FY 2023 Appropriations Priorities
Agriculture, Rural Development, Food and Drug Administration, and Related Agencies

Agency	Account	APLU FY2023 Request
National Institute of Food and Agriculture	Hatch Act (State Agricultural Experiment Stations)	$300 million
	Evans-Allen Program (1890s Research and Education)	$100 million
	Research Grants for 1994 Institutions	$17.5 million
	McIntire-Stennis Cooperative Forestry	$46 million
	Agriculture and Food Research Initiative	$500 million
	Smith-Lever (Extension Activities)	$430 million
	1890 Institutions Extension Services	$85 million
	Extension Services at 1994 Institutions	$17.5 million
	Payments Funding for 1994 Institutions (Education)	$17.5 million
	Women and Minorities in STEM	$10 million
	Research Facilities Act	$365 million
	Partnerships to Guild Capacity in International Agriculture	$10 million

DEPARTMENT OF AGRICULTURE (USDA)
NATIONAL INSTITUTE OF FOOD AND AGRICULTURE (NIFA)

APLU requests increases for capacity and competitive funding in priority National Institute of Food and Agriculture (NIFA) accounts for agricultural research, education, and Extension in FY2023 to:

- Advance critical research priorities such as human nutrition, animal diets, soil and crop health, biobased materials, zoonotic disease preparedness, farm profitability, and climate-smart agriculture
- Support high-quality and diverse faculty, staff, Extension educators and agents, Post-docs, and undergraduate and graduate students
- Provide funding for Extension educators and agents to translate vital information into practice for agricultural producers, small business owners, consumers, families, and young people nationwide

The founders of our Land-grant University System (LGU) recognized the importance of funding agricultural and food research and Extension programs at the national level, while maintaining local contexts. Capacity funds are instruments of support for faculty, staff, Extension educators and agents, and undergraduate and graduate students.

Investments continue to provide a significant return to the American taxpayer. Despite an incredible return of $17 for every public dollar invested, the United States' share of global agricultural R&D has decreased significantly in the last half-century, going from 20 percent to 8.9 percent.[1,2] To provide additional context, public investment in agricultural research and the Cooperative Extension System is below 1990 levels.

Meanwhile, investments by global competitors are growing at a rapid pace.[3] In 2016 alone, China outspent the United States in agricultural research and outreach investment by $3 billion.[4] Between 2014 and 2020, China increased its public ag R&D investments by an average annualized rate of ~14 percent per year. In the same period, U.S. was increasing its average investment by about four percent per year.[5] The U.S. is losing significant ground to global competitors. **Congress has an opportunity to address this deficit by supporting NIFA with an increase in APLU priority lines in accordance with our request levels.[6]**

CAPACITY FUNDS PROGRAM: HATCH ACT (State Agricultural Experiment Stations at 1862s)
APLU FY2023 Request: $300 million
FY2023 PBR = $265 million; FY2022 = $260 million; FY2021 = $259 million

The Hatch Act capacity funds program, which extends grants to the 1862 Land-grant University (LGU) System, is a key federal-state partnership to address high-priority agricultural research needs. States provide a minimum one-to-one match for each federal dollar thus leveraging the federal investment. Hatch capacity funds enable translational research to address critical local, state, regional, and national problems. State Agricultural Experiment Stations (SAES) provide the LGU system with the fundamental capabilities to respond to critical issues that affect production, profitability, and sustainability such as invasive plant and animal species, biosecurity, sustainable land and water use, climate resilience strategies, timely economic analysis, and safety on farms.

