Agricultural Experiment Stations and Land-grant Universities Address
Grand Challenges in Food and Agricultural Research

Agricultural Experiment Stations, located within Land-grant Universities in the United States, were created by the Hatch Act of 1887 and the Evans-Allen Act of 1977. The Experiment Station Committee on Organization and Policy (ESCOP), an executive committee of the Board on Agriculture Assembly (BAA), a unit of the Association for Public and Land-grant Universities (APLU), governs this national research enterprise. Members are research administrators in colleges of agriculture, environment, natural resources, and human sciences in the Land-grant University system (1862s and 1890s). These premier institutions are supported by the USDA National Institute of Food and Agriculture (NIFA), state funds, Foundation for Food and Agriculture Research (FFAR), and by collaborations across federal, regional, state, nonprofit, and private organizations. In addition, many USDA ARS scientists are located on or near university campuses and work closely with scientists at Land-grant Universities. This proximity leverages resources and expertise to conduct basic and applied research in support of food and agricultural systems that promote human health and protect the environment.

ESCOP Priorities:
- Support increased appropriations for the USDA NIFA:
  - Enhance capacity programs for research and Extension
  - Fully-fund the Agriculture Food and Research Initiative (AFRI) competitive grants program to its authorized level of $700 million
- Strategic realignment of numerous NIFA funding lines
- Support funding for FFAR
- Leadership to develop new funding opportunities to enhance infrastructure
- Strategic partnerships with traditional and nontraditional funding entities that advocate for funding
- Development and implementation of the Grand Challenges in Food and Agricultural Research

Chair’s Initiatives:
- Engage with USDA NIFA and other federal funding agencies (e.g., DoD, DOE, NIH, NRCS, NSF) and FFAR to develop new funding opportunities to support the Grand Challenges in Food and Agricultural Research
- Enhance strategic partnerships with traditional (e.g., ACOP, AHS, APLU BAA, ECOP, ICOP) and nontraditional (e.g., AGree, NACO, NASDA, NC-FAR, SoAR) groups to advocate with a unified message
- Enhance organizational multicultural awareness and inclusivity
- Encourage continued excellence of all ESCOP committees, task forces, and work groups

ESCOP (www.escop.info) Regional Associations:

![ARD](umes.edu/ard/)
ARD Association of 1890 Research Directors

![NCRA](ncra-saes.org/)
North Central Regional Association of Agricultural Experiment Station Directors

![NERA](nerasaes.org/)
Northeastern Regional Association of State Agricultural Experiment Station Directors

![SAAESD](saaesd.org/)
Southern Association of Agricultural Experiment Station Directors

![WAAESD](waaesd.org/)
Western Association of Agricultural Experiment Station Directors

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GRAND CHALLENGES in FOOD and AGRICULTURAL RESEARCH

Agricultural Experiment Stations at Land-grant Universities operate on the forefront of basic and applied research, education, Extension, and outreach. Over the years, public investment in agricultural research has been linked to increased agricultural productivity and economic growth. In recent decades, these investments have severely declined—along with agricultural productivity and farm incomes. As the physical environment changes and societies grow and evolve, food and agricultural systems face increasingly complex and pervasive challenges, or Grand Challenges.

### Capacity and Resources:
- Institutions in all 50 states and several U.S. territories with research sites in diverse ecosystems, farms, and communities
- Skilled scientists, educators, students, and staff
- State-of-the-art laboratories, greenhouses, computational centers, instrumentation, and technologies
- Strong partnerships with government agencies, the private sector, and farm and commodity groups

### Systemic Gaps and Needs:
Investment is needed to support the Grand Challenges in Food and Agricultural Research. Priority gaps and needs of Agricultural Experiment Stations include:
- Application of advances in genetics, nanotechnology, robotics, and other innovative technologies
- Broader focus on sustainability and wellness in addition to productivity and health
- Decision-making tools for farmers to integrate big data, multiple variables and uncertainty
- Dynamic models that assess interlinked environmental, economic, and social variables
- Evidence-based guidance for policy and regulation
- Financial resources to improve infrastructure
- Strategies for communicating science-based information with stakeholders and the public
- Support for integrated, interdisciplinary research, education, and Extension teams
- Systems-level research and life cycle analyses

The Grand Challenges in Food and Agricultural Research are part of the Science Roadmap for Agriculture developed by ESCOP to guide food and agricultural research. Additional impacts of research conducted in Agricultural Experiment Stations at Land-grant Universities are available at: [https://www.mrfimpacts.org/](https://www.mrfimpacts.org/) and [https://landgrantimpacts.org/](https://landgrantimpacts.org/)