

NDSU

AGRICULTURE

# For the Land and Its People



## Summer 2025

This issue of *For the Land and Its People* highlights how NDSU Agriculture is advancing education, research and extension to serve North Dakota and beyond. From launching a new Master of Agriculture degree program to driving sugarbeet research and hands-on soil health learning, our work reflects a deep commitment to innovation and impact. Together, the College of Agriculture, Food Systems, and Natural Resources (CAFSNR), North Dakota Agricultural Experiment Station (NDAES), and NDSU Extension are building a stronger future—for the land and its people.

Enjoy.

**Greg Lardy**

Joe and Norma Peltier Vice President for Agriculture

**NDSU** NORTH DAKOTA  
STATE UNIVERSITY

College of Agriculture, Food Systems, and Natural Resources  
North Dakota Agricultural Experiment Station  
NDSU Extension

COMMUNITY DRIVEN ♦ STUDENT FOCUSED ♦ STAKEHOLDER CONNECTED  
INTEGRITY ♦ IMPACT ♦ INNOVATION



# NDSU launches flexible online Master of Agriculture degree

The College of Agriculture, Food Systems, and Natural Resources (CAFSNR) at North Dakota State University is expanding its reach with a new, fully online Master of Agriculture (MAG) degree program. The program is designed for working professionals eager to advance into leadership roles across agriculture, education, industry and environmental sectors.

“This new Master of Agriculture graduate degree was developed with input from regional agricultural employers, industry experts, NDSU CAFSNR faculty and Extension specialists, and other partners to be sure we are meeting today’s workforce needs,” says Carrie Hammer, CAFSNR associate dean. “The curriculum is designed to help students advance their careers by emphasizing both applied and practical knowledge, along with leadership and communication skills.”

“The program can be completed online in two to three years and does not require a thesis,” says Karensa Flora, CAFSNR online professional programs coordinator. “The program offers flexibility, allowing students to continue working while pursuing a master’s degree. For students who prefer the classroom experience, some of the courses are offered in person.”

What makes the program unique is its stackable graduate certificates. Students can begin the program by earning 9- to 12-credit graduate certificates in the following areas of study:

- Applied Nutrition and Grazing Management (coming soon)
- Carbon in Agriculture (coming soon)
- Critical Skills in Ag
- Crop Production
- Crop Protection
- Extension Education
- Food Safety
- Horticulture Management
- Leadership and Management Skills
- Malting and Brewing
- Milling, Baking and Pasta Making
- One Health
- Plant Pathology
- Precision Agriculture (coming soon)
- Quantitative Genetics
- Rangeland Ecology and Management
- Soil Conservation and Management
- Sustainable Agriculture and Ecosystem Services

Applicants must have a bachelor’s degree in agriculture or a related field and a minimum GPA of 3.0. However, applicants with a GPA below 3.0 may still be considered based on relevant professional experience. No GRE is required, and applications are reviewed on a rolling basis, giving prospective students the flexibility to apply when it best suits their schedule.

“We are excited to offer this opportunity to professionals and those looking to build on their existing expertise, move into leadership roles or address complex agricultural issues,” shares Hammer. “NDSU is a land-grant institution rooted in agricultural excellence, and we are proud to help people advance their careers by providing them with an educational path that fits their lives.”

#### FOR MORE INFORMATION:

To learn more or begin an application, visit [www.ndsu.edu/agriculture-masters](http://www.ndsu.edu/agriculture-masters).



SANDRO, LINDSAY, LAUREN AND CARRIE HAMMER



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## CAFSNR faculty honored for teaching excellence

Five outstanding educators from NDSU’s College of Agriculture, Food Systems, and Natural Resources were honored with the 2025 NACTA Teaching Award of Merit.

Presented by the North American Colleges and Teachers of Agriculture, this prestigious award recognizes faculty and graduate instructors who go above and beyond in the classroom.

Congratulations to this year’s recipients:

- **Lauren Hanna**, NDSU Department of Animal Sciences
- **Sandro Steinbach**, NDSU Department of Agribusiness and Applied Economics
- **Kristi Schweiss**, Quentin Burdick Center for Cooperatives (Graduate Student award)
- **Kelsey Griesheim**, NDSU School of Natural Resource Sciences
- **Lindsay Malone**, NDSU School of Natural Resource Sciences





## KernzaCON Showcases Perennial Crop

KernzaCON 2025 brought farmers, researchers, students, brewers and food industry leaders to Fargo in June to learn more about Kernza®, a perennial grass that can be harvested for grain. Hosted by North Dakota State University and The Kernza® Network, the conference featured presentations, poster sessions, tours of NDSU facilities and specialty crop processors, and receptions—including the launch of a Kernza-based lager by Drekker Brewing named “It’s From the Land, Man.”