---

[1] Baldos, Uris Lantz, Frederi G. Viens, Thomas W. Hertel, and Keith O. Fuglie. R&D Spending, Knowledge Capital, and Agricultural Productivity Growth: A Bayesian Approach. American Journal of Agricultural Economics. July 2018. 101(1): 291–310; https://doi.org/10.1093/ajae/aay039.
[2] https://www.kansascityfed.org/documents/7107/the-drivers-of-us-agricultural-productivity-growth.pdf
[3] Mohamedshah F, Havlik S, and Velissariou M. (2020, January.) Food Research Call to Action on Funding and Priorities. IFT.
[4] Beintema N, Pratt AN, Stads GJ (2020, September) Key Trends in Global Agricultural Research Investment. IFPRI
[5] Baldos, Uris Lantz, Frederi G. Viens, Thomas W. Hertel, and Keith O. Fuglie. R&D Spending, Knowledge Capital, and Agricultural Productivity Growth: A Bayesian Approach. American Journal of Agricultural Economics. 101(1): 291–310; https://doi.org/10.1093/ajae/aay039.
[6] Note that we request increases of more than eight percent for 1994 accounts due to the relative size of those programs and a need for support given COVID19 impacts to tribal communities.

SAES faculty, staff, and graduate students, and research programs nationwide are supported by Hatch Act appropriations. Below are just some of the countless impacts of Hatch funding:

- Meltless, compostable and anti-microbial jelly ice cubes that revolutionizes how food is kept cold without relying on traditional cooling
- Disease resistant banana clones in Hawaii
- Soybean cultivars that extend planting and growing season
- Soil-moisture re-emergence method to detect drought and rain conditions
- A process for turning wastewater into biodiesel

APLU requests $300 million in FY23 for Hatch funds at the 1862 institutions to retain experts at the land-grant university system to address plant and animal pest and disease, water quality and quantity, and food security and supply issues that exist across state, local, and national levels. Hatch program funding of $300 million will allow the program to catch up in real dollar terms and allow for enhanced support of data-driven long-term research on local and regional agricultural systems that have greater environmental sustainability while maintaining profitability and productivity.

CAPACITY FUNDS PROGRAM: EVANS-ALLEN PROGRAM (Agricultural Research at 1890s)
APLU FY2023 Request: $100 million
FY2023 PBR = $93 million; FY2022 = $80 million; FY2021 = $73 million

APLU requests $100 million in FY23 for the Evans Allen program, which is the foundation of agricultural research at the 1890s land-grant universities and Tuskegee University. Research conducted under the Evans-Allen Program has led to hundreds of scientific breakthroughs benefiting stakeholders of 1890s Institutions and the global agricultural economy.

- As an example, researchers at an 1890s institution developed post-harvest technology to eliminate the problem of allergens in peanuts and are expanding their studies to address wheat allergens and tree nut allergens. Peanut allergies, which have tripled in the past two decades, are the leading cause of food allergy related deaths in children.[7]
- Under the Cooperative Agricultural Research Center (CARC) in the College of Agriculture and Human Sciences (CAHS) at Prairie View A&M University, a small ruminant researcher has developed a database of animal management practices to enable greater understand of protein production. The resulting VetLink App is not only helping producers, but also young and beginning farmers who want to enter agriculture.[8]

Investments in Evans-Allen also support training of undergraduate and graduate students. An increase in funding will address small farmer challenges, food security and nutrition, climate change, and workforce development.

[7] The Economic Impact of Peanut Allergies by H. Eric Cannon, PharmD, FAMCP
[8] https://www.pvamu.edu/blog/usda-funds-pvamus-vetlink-moble-app/

COMPETITIVE PROGRAM: 1994 INSTITUTION RESEARCH PROGRAM
APLU FY2022 Request: $17.5 million
FY2023 PBR = $5 million; FY2022 = $4.5 million; FY2021 = $4 million

The Tribal College Research program helps the 1994 Land-grant Universities build scientific research capacity and provide a strong foundation in research knowledge for students. The 1994s often serve as the primary institution of scientific inquiry, knowledge and learning for tribal communities. The modest research funding received by the 1994s helps protect reservation forests, woodlands, grasslands, and crops, and monitoring of the quality of soil, water, and other environmental factors. 1994 land-grant university research projects range from studying bison herd productivity to efforts focused on promoting traditional plants and diets, controlling invasive species, and revitalizing tribal economies. Current research funding for the 1994s is inadequate to build the institutional research capacity to fully meet the needs of tribal communities and lands.

