



# IMPACT, JOBS AND CONSUMERS

FCONOMIC IMPACT OF	CONGRESSIONAL DISTRICTS				
AGRICULTURE AND RELATED INDUSTRIES	1	2	3	4	STATE TOTAL
Population (2022)	799,399	792,899	813,849	794,370	3,200,517
Total Employment (2022)	484,611	523,292	580,855	491,737	2,080,495
Jobs Linked to Ag-Related Industries	65,943	103,270	65,882	135,919	399,081
Percentage of Ag-Related Total Employment	13.6%	19.7%	11.3%	27.6%	19.2%
Total GDP in \$ Billions (2022)	\$51.9	\$59.2	\$76.2	\$54.9	\$242.2
GDP Linked to Ag-Related Industries in \$ Billions	\$9.2	\$14.4	\$8.7	\$20.6	\$56.5
Production (crops, livestock, forestry, fishing, etc.)	\$3.2	\$4.9	\$2.4	\$9.8	\$20.2
Processing (food & kindred, ethanol)	\$4.4	\$6.9	\$4.9	\$9.4	\$29.1
Other Ag-Related Manufacturing (chemicals, machinery, etc.)	\$1.6	\$2.7	\$1.4	\$1.4	\$7.2
Ag-Related Percentage of Total GDP	17.8%	24.4%	11.4%	37.5%	23.3%
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LINKS TO IOWA STATE UNIVERSITY	1	2	3	4	STATE TOTAL
Education About 59% of undergraduate students enrolled at lowa State come from lowa. Total enrollment was 30,177 (25,332 undergraduate students) in Fall 2023.	2,607	2,837	5,318	4,096	14,858
Total Unique 4-H Participants  Total direct educational contacts for Extension and Outreach were 894,781 for FY23.	43,354	23,046	17,818	44,513	130,731
Alumni lowa State has 289,438 alumni worldwide, and 25,673 College of Agriculture and Life Sciences	17,209	18,575	42,822	40,163	118,769

<sup>\*</sup> Linked job and GDP estimates are based on modeling data reflecting lowa's economy as it was structured in 2022. The sum of economic impact values for the four congressional districts does not always equal the state total. State and district values are obtained from a unique input-output model built specifically for that region. The figures include the direct employment and value added produced within these industries, plus related spinoff activity that they stimulate in the remainder of lowa's economy.

## **CARET DELEGATES**

alumni living in Iowa (47,728 worldwide)

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The Council for Agricultural Research, Extension, and Teaching (CARET) is a national grassroots organization of volunteers. CARET delegates are chosen by their respective land-grant institutions to serve as citizen advocates for their state and its land-grant programs. More at www.aplu.org/CARET.

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# FROM DISCOVERY THROUGH DEPLOYMENT

REPORT FOR COUNCIL ON AGRICULTURAL RESEARCH, EXTENSION, AND TEACHING (CARET) – FEBRUARY 2024

FROM IOWA CARET REPRESENTATIVES AND IOWA STATE UNIVERSITY

# **WORKING TOGETHER FOR IOWANS**

At Iowa State University, Agriculture Experiment Station (AES) research and Extension and Outreach (ISUEO) are the capacity programs that enable us to lead the way to produce food, solve issues linked to agriculture and enhance quality of life. These critical programs connect Iowans to researchers at Iowa State and faculty and staff throughout the land-grant system. From discovery through deployment, research and extension efforts leverage crucial federal support to maintain and improve our nation's competitiveness, develop the future workforce and advance food security and cybersecurity. ISU's College of Agriculture and Life Sciences (CALS) ranks in the top 10 among 422 institutions worldwide with agriculture and forestry programs (QS World University Rankings, 2023).

### Staying Competitive Through Innovative Problem-Solving

The **Digital Ag Innovation Team** generates innovations to make agriculture more productive, efficient and profitable by linking research and extension experts with private-sector collaborators. The team has developed a series of PlanterU workshops and YouTube videos for farmers and crop industry retailers. The hands-on trainings, delivered by ISUEO, have provided an estimated ROI of \$7.4 million in savings to more than 415 farmers and agribusinesses. Free PlanterU videos have had 30,000 views.

The **Artificial Intelligence Institute in Resilient Agriculture (AIIRA)**, with support from the National Science Foundation and USDA, and with researchers supported by AES, is combining expertise from agriculture and engineering for projects such as equipping robots and drones with artificial intelligence to guide precision planting, sensing optimal fertilizer levels and quickly identifying beneficial versus harmful insects in the field.



CALS offers 27 undergraduate majors and 35 graduate programs that offer opportunities for students to hone skills in their disciplines, and in leadership, communications, innovation and research. Extensive Study Abroad and Study USA programs also open horizons to apply knowledge and gain cultural competencies. Placement of CALS graduates within their first year after graduation has been 97% or higher for 24 consecutive years.

The state-of-the-art **Iowa State University Kent Feed Mill and Grain Science Complex** opened in 2023. This privately funded facility models the most up-to-date technologies and best practices in feed mill and grain science operations, including in processing and use, storage and handling, safety and environmental standards, and animal health. The new complex provides hands-on learning experiences for students across several majors and opens future opportunities for research and extension programs.

Another new pathway to careers of the future, the **Biological and Biomanufacturing Systems Technology degree** option at Iowa State was introduced in 2023. A mix of technology and management, it prepares students with solid knowledge of industrial biology and chemistry applications for careers in areas such as feed production, brewing and distilling.





## **Advancing Food Security and Cybersecurity**

CALS scientists promote food security by leading foundational research into genetics, crop breeding and livestock improvements that foster animal and human health. Researchers in agronomy are investigating genetic mechanisms that have great potential to accelerate creation of inbred lines in corn – and eventually other crops. Another CALS team discovered a strain of beneficial microbes that can boost poultry health and is using it to develop a probiotic treatment to fight bacterial infections in poultry and humans.

Iowa State is leading an effort to create a national network of universities, stakeholders and industry partners to address growing cybersecurity challenges for agriculture. An example of this work is a series of **cybersecurity workshops** aimed at strengthening digital protections for farm businesses and families. ISUEO and other partners are also training **Cybersecurity Ambassadors** through 4-H programs, schools, area education agencies and other entities to promote basic cybersecurity practices.

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