Kernza® is the first commercially available perennial grain crop, derived from intermediate wheatgrass (*Thinopyrum intermedium*). Kernza® is a cool-season, perennial grass with a deep and fibrous root system. The breeding program at The Land Institute in Salina, Kansas, has been intensively selecting for grain-type traits for the past 15 years.

Clair Keene, NDSU Extension small grains agronomist and coordinator of the KernzaCON conference, has been researching Kernza’s potential in North Dakota cropping systems through field trials at the Williston Research Extension Center. Her current research at the NDAES main station focuses on evaluating the feasibility of companion cropping Kernza with annual small grains during Kernza establishment.



## Success in the sugarbeet industry takes TEAMWORK

From the seed planted in the ground to the bag of sugar in the grocery store, a sugarbeet’s journey to the kitchen all happens within the Red River Valley region.

Sugarbeet harvest is the largest mobilization of semitrucks in the U.S. All the sugarbeets are taken from the fields in about 12 days by producers working around the clock. Sixty percent of the nation’s sugarbeets are produced in Minnesota and North Dakota.

The regional sugarbeet industry is unique because major players come together to keep production thriving, reach shared goals and work toward a bright future for the sugar industry in the region.

Collaboration between three grower cooperatives — Southern Minnesota Beet Sugar Cooperative, Minn-Dak Farmers Cooperative and American Crystal Sugar Company — and North Dakota State University, the University of Minnesota, the U.S. Department of Agriculture – Agriculture Research Service and other stakeholders means the sugarbeet industry can advance.

Frank Casey, associate director of the North Dakota Agricultural Experiment Station, calls the collaboration a model of success.

“This spirit of teamwork brings people together,” says Casey. “The people are all engaged in working toward a common outcome. It’s like an engine.”

All of these partners’ personnel and expertise come together for sugarbeet production. They also come together for research.

The Sugarbeet Research and Education Board prioritizes the cooperatives’ needs and allocates funds for research on the specialty crop.

Joe Hastings, head agronomist at American Crystal Sugar Company, emphasizes the importance of third-party research.

“Sugarbeets are a high-risk crop,” says Hastings. “Growers need to spend their money on the right stuff to be effective. There are high margins to surpass.”

The board meets with researchers in the summer, and growers bring up issues they experience in the field. After that, the researchers develop research proposals that they submit back to the board in the winter. The board decides which research plans would best help growers.

Research ranges from practical, short-term studies or longer-term exploration. Topics vary from plant breeding, seed quality, disease, weed management and insect infestation to drainage issues, soil moisture and postharvest storage.

“Our concerns are very well aligned,” adds Hastings.

Eric Branch is an Extension plant pathologist and sugarbeet specialist representing both NDSU and UMN Extension. The primary focus of his program is Cercaspora leaf spot, a fungal pathogen that develops tan-gray spots on sugarbeet leaves and can make them wither and die. This disease reduces the yield and quality of the sugarbeet and is a worrying issue.

Branch says commodity groups are very plugged in to the research process, and that’s unique to this industry.

“It’s on the education side, too,” says Branch. “It’s how we send these data-driven recommendations to the grower.”

Researchers like Branch need to meet harvest expectations, as well. Without the results from those field tests, advancements would stall. They need up-to-date equipment to work efficiently.

[A new plot-sized sugarbeet harvester](#)—designed and constructed in 2025—is an excellent example not only of continued investment and timely research, but also of coordination and meaningful collaboration across diverse partnerships, including NDSU, UMN, USDA-ARS, farmer co-ops and industry partners.

Sugarbeet yields have increased over time, along with responses on issues like disease, fertility, soil management and insect infestation.

Hastings credits the growth to this collaboration. He says that without research such as varietal improvement and production practices evolving, the region would’ve suffered.

“What makes it all work is that we’ve made a great relationship with these researchers,” says Hastings. “I feel comfortable talking to any one of them about a need, and they feel comfortable coming to us with ideas.”

