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July-August 2021

It is hard to believe we are closing in on the end of summer. Drought conditions continue to be a challenge for many parts of the state. I commend our staff from across the NDSU Agriculture system who continue to provide high-impact research and Extension programming to our constituents who are challenged by the weather conditions this year. Even when times are challenging, we remain focused on the teaching, research and Extension land-grant mission of NDSU.

We invite you to read about some of these focus areas in the stories contained in this issue.

Enjoy.

Greg Lardy

Vice President for Agricultural Affairs

NDSU NORTH DAKOTA
STATE UNIVERSITY

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



Open for Business:

New Seed Cleaning Facilities Bring Opportunity to North Dakota

From cleaning 35 bushels an hour to 200 bushels an hour: That makes a big difference when you routinely clean 40,000 bushels of seed per year, says Kyle Dragseth, Williston Research Extension Center (WREC) farm manager.

That is just one of the features of the new, state-of-the-art WREC seed cleaning facility that opened with a ribbon cutting on July 14. In addition, a new seed cleaning facility at the North Central Research Extension Center (NCREC), near Minot, also celebrated its grand opening on July 21.

"We believe it is essential to rapidly produce, clean and condition Foundation-grade seed in the amount and types needed for area producers," says Shana Forster, NCREC director. "Our new facility will be capable of handling the pulse, oilseed and small grain varieties that help make this region profitable."

"The new WREC facility more than triples our cleaning capacity and helps us guarantee the highest purity of seed varieties grown at the center," says Jerald Bergman, WREC director.

Bergman adds, "Because cropping patterns in the region have become much more diverse, we are able to grow 26 different crop varieties for seed for area producers and contracted seed companies. Being able to increase our volume of cleaning specialty and traditional seeds will add income to the WREC for research and will offer grain producers improved opportunities to enhance their soil health and increase their profitability with new and improved crops and crop varieties."

Bergman, along with Tom Wheeler, a producer in the Ray area, other farmers in the Williston region, northwestern North Dakota state legislators, and county and city commissioners, worked for years to champion the need for the WREC facility.

The \$2.5 million WREC facility was made possible in part by a legislative appropriation of \$750,000 in 2019. The \$2.25 million NCREC facility also was made possible by a legislative appropriation of \$750,000. Each facility raised the additional funding needed from a wide array of community groups, local government, private businesses, community leaders and local producers.

"We truly appreciate our communities stepping up to make these world-class facilities a reality for our regions of North Dakota," says Forster.

These new facilities will make the seed production process more efficient and provide consumers with easy access to more crops and adapted varieties of seeds from public breeding programs and seed companies in North Dakota, South Dakota, Montana, Washington, Minnesota and Canada.

"The facility will allow us to clean, sort and deliver seed, leaving the highest genetic purity of new and higher-yielding/value-added crop varieties for MonDak area growers," says Dragseth. "We are excited to put it to use."

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NDSU Veterinary Technology Program Graduates in High Demand

Whether it's working at a large animal veterinary practice in rural North Dakota, caring for dogs and cats at an emergency clinic, working in the lab of an animal biotechnology company or selling pharmaceuticals for an animal health company, NDSU's Veterinary Technology bachelor of science degree program can prepare students for careers in many different animal-related areas.

"The need for veterinary technologists is at an all-time high," says Stacey Ostby, co-director of NDSU's Veterinary Technology Program. "We pride ourselves on providing real-world, hands-on learning opportunities for our students, knowing that the skills they develop in our program are essential to their future careers."

Housed within the NDSU Department of Animal Sciences, the Veterinary Technology degree program is unique in that it is one of a few programs nationwide that offer a full four-year degree at the completion of the program.

The program prepares students to work in a variety of veterinary settings, including as a veterinarian's nurse, laboratory technician, radiography technician, anesthetist, surgical nurse and client educator.

"One of the neat features of our program is how we help our students tailor their degree to their interests," says Ostby. "For example, NDSU's Veterinary Technology program is one of the few in the country where students can minor in large-animal veterinary technology. This prepares students to work with cattle and horses and is ideal for someone wanting to return to a rural setting and work for a large-animal veterinary practice."

