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## 2018 Farm Bill Primer: Agricultural Research and Extension

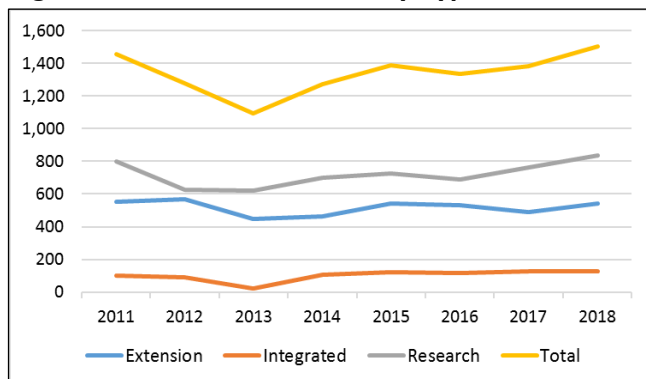
Congress reauthorizes, amends, and adds new programs and requirements to U.S. Department of Agriculture (USDA) research, education, and extension activities through Title VII of the 2018 farm bill (Agriculture Improvement Act of 2018, P.L. 115-334). Provisions in Title VII of the 2018 farm bill focus primarily on extramural activities. For a complete list of provisions, see CRS Report R45525, *The 2018 Farm Bill (P.L. 115-334): Summary and Side-by-Side Comparison*. Title VII amends four major federal statutes: the National Agricultural Research, Extension, and Teaching Policy Act of 1977 (P.L. 95-113 §§1401-1491); the Food, Agriculture, Conservation, and Trade Act of 1980 (P.L. 101-624); the Agricultural Research, Extension, and Education Reform Act of 1998 (P.L. 105-185); and the Food, Conservation, and Energy Act of 2008 (P.L. 110-234).

### USDA Research and Extension

USDA supports *extramural* (or externally conducted) research, education, and extension activities at universities and other facilities. USDA also supports *intramural* (or internally conducted) research done by federal scientists and researchers at USDA facilities.

The USDA National Institute of Food and Agriculture (NIFA) manages extramural programs. These include *competitive grants*, awarded to specific projects based on a peer-review process, and *capacity grants*, awarded to states based on formulas in statute. Some grants focus only on institutions in the land-grant university system (see CRS Report R45897, *The U.S. Land-Grant University System: An Overview*). Others may include additional eligible entities, including non-land-grant universities and community organizations. **Figure 1** shows total funding amounts awarded by NIFA for research, extension, and integrated (combining research and extension) activities.

**Figure 1. NIFA Funds Awarded by Type and Year**



**Source:** CRS from NIFA data gateway (<https://nifa.usda.gov/data>).

**Notes:** Data reflect awards made, which may differ from authorized or appropriated funding levels. Values are in \$millions.

### 2018 Farm Bill Provisions: Land-Grant Institutions

Several provisions in the 2018 farm bill address aspects of the land-grant university system, which includes three institutional categories known as the 1862, 1890, and 1994 Institutions, named for the year of the acts establishing them: 1862 refers to the original, 1890 to the historically black, and 1994 to the tribal land-grant colleges and universities.

#### 1890 Institutions

Section 7115 addresses a discrepancy in how 1890 and 1862 land-grant institutions can manage federal research and extension capacity funds. It removes a prohibition on 1890 Institutions carrying over unexpended funds from one fiscal year to the next, which may facilitate longer-term planning. This change aligns carryover allowances for 1890 and 1862 Institutions. Another provision (§7116) addresses disparities in state matching funds for federal capacity grants provided to 1890 and 1862 Institutions. In some cases, matching requirements for 1890 Institutions can be waived, whereas they cannot be waived for most 1862 Institutions. This means that some 1890 Institutions may not receive 100% matching funds from their states. The 2018 farm bill provision requires USDA to report annually on federal capacity awards and state matching funds provided to 1890 and 1862 Institutions. Another provision (§7117) authorizes \$40 million in total mandatory and \$10 million in annual discretionary funds to establish a grant program for 1890 Institutions. These grants are to provide scholarships to students who intend to pursue careers in food and agricultural sciences. The 2018 farm bill (§7213) also calls for USDA to name at least three *Centers of Excellence* at 1890 Institutions focused on one or more of six identified areas. Centers are authorized annual appropriations of \$10 million per year through FY2023.

#### Tribal Students

Section 7120 authorizes USDA to make competitive grants to land-grant institutions, including 1994 (tribal) Institutions, to support tribal students. Institutions may use the funds to support recruiting, tuition, experiential learning, and student services for tribal students. Institutions must provide 100% matching funds. Congress authorized \$5 million annually in appropriations through FY2023.

