

College of Agriculture and Life Sciences Land Base

THE IMPORTANCE OF IOWA SOILS

Iowa's soils are globally recognized for their exceptional fertility and productivity, forming the foundation of the state's agricultural success. These soils developed over thousands of years under tallgrass prairie ecosystems, where dense root systems contributed large amounts of organic matter to the soil profile. Combined with glacial deposits from the last Ice Age, this process created deep, nutrient-rich horizons that are ideal for crop production. The dominant soil orders in Iowa, particularly Mollisols, are characterized by high levels of organic carbon, excellent structure and superior water-holding capacity. These properties not only support high yields of corn and soybeans but also make Iowa a critical contributor to global food security. However, the uniqueness of these soils also underscores the importance of sustainable management practices. Erosion, nutrient depletion and loss of organic matter threaten long-term productivity, making conservation strategies such as cover cropping, reduced tillage and precision nutrient management essential. Protecting Iowa's soils ensures the continued vitality of its agricultural economy and the preservation of one of the world's most valuable natural resources.

OUTLYING RESEARCH FARMS

The College of Agriculture and Life Sciences (CALs) operates 11 outlying (outside of Boone and Story counties) research farms, all of which have staff and buildings except for the Brayton farm in northeast Iowa, which is a forest. The farms represented by circles on the map are owned by Iowa non-profit corporations (associations) and the farms that are squares are university-owned. The farms are situated strategically in the state to represent the different land formations in Iowa and were bought by the associations and leased to Iowa State University to conduct research relevant to that part of the state.

These farms collectively sit on 4,496 acres of land. Association-owned farms sit on 1,944 acres and university-owned farms sit on 2,552 acres. Twenty staff support research, teaching and extension projects on the outlying farms.



BOONE AND STORY COUNTY OPERATIONS

CALS operates 8,240 acres of land for the purpose of research, teaching and extension in crops and livestock. Twenty-one staff support research, teaching and extension projects in Boone and Story counties.



CROPS

The Agricultural Engineering and Agronomy Research Farm located in Boone County is the flagship crops farm for CALs. The current site opened in 1964 and serves projects in agricultural and biosystems engineering, agronomy, plant pathology, entomology and microbiology, biochemistry, biophysics and molecular biology, and genetics, development and cell biology departments, plus colleagues in the USDA-ARS who are stationed at Iowa State. The farm has 1,181 acres and frequently expands to other land in Boone and Story counties as needed to support campus projects.

The Horticulture Research Station sits on 235 acres directly east of Gilbert, Iowa, in Story County. The station has extensive horticultural plantings and projects, including apple orchards, vineyards, pest control in muskmelons, demonstration home gardens, vegetables, fruit, turfgrass and ornamentals. The farm has active research related to turtles, honeybees, wasps and tree swallows. Scientists from horticulture, natural resource ecology and management, ecology, evolution and organismal biology, and plant pathology, entomology and microbiology are active at the station.

LIVESTOCK

The animal science farms situated on 450 acres of land conveniently located south of campus provide an exceptional experiential learning experience. Students can work at the farms to assist with college expenses and to gain invaluable experience of farm and livestock management. Cutting-edge research is being performed daily, and students have the possibility to participate and acquire skills not gained in a classroom. The livestock facilities include swine, beef, dairy, chickens, turkeys, sheep and horses.

The Jeff and Deb Hansen Agriculture Student Learning Center, while not a farm, hosts livestock competitions from around the nation. It houses several classrooms and conference rooms for student and public use and acts as an Iowa State and community event center.

AG 450

The Ag 450 Farm's mission is to be a practical educational resource for Iowa State and the Department of Agricultural Education and Studies (AGEDS) demonstrating quality and sustainable production agriculture in the Midwest. The farm serves as a hands-on learning laboratory for students enrolled in AGEDS 4500, which is a capstone course for the agricultural studies, production option major housed in the AGEDS department. The agricultural studies major is the second largest major in CALS. The farm strives to provide students with hands-on practical learning experiences with a real-world production farm for them to make management decisions and operate on. This is the only farm of its kind in the nation for a land-grant institution.