Since 1979, the program has had full accreditation status from the Committee on Veterinary Technician Education and Activities of the American Veterinary Medical Association (AVMA). In addition, NDSU's graduates have a 91% pass rate on the AVMA national licensing exam.

After the completion of their coursework, students complete a half-semester externship at a veterinary clinic or zoo, where they apply the skills learned in the program to a real setting.

Kenna Solberg, a 2021 graduate, recently completed her externship at Bridger Veterinary Specialists in Bozeman, Mont. She already has accepted a full-time veterinary oncology technologist position there for the fall.

"Welcoming faculty, hands-on experience and a focus on developing individual skills were my favorite parts of the program," says Solberg. "I know that the skills I gained while completing my degree helped me to get hired right away."

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NDSU
GIVING DAY
NOVEMBER 30, 2021

www.NDSUGivingDay.com

November 30

NDSU Giving Day is a 24-hour, online fundraising event that brings together NDSU alumni, students and many other supporters of the university, allowing them to support educational opportunities in programs like the NDSU Veterinary Technology Program and many more. Giving is easy and a great way for donors to support areas of the university that they are most passionate about.

Learn more at www.NDSUGivingDay.com.



There's more to learn about 4-H than what I could teach them in the time we had together.



N.D. Leaders Experience 4-H Livestock Showmanship

Several state leaders got a first-hand look into the world of 4-H livestock showmanship as they tried their hand at showing livestock, with 4-H youth as judges, at this year's North Dakota State Fair in Minot.

As part of the North Dakota Leaders 4-H Showmanship Contest, a leader was paired with each of the 24 4-H'ers who won champion or reserve champion at the intermediate and senior level in showmanship for six livestock species at the State Fair. The youth gave their leader tips on how to show a specific species of livestock, then the 4-H'ers served as the judges for the leaders' showmanship efforts.

The event was designed to showcase 4-H youth and their skills and provide an opportunity for youth to network with public leaders.

The 4-H'ers liked North Dakota's first-of-its-kind event.

"It's a good opportunity to share knowledge and learn how to teach others," says Morton County 4-H'er Bailey Kunz.

"Hopefully, they learned a lot from the experience," says Caleb Schwab, a 4-H member from Ransom County. "There's more to learn about 4-H than what I could teach them in the time we had together."

The state leaders who took first place in the event were:

- Beef—Minot Convention and Visitors Bureau Executive Director Stephanie Schoenrock
- Dairy—Rep. Dennis Johnson, District 15, Devils Lake
- Dairy goats—Sen. Rich Wardner, District 37, Dickinson
- Meat goats—State Fair Director Mark Schaunaman
- Sheep—State Board of Agricultural Research and Education Chairman Mark Birdsall, Berthold
- Swine—Commissioner of Agriculture Doug Goehring

"It went over big," says Kurt Froelich, the Extension agent for Stark and Billings counties who initiated the event. "It just turned out beyond my dreams."

NDSU Extension, the North Dakota 4-H Foundation and the North Dakota State Fair sponsored the event.

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NDSU Extension Potato Program Connects to Growers in Multiple Ways

Tater Talks. The Spud Scoop. Potato Field Days. Spudology.

If you grow potatoes in North Dakota or Minnesota, you might be familiar with some of the ways North Dakota State University and University of Minnesota Extension potato agronomist Andy Robinson connects Extension information to growers and commodity groups.

“Coming up with clever names for all the ways we share Extension information is just part of the fun,” says Robinson.

Whether it’s sharing the latest potato news in The Spud Scoop newsletter, sharing social media content using his @Spudology Twitter handle, connecting with growers one on one at local Tater Talks, or discussing the latest variety trial data at Potato Field Days, Robinson takes helping potato growers very seriously.

Robinson does that in two ways: by conducting industry-relevant research and using a mixture of traditional and social media to share Extension information.

Robinson adds, “I believe that the questions we receive from growers influence the research we do, and then the results of that research inform our Extension information. One leads to the other.”

One potato issue that NDSU Extension is leading the charge on is herbicide injury.