CAPACITY FUNDS PROGRAM: McINTIRE-STENNIS COOPERATIVE FORESTRY
APLU FY2023 Request: $46 million
FY2023 PBR = $43 million; FY2022 = $36 million; FY2021 = $36 million

APLU requests $46 million to support the McIntire-Stennis Cooperative Forestry program in FY23. McIntire-Stennis funding supports university-based research and education that protects our forests and watersheds, preserves environmental resources, and trains the next generation of natural resource scientists. McIntire-Stennis funds are heavily leveraged with state and private dollars, often as much as nine to one. These capacity funds support research, confront new environmental and disease challenges, and create management innovations that assist landowners with balancing production of ecosystem products and services with environmental stewardship.

Research from McIntire-Stennis enables development of new technologies to monitor forest fires, approaches to utilizing forests a provide natural climate solution, wood product innovation and market development, expansion of outdoor recreational activity, and mitigation techniques for impacts from disturbances. For example:

- McIntire Stennis allows researchers to breed new types of Populus species for greater biomass productivity, while preserving water and biodiversity.
- McIntire Stennis supports research on forest disturbances that limit carbon capture potential, including disease outbreaks, and wildfire and wind disturbance, as well as human-caused effects such as the loss of forests to development.

In summary, support for the McIntire Stennis Cooperative Program will result in research on new forest stressors; adaptation to and mitigation of climate change; utilization of wood and new applications for forest products; initiatives in multi cropping (agroforestry); management of

forests and related rangelands for livestock, game and wildlife; and new forestry uses for underserved audiences. Increased funding is essential to implementing practices on public and private lands to maximize the multiple benefits of forestry as well as expand wood product innovations.

COMPETITIVE PROGRAM: AGRICULTURE AND FOOD RESEARCH INITIATIVE (AFRI)
APLU FY2023 Request: $500 million
FY2023 PBR = $564 million; FY2022 = $445 million; FY2021 = $435 million

APLU requests $500 million in FY23 for the Agriculture and Food Research Initiative (AFRI), USDA's flagship competitive grants program. The program provides funding for six Farm Bill federal priority areas: Plant Health and Production and Plant Products; Animal Health and Production and Animal Products; Food Safety, Nutrition, and Health; Bioenergy, Natural resources, and Environment; Agriculture Systems and Technology; and Agriculture Economics and Rural Communities.

Competitive research is an essential part of funding national priorities in agricultural research, education, and Extension. As examples, awards from AFRI are supporting rapid detection of cattle disease, cutting greenhouse gases from cows, and understanding heat impacts on bees. The returns on investment of agriculture research and Extension are significant, averaging $17 for every dollar invested.[9]

AFRI offers an equity program in the Food and Agricultural Science Enhancement (FASE) grants, which enhance institutional capacity and attract new scientists into careers in food and agricultural sciences. FASE grants, which constituted 20 percent of AFRI awards in 2019, provide support for pre- and postdoctoral fellowships, and new investigators from a diverse array of institutions.

However, there is not enough funding for all the high-quality proposals submitted to AFRI. Increased funding will help to address the backlog of research—in 2019 AFRI applications had a 18 percent success rate[10]. More meritorious applications will receive funding for federal priorities, boosting the impact and advancements from the program.

[9] Baldos, Uris Lantz, Frederi G. Viens, Thomas W. Hertel, and Keith O. Fuglie. R&D Spending, Knowledge Capital, and Agricultural Productivity Growth: A Bayesian Approach. American Journal of Agricultural Economics. 101(1): 291–310; https://doi.org/10.1093/ajae/aay039.

