



IMPACT, JOBS AND CONSUMERS

ECONOMIC IMPACT OF AGRICULTURE AND RELATED INDUSTRIES

	CONGRESSIONAL DISTRICTS				STATE TOTAL
	1	2	3	4	
Population (2020)	780,180	785,353	858,974	765,862	3,190,369
Total Employment (2019)	518,680	501,584	581,860	490,163	2,092,287
Jobs Linked to Ag-Related Industries	97,828	69,059	59,605	140,234	389,553
Percentage of Ag-Related Total Employment	18.9%	13.8%	10.2%	28.6%	18.6%
Total GDP in \$ Billions (2019)	\$47.0	\$43.1	\$62.8	\$42.2	\$195.1
GDP Linked to Ag-Related Industries in \$ Billions	\$9.7	\$6.8	\$6.1	\$14.6	\$40.0
Production (<i>crops, livestock, forestry, fishing, etc.</i>)	\$1.9	\$1.7	\$1.1	\$6.3	\$11.1
Processing (<i>food & kindred, ethanol</i>)	\$5.7	\$4.0	\$4.3	\$7.4	\$23.9
Other Ag-Related Manufacturing (<i>chemicals, machinery, etc.</i>)	\$2.1	\$1.1	\$0.8	\$0.9	\$4.9
Ag-Related Percentage of total GDP	20.7%	15.7%	9.7%	34.7%	20.5%

LINKS TO IOWA STATE UNIVERSITY

	1	2	3	4	STATE TOTAL
Education Most undergraduate students enrolled at Iowa State come from Iowa. Total enrollment was 30,720 (26,173 undergraduate students) in fall 2021.	2,998	2,441	6,005	4,125	15,569
4-H/Youth Total direct contacts for Extension and Outreach was 374,560 for FY21; however, all data sets are not available by county.	26,724	19,685	9,868	28,407	84,684
Alumni Iowa State has more than 278,930 alumni worldwide, and more than 24,530 College of Agriculture and Life Sciences alumni living in Iowa (45,665 worldwide).	18,951	16,094	44,216	39,670	118,931

*Reflects 2019 data. **The sum of economic impact values for the four congressional districts does not equal the state total.** The 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 the related spinoff activity that they stimulate in the remainder of Iowa's economy, from crop farming; cattle ranching and farming; dairy cattle and milk production; poultry and egg production; hog and other animal production; forest nurseries, forest products and timber tracts; logging; fishing; hunting and trapping; support activities for agriculture and forestry; food and beverage manufacturing; ethanol and other basic organic chemical manufacturing; fertilizer manufacturing; pesticide and other agricultural chemical manufacturing; and farm machinery and equipment manufacturing.

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RESEARCH FOR GENETICS OF SUSTAINABLE CORN PROTECTS FUTURE PRODUCTION

The newly assembled genomes of 26 different lines of corn illustrate the crop's rich genetic diversity, paving the way for better understanding of genetic mechanisms that account for crop traits prized by farmers.

SOLVING INDUSTRY PROBLEMS THROUGH BIOBASED RECYCLING

The Iowa State Polymer and Food Protection Consortium solves intractable waste-management challenges in a lab at Iowa State's BioCentury Research Farm. The team works with companies in Iowa and the world to develop new uses for plastic trash and agricultural waste, saving money and reducing landfill loads. Their biobased innovations include adhesives and improved food packaging films.



IDENTIFICATION OF CRITICAL STRUCTURE IN SARS-COV-2 SETS STAGE FOR NEW TREATMENTS

The coronavirus that causes COVID-19 has a stubborn ability to resist most antiviral treatments, but research at Iowa State is helping overcome the virus' defenses. The work details the structure of a critical "proofreading" enzyme, offering insights to deactivate the enzyme and develop better treatments.

STUDYING HAIR TO GAUGE STRESS RESPONSE IN PIGS

Animal scientists are studying stress hormones deposited in pigs' growing hair, which may signal genetics that allow them to respond more favorably to situations such as being weaned, being transported and fighting disease, offering clues for breeding more resilient, productive pigs in the future.



BEEF QUALITY ASSURANCE TRAININGS PROTECT HERD HEALTH, MEAT SAFETY

Beef Quality Assurance trainings focus on reducing transport stress and protecting herd health for safer, higher-quality meat products and enhanced consumer confidence. During 2021, 6,754 Iowa producers and other professionals were certified in 122 BQA trainings. Behavior changes reported included improving practices for animal handling and welfare (49%) and upgrading record-keeping and health programs (40%).

COALESCE CREATES ADVANCED PLATFORM FOR PRECISION AGRICULTURE

A cyber approach employing layers of technologies, including machine learning, drones and small-scale robots, aims to reduce farmers' reliance on heavy machinery and broadcast spraying. Led by Iowa State, the multi-institutional COALESCE project (COntext Aware LEarning for Sustainable CybEr-agricultural systems) is developing new crop-management options, with support from the National Science Foundation and USDA's National Institute of Food and Agriculture.



ADVANCING THE SCIENCE OF WATER-NUTRIENT-CARBON INTERACTIONS

Major efforts led by Iowa State, including through the Bioeconomy Institute, C-CHANGE (Consortium for Cultivating Human And Naturally reGenerative Enterprises), and the Iowa Nutrient Research Center, are advancing opportunities to integrate carbon, fertility and soil management in farming systems and reduce nutrients in waterways.

AWARD-WINNING MANUAL GUIDES PRODUCERS THROUGH CONSERVATION DECISIONS

A new Whole Farm Conservation Best Practices Manual helps producers select conservation practices that fit their land, cropping system and operational objectives. Developed with broad collaboration through Iowa State University Extension and Outreach, the manual won top awards from the American Society of Agronomy and the American Society of Agricultural and Biological Engineers.



AG RESEARCH ADVANCES IOWA

The Iowa Agriculture and Home Economics Experiment Station — the research division of the College of Agriculture and Life Sciences — helps Iowa remain a world leader in food production and addresses societal issues linked to agriculture, economic development, life sciences, the environment, public policy, families and communities.

- The College of Agriculture and Life Sciences leads the nation in faculty with federal grants and is first in faculty who have received awards and honors. (Academic Analytics, 2020)
- Faculty in agriculture and life sciences at Iowa State rank second nationally for research findings published in scientific journals. (Academic Analytics, 2020)
- The Experiment Station attracts nearly \$60 million annually in external funding.

99-COUNTY CAMPUS

With a presence in each of Iowa's 99 counties, Iowa State University Extension and Outreach connects Iowans to researchers at Iowa State and throughout the land-grant university system. The Agriculture and Natural Resources Extension network includes campus-based state specialists and field specialists throughout the state. These extension professionals specialize in agricultural engineering, commercial horticulture, food safety, farm management, agronomy, natural resources, beef, swine and dairy.

- 124,806 contacts were made at 3,162 meetings, workshops, field days and virtual events in 2021.
- Archived presentations and online courses in agriculture and natural resources reached 20,595 participants in 2021.
- 25,314 face-to-face, phone and email contacts were made throughout 2021.

THE CALS ADVANTAGE

The College of Agriculture and Life Sciences (CALS) offers more than 24 undergraduate majors and 35 graduate programs in addition to hands-on opportunities for students to hone skills in their disciplines, and in leadership, communications, innovation and entrepreneurship. Extensive study abroad and Study USA offerings open horizons to apply knowledge and gain cultural competency.

- Among top 5 largest undergraduate student populations in U.S. agricultural colleges.
- 98% placement of graduates into careers within six months of graduation.
- \$4 million in scholarships provided annually. More than \$40 million in annual donations received.