

**Testimony to North Dakota House Appropriations Committee**  
**March 11, 2025**  
**North Dakota State University Carrington Research Extension Center**  
**NDSU Agriculture Experiment Station & Research Extension Centers**

Good morning, Chairman Monson and House Appropriations Committee members. My name is Mike Ostlie, Director of the Carrington Research Extension Center. Thank you for the opportunity to address your committee.

The Carrington Center staff are proud to be a part of the network of RECs, main campus researchers and Extension specialists working with crop and livestock producers to address today's agricultural needs. Starting on the second page of my packet, you will find a list of some of the impacts from CREC and collaborators from 2024. This is meant to provide a more detailed account of activity from the past year. As an example, our Plant Pathology program completed multi-site, multi-department research to improve fungicide efficacy in soybean and dry bean. This research led to the rapid adoption of low or no cost changes to application strategies, resulting in better disease control for producers at similar or reduced costs. We are requesting technical support for this program under SBARE AES Priority #6.

We sincerely thank you for your past support of capital projects to enhance our livestock research capabilities. These projects are crucial for North Dakota's livestock industry, particularly the utilization of feedstuffs from the growing biofuels industry and the promotion of livestock expansion in the state. As construction of these capital projects is at or near completion, our researchers are evaluating the increased inclusion of canola meal or hybrid rye in rations which appears to be a promising way to use more commodities locally. See also my impacts on page 2 handout to find out how much value ND producers would gain by feeding its cow herd to finish.

Thank you for securing the long-term future of the Oakes Irrigation Research Site. This site provides valuable data for high-yielding corn and soybean acres, including variety performance, water use efficiency, microbial inputs, and plant disease mitigation. Your support enabled the partial construction of a modern shop, lab, and office complex, with the Garrison Diversion Conservancy District funding the exterior and shop before donating the shell and land to NDSU. The local community and collaborative support throughout this endeavor has been rewarding to witness. This site wouldn't exist without everyone working together to realize this shared vision, almost 20 years in the making. The last phase of this project is completing the interior of this building, which is SBARE Capital Improvement Priority #1.

Our agronomic research and Foundation Seedstocks programs have expanded over the past decade, resulting in inadequate storage for research and field equipment. We request your support for the storage shed capital improvement project to protect our equipment from the elements and rodent exposure to maintain the longevity of expensive equipment.

Operational costs continue to rise, affecting all of agriculture. At the CREC, many of these costs are paid with grants, but grant opportunities are not increasing, and many operating and deferred maintenance costs are not allowed by grant sponsors. SBARE priority #4 would provide much-needed updates to equipment and ensure annual operational security for all teams at CREC. Our operating costs have increased 47% overall, and 95% for livestock research alone since 2021.



## Carrington Research Extension Center Mission



- **Research programs** in Agronomy, Horticulture, Livestock, Organic Agriculture, Plant Pathology, Precision Agriculture, and Soil Science serving needs of local communities with priorities identified by our 13-county Advisory Board.

- **Extension programs** in Agronomy, Livestock, Precision Agriculture, Livestock Environmental Management serving statewide to promote unbiased best management practices suited to our region.

- **Locations** near Carrington, Oakes, Dazey, Wishek, and Fingal so that testing occurs in a wider region.

- **Experiments** are conducted in dryland, irrigated,

and/or organic environments to represent growing conditions relevant to producer operations.

- **Foundation Seed** production for spring wheat, barley, durum, field pea, soybean, flax, and buckwheat to increase seed availability of the best varieties.
- **Providing local data** and best management practices since 1960.

## Carrington Research Extension Center Impacts



### Developing Profitable Cattle Feeding Strategies in Producer Feedout Studies.

- In 2024, producers averaged \$200 per head additional profit from feeding cattle to finish in CREC research projects.
- If North Dakota fed 25% of its cow herds to finish, that would translate to \$30 million net economic return to North Dakota cattle producers.
- In the Dakota Feeder Calf Show Feedout project, the average profitability difference between the top five herds and bottom five herds was \$205.89 per head.



### Twenty Different Foundation Seed Varieties were Produced in 2024.

- Crops produced included one barley, seven field peas, four spring wheats, three durums, two flaxes, and three soybeans.
- In total, 51,000 bushels of clean seed were produced in 2024 for distribution in 2025.
- ND Stampede is a new NDSU spring wheat variety with very high yields. Seed with very high quality will be available and released to the counties in 2025 through North Dakota Crop Improvement and Seed Association (NDCISA) allocations.



### Train the trainer workshops were a success in 2024.

- CREC has provided leadership for the Advanced Crop Advisers workshop since 1993. In 2024, 150 participants attended and 97% of respondents agreed or strongly agreed their production recommendations would change as a result.
- The Getting-it-Right webinar series was organized by CREC and attended by over 500 people covering topics in soybean, dry bean, sunflower, and canola production. Participant evaluations indicated 81% of attendees increased knowledge and 83% would change practices due to the information received.

**Fifty-seven people attended the reduced-tillage strategies session at Central Dakota Ag Day.** Ninety percent of the respondents indicated they agree or strongly agree the session increased their knowledge and 77% of the respondents indicated they agree or strongly agree that they plan to act on what they learned.



## Carrington Research Extension Center Impacts (cont.)

In 2024, the Northern Hardy Fruit Evaluation Project provided educational information to over 1,240 people with video conference programs, tours, meetings and personal phone calls. Field Day was attended by 55 people who learned about black rot fungus in apples. Horticultural expertise was also provided to other regions of the country including Alaska, Colorado, Minnesota and South Dakota.