[10] https://nifa.usda.gov/sites/default/files/resource/AFRI%20Annual%20Review%20v2%202019%20text%20508%20final.pdf

CAPACITY FUNDS PROGRAM: SMITH-LEVER FUNDS (Cooperative Extension System via 1862s)
APLU FY2023 Request: $430 million
FY2023 PBR = $320 million; FY2022 = $320 million; FY2021 = $315 million

APLU requests funding for Smith-Lever funds in FY23 at $430 million. Smith-Lever funds support the Cooperative Extension System (CES), a unique network of researchers, specialists, agents, and educators who deliver vital, practical information to agricultural producers, small business owners, communities, youth, and families. These programs support over 32,000 university- and county-based employees and 2.8 million volunteers support this partnership and multiply its impact across nearly all the 3,143 counties, parishes, and boroughs in the United States. Extension programs are fundamental in averting the spread of agricultural pest and diseases, connecting people with high-quality information during national emergencies, and keeping American farmers on the farm by providing information about new sources of on-farm income. [11,12]

Flat funding of Smith-Lever for multiple years has caused an erosion of personnel impacting the reach of Extension. Below are just some of the countless impacts of Smith Lever funding:

- Connecting consumers to farmers via 'Food Finder' apps.
- Disaster relief information via the Extension Disaster Education Network (EDEN).
- Providing farmers with access to research-based fruit production guides.
- Increased agency in youths participating in the Juntos 4-H program.

APLU requests $430 million in FY23 for Smith Lever funds at the 1862 institutions, which will support Cooperative Extension System researchers, agents, educators, and staff in fulfilling the mission of bringing vital, practical information to agricultural producers, small business owners, consumers, families, and young people nationwide. Extension professionals support a wide-variety of functions, from coordinating on-farm research trials to facilitating volunteer activities for youth or adult education, all with a focus on community. As part of CES, the 4-H network provides the nation's youth with community mentors and learning opportunities related to food, agriculture, environment, and personal growth. Increases to these programs allow for locally relevant and scholarly programs to be administered in a timely fashion.

[11] https://nifa.usda.gov/announcement/nifa-supports-disaster-education-through-eden
[12] Goetz, S.J. and M. Davlasheridze. State-Level Cooperative Extension Spending and Farmer Exits. Applied Economic Perspectives and Policy. March 2017. 39(1): 65-86 https://onlinelibrary.wiley.com/doi/abs/10.1093/aepp/ppw007

CAPACITY FUNDS PROGRAM: 1890 INSTITUTIONS EXTENSION SERVICES
APLU FY2023 Request: $85 million
FY2023 PBR = $65 million; FY2022 = $65 million; FY2021 = $62 million

APLU requests $85 million in FY23 for the Extension Services of 1890s land-grant universities. This program supports adoption of new farm production and management approaches through informal education via on-site demonstrations. 1890s Extension leads to more successful small and medium-size family farms and enhances the marketing skills of farmers in placing products in local, national, and global markets.

- For example, Virginia State University Extension faculty identified a shortage of facilities for goat and sheep producers to process their meat for resale. To remedy this, the Extension faculty designed and built a Mobile Processing Unit. This innovation helps small farmers meet the growing consumer demand for safe, locally produced food. It is estimated that producers who use the unit will save a total savings of $1,865 per producer in 2022.

The 1890 Institution Extension Services coordinated with the 1862 Extension System to fill gaps and support underserved populations.1890s Extension programs in business and entrepreneurship enhance the ability of minority farmers and landowners to acquire capital, integrate new technologies, and use estate planning and tax incentive programs to retain operations and increase profitability. APLU requests an increase for 1890 Institutions' extension to bring vital, practical information to agricultural producers, small business owners, consumers, families, and young people.

COMPETITIVE PROGRAM: 1994 INSTITUTION EXTENSION PROGRAM
APLU FY2022 Request: $17.5 million
FY2023 PBR = $19 million; FY2022 = $9.5 million; FY2021 = $8.5 million

The Tribal College (also known as the 1994 land-grant institutions) Extension program supports community-based learning on topics such as farmer education, youth development, diet and nutrition, and rural entrepreneurship. Outreach, technical assistance, and continuing education through traditional Cooperative Extension programs are limited in many tribal communities, often due to remote rural settings and funding limitations. The 1994s lack the funding they need to develop and deliver appropriate extension programming in these underserved tribal communities. With adequate funding, the 1994s can provide relevant, local community extension services that are innovative and provide important opportunities to tribal communities.