The land surrounding the farm is vital for the students' success for learning needs and operational functionality. Having the land base just south of Ames eases the travel needs of students and gives us the opportunity to shine a light on the various projects and things going on at the farm to the surrounding community. This allows us to develop various partnerships with John Deere, Case, Salford and various other industry organizations to collaborate with the students while also providing a visual representation of their company to the public.



Having land that we can walk out of a classroom and right into is essential for our learning goals and objectives to teach experiential learning activities to students without having to travel miles away from the campus. This class teaches and inspires more than 100 students a year to be better prepared for taking on roles in the agricultural sector post-graduation.



DIGITAL AG

The Digital Ag Team is a global innovator in developing ag technologies for grain, forage and fiber systems. Our team has played a critical role in establishing Iowa as the epicenter of yield monitoring, smart-spraying solutions and automation in agriculture through both innovation and technical expertise. We work closely with industry partners to create new technologies that deliver value to agriculture and strengthen our communities. Through education, we inspire students, elevate the skills of industry professionals and help build a strong, future-ready workforce. We also engage in extensive outreach to share knowledge with farmers and ag businesses, promoting practices that enhance productivity and long-term success.

Using designated farmland at Iowa State for equipment testing is the essential foundation to our team's success. It provides a controlled environment where machinery can be evaluated without risking damage

to crops or property. Since this land supports university research, keeping it dedicated to planned farming operations helps protect research quality by ensuring every field activity is intentional, consistent and well-documented. This level of control allows ongoing studies to stay accurate and dependable, giving students a stable, high-quality environment for learning and hands-on research.

Having research farmland located close to campus allows students easy access to the fields they rely on for hands-on learning. Instead of spending hours traveling to distant sites, students can quickly get to their "living lab," conduct their research, gather data and return to class or labs the same day. This convenience not only saves time but also encourages more frequent field visits, improving the overall quality of student projects and strengthening their connection to real-world agricultural work.



Row-crop agriculture research on this land also plays a meaningful role in supporting our community and the state. The work done here in central Iowa helps improve crop management practices, evaluate new technologies and develop more efficient, sustainable farming methods. These advancements don't stay on campus - they directly benefit local producers, inform industry partners and contribute to the productivity and resilience of agriculture across the state. By maintaining high-quality research conditions, we help ensure that the knowledge generated here continues to strengthen our agricultural economy and the communities that depend on it.

We're also incredibly fortunate to have farmland that can support such a wide range of row crops, including corn, soybeans, cotton, canola and sunflowers. Having this diversity in one location allows students and researchers to explore multiple production systems, compare management practices and test equipment across different crop types. This versatility strengthens our research, broadens learning opportunities and reflects the real-world challenges and opportunities found in agriculture across our region.

The outcomes of the Digital Ag Team, which include more than \$85 million in sponsored private sector investments, over 90 patented and licensed ag technologies and economic impacts of more than \$30 million in Iowa through our Extension and Outreach programs simply would not be achievable without access to and utilization of a strong land base that supports agriculture research that ultimately drives ag innovation globally.

COMMITTEE FOR AGRICULTURAL DEVELOPMENT (CAD)

CAD is an Iowa non-profit corporation established in 1943 to produce and distribute seed developed by ISU researchers and to purchase land on behalf of the College of Agriculture and Life Sciences for research purposes. CAD owns 28 farms or parcels of land (3446 acres), mostly in Story and Boone counties. All of the farmland CAD owns directly or indirectly supports research, teaching, and extension.

FARMLAND OWNERSHIP

The farmland is managed in the College of Agriculture and Life Sciences by the office of the Associate Dean for Facilities and Operations.

| Owner | Acres |
|--|--------|
| Iowa State University | 10,135 |
| Iowa State University Foundation | 787 |
| Committee for Agricultural Development | 3,446 |
| Associations | 1,944 |
| Total | 16,312 |

QUESTIONS?

If you have questions about Iowa State University agriculture land and farms, contact:

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