6) to combine fields such as genetics, genomics, animal physiology, meat science, animal nutrition, and veterinary science with computation and informatics, statistics, and engineering;

(7) to focus on crops and animals that will yield scientifically important results that will enhance the usefulness of many other crops and animals;

(8) to build on genomic research, such as the Plant Genome Research Project and the National Animal Genome Research Program, to understand gene function in production environments that is expected to have considerable returns for crops and animals of importance to the agriculture of the United States;

(9) to develop improved data analytics to enhance understanding of the biological function of genes;

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

(11) to encourage international partnerships with each partner country responsible for financing its own research.

**(b) Duties of Secretary**

The Secretary of Agriculture (referred to in this section as the “Secretary”) shall conduct a

research initiative, to be known as the “Agricultural Genome to Phenome Initiative”, for the purpose of—

(1) studying agriculturally significant crops and animals in production environments to achieve sustainable and secure agricultural production;

(2) ensuring that current gaps in existing knowledge of agricultural crop and animal genetics and phenomics are filled;

(3) identifying and developing a functional understanding of relevant genes from animals and agronomically relevant genes from crops that are of importance to the agriculture sector of the United States;

(4) ensuring future genetic improvement of crops and animals of importance to the agriculture sector of the United States;

(5) studying the relevance of diverse germplasm as a source of unique genes that may be of importance in the future;

(6) enhancing genetics to reduce the economic impact of pathogens on crops and animals of importance to the agriculture sector of the United States;

(7) disseminating findings to relevant audiences; and

(8) otherwise carrying out this section.

**(c) Grants and cooperative agreements**

**(1) Authority**

The Secretary, acting through the National Institute of Food and Agriculture, may make grants or enter into cooperative agreements with individuals and organizations in accordance with section 3318 of this title.

**(2) Competitive basis**

A grant or cooperative agreement under this subsection shall be made or entered into on a competitive basis.

**(3) Consortia**

The Secretary shall encourage awards under this section to consortia of eligible entities.

**(d) Administration**

Paragraphs (4), (7), (8), and (11)(B) of subsection (b) of section 3157 of this title shall apply with respect to the making of a grant or cooperative agreement under this section.

**(e) Consultation with National Academy of Sciences**

The Secretary may use funds made available under this section to consult with the National Academy of Sciences regarding the administration of the Agricultural Genome to Phenome Initiative.

**(f) Matching funds requirement**

**(1) In general**

Subject to paragraph (3), with respect to a grant or cooperative agreement under this section that provides a particular benefit to a specific agricultural commodity, the recipient of funds under the grant or cooperative agreement shall provide non-Federal matching funds (including funds from an agricultural commodity promotion, research, and information program) equal to not less than the amount provided under the grant or cooperative agreement.