COMPETITIVE PROGRAM: 1994 INSTITUTIONS EQUITY PAYMENT
APLU FY2023 Request: $17.5 million
FY2023 PBR = $5 million; FY2022 = $5.5 million; FY2021 = $4.5 million

The Tribal College Education Equity Grants program promotes and strengthens higher education instruction in the food and agricultural sciences at the 1994 land-grant institutions. Equity programs focus on undergraduate and/or graduate studies in the food and agricultural sciences in curricula design and development, faculty development, instruction delivery systems, student experiential learning, equipment and instrumentation for teaching, or student recruitment and retention. Current funding levels awarded to the 35 1994s are insufficient to develop the capacity to deliver high-quality instruction and student support services.

Women and Minorities in STEM
APLU FY2023 Request: $10 million
FY2023 PBR = $2.3 million; FY2022 = $1 million; FY2021 = $400,000

USDA projects that each year between 2021 and 2025, there will be 56,400 job opportunities for college graduates in food, agriculture, natural resource, and environmental (FANRE) fields than it has graduates from those disciplines (36,112). The U.S. agricultural industry will benefit from a college graduating class that reflects the larger population in their age bracket. Increased investment in the following NIFA education programs for food, agriculture and natural resources will increase the chance of meeting the nation's talent needs for the future. Women and Minorities in STEM projects, with their focus on increasing participation of women and minorities from rural areas in STEM, encourage greater recruitment and retention of diverse students and faculty strengthening the pipeline of the future workforce.

COMPETITIVE PROGRAMS: Partnerships to Build Capacity in International Agriculture
APLU FY2023 Request: $10 million
FY2023 PBR = N/A; FY2022 = N/A; FY2021 = N/A

Investments in international agriculture strengthen U.S. standing in global markets and support a culturally competent domestic agricultural workforce. In practice, both knowledge and experience are key to the success of graduating students and professionals in agricultural science, business, and finance. APLU supports investment in the program to develop critical research and outreach partnerships between land-grant universities, non-land grant colleges of agriculture, cooperating forestry schools, and international partner institutions in developing countries.

Infrastructure: Research Facilities Act
APLU FY2023 Request: $365 million
FY2023 PBR = N/A; FY2022 = N/A; FY2021 = N/A

Agricultural and food research solves global issues including preventing the next pandemic, addressing energy sustainability, limiting forest fires, and feeding global populations. Yet, the U.S. is at a hazardous crossroads and is rapidly losing ground as the global leader in agricultural science. 70 percent of the research facilities at U.S. public colleges of agriculture are at the end of their useful life.[13]

To reposition, the U.S. needs advanced agricultural research infrastructure with facilities that enable work in emerging areas of science, including artificial intelligence, big data analytics, and sensor-based observation systems at geographically relevant locations across the nation. Nationwide, there is at least $11.5 billion in deferred maintenance of agricultural research infrastructure at public colleges of agriculture. Land-grant universities are the launchpad for agricultural innovation, but 21st century challenges cannot be addressed with 20th century resources and infrastructure.

Bill Language Request: WAIVER AUTHORITY

APLU requests the following language in the FY23 appropriations bill to allow the Secretary of Agriculture to waive the matching requirement for the Specialty Crop Research Initiative (SCRI) and Emergency Citrus Disease Research and Extension (ECDRE) programs authorized in the 2018 Farm Bill: "The Secretary of Agriculture may waive the matching funds requirement under Section 412(g) of the Agricultural Research, Extension, and Education Reform Act of 1998 (7 U.S.C. 7632(g)).

ABOUT THE ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES

APLU is a research, policy, and advocacy organization dedicated to strengthening and advancing the work of public universities. With a membership of 244 public research universities, land-grant institutions, state university systems, and affiliated organizations, APLU's agenda is built on the three pillars of increasing degree completion and academic success, advancing scientific research, and expanding engagement. Annually, its 202 U.S. member campuses enroll 4.2 million undergraduates and 1.2 million graduate students, award 1.2 million degrees, employ 1.1 million faculty and staff, and conduct $48.7 billion in university-based research.

[13] https://www.aplu.org/library/a-national-study-of-capital-infrastructure-at-colleges-and-schools-of-agriculture-an-update/file