### FOR MORE INFORMATION:

NDSU Ag Hub Sugarbeet Webpage—  
[www.ndsu.edu/agriculture/ag-hub/ag-topics/crop-production/crops/sugarbeets](http://www.ndsu.edu/agriculture/ag-hub/ag-topics/crop-production/crops/sugarbeets)





It's a state-of-the-art way to connect with producers and showcase the real-world benefits of sustainable soil practices.

## NDSU Extension Soil Health Express Hits the Road

A new mobile educational trailer, the NDSU Extension Soil Health Express, is rolling across North Dakota to bring hands-on soil health demonstrations directly to farmers, ranchers, agricultural professionals and students.

Funded by North Dakota Soybean Council, North Dakota Corn Utilization Council, North Dakota Wheat Commission, North Central SARE, Northern Canola Growers Association, NDSU School of Natural Resource Sciences and NDSU Extension, the Soil Health Express will serve as a powerhouse outreach tool designed to engage and educate on best soil management practices.

"This trailer brings science to life," said Carlos Pires, NDSU Extension soil health specialist. "It's a state-of-the-art way to connect with producers and showcase the real-world benefits of sustainable soil practices."

In addition to Pires, Naeem Kalwar, Extension soil health specialist at the Langdon Research Extension Center, is part of the soil health team that will coordinate the trailer's use.

The Soil Health Express features a rainfall simulator that allows viewers to see firsthand how different soil management practices impact water infiltration, water holding capacity, surface runoff and erosion. In addition, a wind erosion simulator showcases how practices can reduce soil loss during high wind events, a growing concern in the region.

Another key highlight of the Soil Health Express is its cover crop root demonstrations, which help participants visualize how various cover crops affect soil structure and function. These demonstrations emphasize that cover crops are service plants, critical for improving soil health when selected and managed with a clear purpose.

Equipped for both indoor and outdoor demonstrations, the trailer was built with flexibility in mind, ensuring it can be used year-round at field days, fairs, schools and community events.

"Our goal is to empower North Dakota's agricultural community with practical, research-backed knowledge for healthier soils and more resilient farming systems," shares Kalwar.

For more information or to request the Soil Health Express at your event, contact the NDSU Extension soil health team at [ndsu.ag/soilhealth](http://ndsu.ag/soilhealth).

### FOR MORE INFORMATION:

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to subscribe to For the Land and Its People e-newsletter.

[www.ndsu.edu/vpag](http://www.ndsu.edu/vpag)

### NDSU's Land-Grant Mission

The College of Agriculture, Food Systems, and Natural Resources has a tradition of excellence in educating students for real-world careers. Our students learn from and work with world-class scientists in state-of-the-art facilities. These interactions, along with a relatively low student-faculty ratio, provide opportunities for students to develop their critical thinking skills, to work in a team setting, and to capitalize on hands-on learning experiences that will allow them to be competitive in a global economy.

The North Dakota Agricultural Experiment Station consists of seven Research Extension Centers placed strategically throughout the state, the Agronomy Seed Farm in Casselton and the Main Station in Fargo. We work to develop techniques and technologies to enhance the production and use of food, feed, fiber and fuel from crop and livestock enterprises.

NDSU Extension empowers North Dakotans to improve their lives and communities through science-based education. We serve all people of the state through our 52 county and Fort Berthold offices, seven Research Extension Centers and the main campus in Fargo.

For more information on the programs in this publication, contact the faculty and staff listed. For more information about our other programs or have questions, comments or suggestions, please contact me.

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8 [www.ndsu.edu/agriculture](http://www.ndsu.edu/agriculture)



## 2025 North Dakota 4-H Achievement Days Showcase YOUTH TALENT

North Dakota 4-H Achievement Days and fairs have begun across the state. These events feature the 4-H members' hard work and dedication to different project areas. Static exhibits, livestock shows and educational contests are presented in tandem with county fairs and other community events, with exhibits judged by volunteers.

The 4-H exhibits are designed by members, and the learning-by-doing model is meant to build skills such as discipline, goal-setting and time management.

4-H Achievement Days are often a crucial part of a county fair. These events help connect 4-H youth and their projects to friends and families. Youth members can gain confidence in their showmanship and see how their passions contribute to their community.

North Dakota 4-H is a program of NDSU Extension.

#### FOR MORE INFORMATION:

[www.ag.ndsu.edu/4H](http://www.ag.ndsu.edu/4H)