### 2018 Farm Bill Provisions: New Programs and Initiatives

Section 7132 establishes a pilot initiative under the USDA Office of the Chief Scientist. The Agriculture Advanced Research and Development Authority (AGARDA) targets long-term and high-risk research and development in agriculture and food that private industry is unlikely to undertake. Modeled after authorities at other agencies,

including the Defense Advanced Research Projects Agency, the provision gives AGARDA non-competitive hiring authorities and authority to receive funds from royalties and other sources. Congress authorized \$50 million annually in appropriations through FY2023 in addition to funds AGARDA may receive through its authorized non-federal sources.

The 2018 farm bill also authorizes a new Urban, Indoor, and Emerging Agricultural Production, Research, Education, and Extension Initiative (§7212). The provision authorizes USDA to make competitive research and extension grants to facilitate development of urban and indoor agricultural production systems and emerging harvesting, packaging, and distribution systems and new markets. Grants may be awarded to universities, federal agencies, and other types of organizations and individuals (as defined in Title 7, Section 3157, of the *United States Code*). The provision authorizes \$10 million annually in discretionary appropriations through FY2023 and \$10 million in mandatory funds for FY2019. Additionally, USDA is to conduct a census to collect data on urban, indoor, and other emerging agricultural production. Congress authorized appropriations of \$14 million total for FY2019-FY2021 for this census.

## 2018 Farm Bill Provisions: Other Existing Programs and Initiatives

Several provisions in the 2018 farm bill amend extramural programs and initiatives that a broad range of institutions and facilities may conduct and/or manage.

### NIFA Competitive Grants

The 2018 farm bill reauthorizes USDA's flagship competitive research program, the Agriculture and Food Research Initiative (AFRI, §7504). It adds soil health; automation; collaboration with biomedical researchers; and removal of entry barriers for young, beginning, socially disadvantaged, veteran, and immigrant farmers and ranchers to existing AFRI priority areas.

Section 7209 addresses *high priority research and extension initiatives* administered by NIFA through other programs. It adds 10 new areas, including macadamia tree health, turf grass, fertilizer management, and cattle fever tick research. This provision also calls for the USDA Chief Scientist to enhance USDA pollinator research coordination with leadership from a new Honeybee and Pollinator Research Coordinator.

Section 7210 reauthorizes the Organic Agriculture Research and Extension Initiative (OREI) and increases its annual mandatory funding authorization from \$20 million in FY2019 to \$50 million in FY2023. Section 7305 reauthorizes mandatory and discretionary funding for the Specialty Crop Research Initiative (SCRI), and adds new research and extension topics. OREI and SCRI issue competitive grants.

Section 7501 specifies hemp as eligible for Supplemental and Alternative Crops research grants and requires USDA to report on the economic viability of hemp production.

## Foundation for Food and Agriculture Research

The Foundation for Food and Agriculture Research (FFAR) is a nonprofit corporation established in the 2014 farm bill (Agricultural Act of 2014, P.L. 113-79) to leverage private funding with federal dollars to support public agricultural research. It awards competitive research and development grants to university, government, and other entities with federal funds and 100% matching funds from non-federal sources. The 2014 farm bill authorized \$200 million in initial mandatory funding. The 2018 farm bill amends aspects of FFAR and its board and requires FFAR to submit a strategic plan to Congress identifying a path to self-sustainability (§7603). The 2018 farm bill authorized \$185 million of additional mandatory funding to be available after Congress receives the strategic plan.

### Selected Farm Bill Provisions Supporting Agricultural Research and Extension

#### Land-Grant Institutions

- **§7115.** Extension and Agricultural Research at 1890 Land-Grant Colleges, Including Tuskegee University
- **§7116.** Reports on Disbursement of Funds for Agricultural Research and Extension at 1862 and 1890 Land-Grant Colleges, Including Tuskegee University
- **§7117.** Scholarships for Students at 1890 Institutions
- **§7213.** Centers of Excellence at 1890 Institutions
- **§7120.** New Beginnings for Tribal Students

#### New Programs and Initiatives

- **§7132.** Agriculture Advanced Research and Development Authority Pilot
- **§7212.** Urban, Indoor, and Other Emerging Agricultural Production Research, Education, and Extension Initiative

#### Other Existing Programs and Initiatives

- **§7504.** Agriculture and Food Research Initiative
- **§7209.** High Priority Research and Extension
- **§7210.** Organic Agriculture Research and Extension Initiative
- **§7305.** Specialty Crop Research Initiative
- **§7501.** Critical Agricultural Materials Act
- **§7603.** Foundation for Food and Agriculture Research

## Considerations for Congress

USDA is currently implementing 2018 farm bill provisions. Congress may continue to track USDA's progress as part of its oversight responsibilities. Title VII deadlines include:

- USDA is to develop the AGARDA strategic plan and make it publicly available by December 15, 2019.
- USDA is to conduct a census of urban, indoor, and emerging agriculture by December 20, 2019.
- FFAR is to submit a strategic plan to Congress before new mandatory funds are made available.

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