Herbicide injury in potatoes generally reduces yield and quality and ultimately results in malformed and unmarketable potatoes.

“This is a huge issue in the potato industry,” says Robinson. “We’ve focused a lot of our research and Extension programming efforts on helping growers understand how herbicide injury happens and how to reduce it.”

Matt Van Ray of Van Ray Farms in Pingree, N.D., is one of the many growers who rely on NDSU Extension’s and Robinson’s information to improve their production practices.

“We especially appreciate Extension’s nonbiased point of view on things like fertilizer and weed control,” Van Ray says. “Andy is really good about making research applicable to growers, and he’s been a great resource when it comes to disease and herbicide questions.”

“The potato industry is a small industry with high needs,” says Robinson. “As a potato agronomist, I never know what questions I might be getting from day to day, but it’s very important to me to try to find the answers for our growers and solve problems that might be detrimental to the industry.”

FOR MORE INFORMATION:

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Study Shows Exercise is Good for Pregnant Ewes

Research conducted at NDSU shows that exercise is beneficial for pregnant ewes.

As part of this research, 16 ewes in the last trimester of pregnancy were exercised by walking 30 minutes every other day until lambing while another 16 pregnant ewes remained in their pens during the same time period.

The researchers found the ewes that didn't exercise didn't produce as much colostrum immunoglobulins as the ewes that exercised. Ensuring that newborn lambs get enough good-quality colostrum through their mother's milk is vital because it contains antibodies and other immune factors necessary to protect lambs from disease until their own immune system is totally functional.

"The research supported the conclusion that exercise enhanced colostrum quality, which is critically important for newborn lamb health," says Gerald Stokka, NDSU Extension veterinarian and principal investigator on this research project.

This research is breaking new ground.

"This research study may have been one of the first of its kind that has specifically evaluated how 'exercise' in

pregnant sheep is important for colostrum antibody levels," says Juan Gavette, a graduate student who designed and led the study. "Similar to how humans are advised to exercise during pregnancy for muscle toning and controlling excessive gestational weight gain, the ability for farm animals to move around during gestation is also important."

The researchers also found that the ewes that got exercise had less gestational weight gain and ate less feed, while the ewes that weren't walked gained weight and ate more feed.

"More controlled eating behaviors and gestational weight gain from exercised ewes did not impact lamb birthweight or performance, indicating that exercise posed no risk to the newborn while benefiting the ewe and colostrum," Gavette says. "Lambs from exercised ewes had slightly greater antibody levels in their serum after colostrum consumption and had far greater serum protein after colostrum consumption, compared to lambs born from ewes that did not exercise."

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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.

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

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Parent and Family Resource Centers Offer Solutions

As a parent and foster/adoptive parent, Andrea Scheen of Carrington continually looks for ways to improve her skills because, she says, parenting has changed since her older children were young and

she wants to keep up with the latest information on raising children.

She has found answers from classes offered by NDSU Extension's Parent and Family Resource Centers, which are a network of eight regions throughout North Dakota. Parent educators in those regions are trained to facilitate parent groups and teach from a wide variety of research- and evidence-based curriculums.

Parent and Family Resource Centers offer classes for parents of children from birth to teens and a large library of resources, some of which are available in Spanish. These resources are "tools" in their parenting toolbox to help with their most important job – parenting.

The classes and other resources help:

- Create a calm home life
- Improve the parent-child bond
- Reduce power struggles between parents and children
- Improve parents' understanding of child development and what to expect

The classes have been very beneficial for Scheen.

"It helps you as a parent to keep in mind that the children need to practice making choices in their life to help them as they get older and need to make healthy choices," she says. "The best part of classes is getting to hear the others in the class share their experiences and new ideas."

Because of the COVID-19 pandemic, Parent and Family Resource Centers had to pivot quickly to offer classes online. But instead of being a disadvantage, the parent educators found that online classes offered them greater flexibility. They could offer classes later in the evenings or during typical nap times for children, when parents were more available.

"We found a whole new audience," says Kim Bushaw, NDSU Extension family science specialist. "We plan to continue to offer classes statewide over Zoom as well as face to face in each region."

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