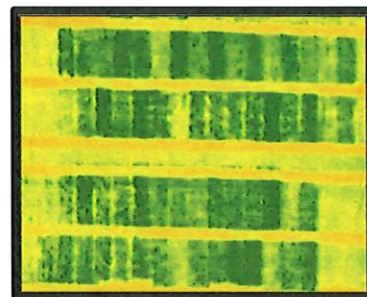


Pathology researchers delivered disease management recommendations for field peas, chickpeas, dry beans, soybeans, and sunflowers to crop advisers, commercial agronomists, producers, and other stakeholders at winter production meetings and summer field tours, with a total direct audience of over 2,250 people across 15 events spanning five states and provinces (North Dakota, Minnesota, Manitoba, New York, Ontario).



NDSU Extension trained 65 professionals on how to safely respond to an animal disease outbreak or mass livestock mortality. One hundred percent of participants increased their confidence and ability to respond to an animal disease or mass livestock mortality event such as Highly Pathogenic Avian Influenza (HPAI) or livestock deaths due to natural disasters. Additionally, 96% of participants planned to make changes to be better prepared and better able to respond to animal diseases or mass livestock mortalities as a result of their participation in the training.

Split nitrogen (N) and sulfur (S) applications boost spring wheat yields and improve nitrogen use efficiency (NUE). Applying 10-20 lbs. of sulfur per acre increased wheat yields by 30.5%, even at the same nitrogen levels. Using split applications, with 25% less nitrogen, wheat yields were comparable to full nitrogen rates, saving on fertilizer costs. This approach not only increases wheat yield but also reduces environmental impact. Minnesota and North Dakota farmers can use this strategy to increase yields, reduce fertilizer use and expense, and promote sustainable farming practices.



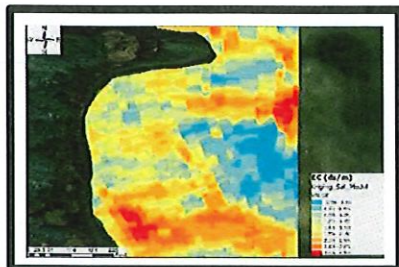
The NDSU Extension Horse Management Webinar Series was held in spring 2024. Four webinars were presented to 309 individuals who joined live. Of 160 webinar poll respondents, 78% found the information shared either very or extremely useful. Recordings were viewed 679 times as of October 2024. Contacts for the webinar series increased by 930 individuals as compared to last year.



The CREC grew 22 different crops across seven locations, conducting extensive variety testing on 540 varieties. This included testing a diverse range of crops: 20 winter rye lines, 24 hard red winter wheat lines, 25 barley lines, 76 hard red spring wheat lines, 13 durum lines, 21 oat lines, 38 field pea lines, seven buckwheat lines, 17 flax lines, 37 canola lines, 19 corn silage lines, 65 corn lines, 35 edible bean lines, 76 soybean lines, and 67 sunflower lines. This testing provides local, non-biased data to make the best decision during variety selection.



**Research demonstrated that field pea varieties** differ in their tolerance to *Aphanomyces* and *Fusarium* root rot pressure, with some varieties capable of producing sharply higher yields without reductions in root rot severity. In studies conducted across 11 fields differing in *Aphanomyces* root rot pressure, the yield gains conferred by selecting a tolerant variety ranged from 3 to 20 bu/ac and averaged 14 bu/ac, with yield gains correlating closely to root rot pressure.



**Salinity affects more than 1.9 million acres** in North Dakota.

Planting winter barley, winter rye, or winter camelina as spring cover crops one month before soybeans shows potential to improve soybean yields in saline soils. These cover crops can help to reduce salinity stress and support better soybean growth. While the yield increases (5-8%) are not yet statistically significant, these results offer practical steps toward managing salinity and improving sustainable soybean production.

**The use of concrete surfaced pens** did not impact finishing steers throughout the summer. Concrete surfaced pens can help improve footing during times of high moisture and mud, but comes at a higher cost than traditional dirt-surfaced pens. We found similar daily surface temperatures and similar activity levels of cattle fed on concrete and dirt-surface lots. During cattle finishing, concrete lots were not a detriment to cattle well-being or performance and could further benefit producers during cold, muddy times of the year.

**One of the CREC's key ongoing projects** is the development of an adapted sweet white lupin variety suited for the Northern Great Plains. Three promising lupin lines have been selected for seed increase, with plans for future variety release. Lupin, a highly nutritious legume, holds great potential as a plant-based protein source for food processing and can also serve as a beneficial alternative in crop rotation systems. CREC is currently engaged in discussions with potential producers, buyers, and processors of lupins in an effort to introduce this crop with commercial viability.



**Variability in cattle feeding returns** is discussed at the annual NDSU Feedlot School and at online backgrounding seminars. Producer knowledge of cattle feeding was increased by 33% from attending the Feedlot School. The backgrounding cattle seminars reached over 1,405 viewers.



**Cover crop demonstration plots with 51 species** were established and showcased at our annual Field Day and at the Cover Crops Field Training event in a vibrant display of the variety of available plant species that can be used for cover cropping. Constituents witnessed strengths and weaknesses of each species and the types of cropping systems that would best fit depending on factors such as desired planting date, available moisture, relay or intercropping, herbicide management considerations and cost.

**A three-year study to evaluate winter pea adaptability** in North Dakota was completed by testing fall planting dates and varieties. Year-to-year variability was substantial with winter kill ranging from 0-100% over the course of the study. Recommendations were updated to indicate fall-planted winter peas have potential in North Dakota, but are very risky, with ideal planting dates occurring between late September and early October to minimize winter kill potential.