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Iowa State University FY23 Non-federal Research Funding Overview

Iowa State University established new benchmarks for non-federal research funding in back-to-back years. The $94.4 million in non-federal research support in FY23, is $8.4 million or 9.8% more than the previous record of $86 million set during the 2022 fiscal year.

Key sponsor segments contributing the most to the growth in non-federal funding from FY23 to FY22 were:

- Commodity: up $7.5 million, or nearly 175%, from $4.3 million in FY22 to $11.8 million in FY23;
- Higher Education (U.S. and foreign): up $4.2 million, or 25.7%, from $16.5 million in FY22 to $20.7 million in FY23; and
- State of Iowa government: up $489,794, or 2.2%, from $22.6 million in FY22 to $23.1 million in FY23.

Iowa State continues to be a trusted partner for proactive and innovative solutions among industry and corporate collaborators. Although the $24.7 million Iowa State received from this sponsor category in FY23 fell short of FY22's record of $27.7 million, the FY23 total was the second-largest amount from industry sponsors in the past five fiscal years.

Here are several notable research projects that received funding from non-federal sources in FY23:

- The Iowa Homeland Security and Emergency Management Division provided an award of nearly $395,000 for a two-year project focused on improving local energy lifeline resiliency in Iowa following natural or manmade disasters. A resilient energy lifeline ensures that fuel and food supplies are available and those essential communications, water treatment, and wastewater treatment services are not disrupted. This project, led by Anne Kimber, executive director of the Electric Power Research Center, is critical for strategically planning a resilient infrastructure for Iowa communities so improvements can be justified to build them through the Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure Communities (BRIC) program.

- In July 2022 Toyota Motor North America, Inc., awarded nearly $272,000 for an 18-month research project to Anuj Sharma, professor Civil, Construction and Environmental Engineering and the Institute for Transportation (InTrans) based at Iowa State. Impairments related to diabetes can be implicated in up to 90% of automobile accidents. In this study, Sharma and his team will work with the University of Nebraska Medical Center (UNMC) to use advanced wearable and vehicle sensor technology to

collect data relating to drivers' physical wellbeing and their driving capabilities. This data will serve as the foundation for artificial intelligence-driven models that can assess the predictive reliability of glycemic health-related events and their impact on driver behaviors across a range of conditions and circumstances.

> ## *Iowa State aspires to be the trusted partner for proactive and innovative solutions.*

- A $1 million award from the Iowa Department of Agriculture and Land Stewardship will support the Iowa Nitrogen Initiative in a one-year project to optimize nitrogen fertilizer usage. A multidisciplinary team led by Michael Castellano, William T. Frankenberger Professorship in Soil Science, and Sotirios Archontoulis, associate professor in Agronomy, has a goal of implementing 400 field trials by crop year 2024. These trials will provide critical data that will be used to understand how interactions among genetics, weather, soil type and management decisions affect cropping system outcomes. This on-farm data infrastructure will allow Iowa State to use the latest advances in super-computing and quantitative modeling to forecast best management practices and demonstrate how Iowa farmers can maximize operational efficiency in the context of changing genetics, weather and management.

- The United Soybean Board (USB) is turning to Iowa State for answers related to the mitigation and management of costly soybean stem diseases like sudden death syndrome, white mold and stem canker. An award of just over $340,000 to PI Leonor Leandro, professor, Plant Pathology, Entomology and Microbiology, is supporting a one-year project designed to: Increase knowledge on the biology of pathogens that cause stem diseases in soybeans; Generate recommendations for field practices for improved disease management; Identify germplasm that carries greater resistance to stem diseases; and Disseminate new information and research findings to farmers and the soybean industry through Extension activities and information products and channels.

> ## *Iowa State aspires to be the university that creates opportunities and forges new frontiers.*

- USDA-NIFA is making a significant investment in improving the nation's sweet corn through the agency's Specialty Crops Research Initiative. Lead institution, the University

of Florida, is subcontracting with Iowa State to improve double-haploid (DH) breeding technology in the crop. DH breeding greatly improves the efficiency and effectiveness of breeding efforts to bring desired traits to market and has been the mainstay of commercial field corn breeding programs since the 1990s. Iowa State co-PIs, Thomas Lubberstedt, Agronomy, and Alan Myers, Biochemistry, Biophysics and Molecular Biology, received $444,440 in FY23 and are estimated to receive a total of nearly $815,000 over the project's two-year scope. The long-term goal is to provide sweet corn breeders novel tools to improve the crop both for production and consumption.