Senate Bill 2020 Testimony

March 9, 2021

North Dakota Agricultural Experiment Station Testimony

Greg Lardy, Director, NDAES

Good afternoon Representative Monson and members of the Education and Environment Division of the House Appropriations Committee.

As I stated earlier, my name is Greg Lardy and I serve as director of the ND Agricultural Experiment Station an agency which plays a vital role in the future of North Dakota especially as it relates to agriculture.

I would describe the ND Agricultural Experiment Station as the research and development arm of North Dakota agriculture. We develop solutions to short and long term production challenges, develop technology that helps growers adjust to changing consumer preferences, market challenges, and disease threats. We work to provide things like more cost effective feeding and grazing solutions for livestock producers, plant varieties better suited for our conditions, and research-based solutions to a variety of technological challenges faced by growers. Our scientists seek solutions to production problems, develop new crop varieties and improved livestock production practices, and they help identify new uses for our agricultural commodities. Our REC network is strategically located across the state and serves the needs of the unique growing regions and commodities which are grown in the various locales.

This afternoon you will hear from a number of the grass roots users of our research programs. They will brief you on the impacts that these programs have on their farms, ranches, and agribusinesses and how the work we do leads to a brighter future for ND agriculture and the state's economy as a whole.

Agriculture touches every corner of North Dakota. The impact of agriculture is felt by businesses throughout the state, whether you are talking about the local farm supply cooperative in Ashley, an implement

dealership in Stanley, or a technology company working on solutions for monitoring conditions at remote grain storage locations. Each of these businesses benefits directly or indirectly from the work conducted by the ND Agricultural Experiment Station.

A. Description and mission statement

Main Station Page 15

The agricultural experiment station shall develop and disseminate technology important to the production and utilization of food, feed, fiber, and fuel from crop and livestock enterprises. The research must provide for an enhancement of the quality of life, sustainability of production, and protection of the environment.

As Chairman Birdsall mentioned, SBARE has listened carefully to the needs of agriculture and these needs can be found on pages 21-22 of the budget book. I will briefly touch on the top ranked initiatives for both agencies.

In late December, we received a letter from Legislative Council requesting additional information on 16 items related to our agency. We have included information related to that request in our budget book handout. I will specifically mention a few items related to the letter.

1. The ND Agricultural Experiment Station did receive funding from the CARES Act. These funds were used for items directly related to the pandemic and which were not previously in our budget. Thank you to the Budget Section for providing those funds.
2. The findings from our most recent state audit are included in the budget book on Page 65. The audit did not identify any areas of concern.
3. The ND Agricultural Experiment Station received one-time funds from the 66 Legislative Assembly for deferred maintenance and a capital improvement project at the Williston Research Extension Center. Deferred maintenance funds have been used to address a number of needed repairs across our facilities at the Main Station and at the RECs. With regard to capital improvement projects, the seed cleaning plant at the Williston REC is under construction. When

completed, this project will allow the Williston REC to better handle seed from crops such as field peas and chickpeas and provide additional seed varieties to growers in western North Dakota.

The critical priority for SBARE was the restoration of the budget reductions recommended by the Executive Branch. This was provided by the Senate in the version of SB 2020 which passed their chamber. The top ranked programmatic initiative for the ND Agricultural Experiment Station is the 'Big Data' initiative. As you might expect, agricultural operations generate more and more data. Our scientific enterprises are no exception. Work in almost every discipline has become increasingly focused on data. Advances in agricultural sensors, computational speeds and networking technologies produce massive volumes of monitoring data, and advances in precision agriculture will only increase data production at a rapid pace. The demand for data storage, management and analysis within agriculture and food production is greatly needed to provide the producer with meaningful management outputs that will improve their operations. In addition, weather is the primary impacting factor on all fields of agriculture, and the ability to monitor, process and analyze weather and climatic data is essential to improve producer management and reduce risk. The North Dakota Agricultural Weather Network (NDAWN) is a mesonet of more than 150 stations and generates a tremendous amount of data which can greatly improve agricultural operations through more timely applications of crop inputs, determining planting and harvesting dates, minimizing risk, etc. However, improved data utilization and a more robust mesonet are required to provide these additional capabilities for local producers. The estimated cost for this initiative is $1.66 million. The Senate version of the bill included provision of $800,000 in partial support of this initiative.

The second ranked initiative is the Plant Initiative. This initiative is a comprehensive initiative aimed at increasing the research needed to address a variety of challenges related to crops and cropping systems in North Dakota. It includes expertise to strengthen our efforts in pulse crop and soybean breeding which continue to grow in popularity across all of North Dakota. In addition, it would provide expertise to combat emerging plant disease threats such as clubroot fungus in canola which continues to present challenges in northeast North Dakota as well as addressing

agronomic concerns in southwestern North Dakota through the addition of a research agronomist at our Dickinson Research Extension Center. The cost of this initiative is $1.58 million.

The third ranked initiative is the Operating support initiative. This initiative has several key components. It would allow the NDAES to hire two grant coordinator positions who would be responsible for improving our ability to compete effectively for grants in a wide variety of areas. This would improve our research productivity and enhance our ability to compete for a wide variety of grant funds. It includes support for graduate research assistants who are able assist our scientists in carrying out key research projects across the state. Lastly, it would provide additional operating support for the Main Station and the REC network.

SBARE also ranks the capital improvement project request for the ND Ag Experiment Station. A summary of the ranked list of capital improvement projects can be found on pages 57-58 of your budget book. The Senate version of the bill provided $1.225 million in one-time general fund appropriations for portions of several projects on the SBARE Capital Improvement Project list.

In addition, the Senate's version of SB 2020 contained $500,000 in one-time monies for deferred maintenance. This funding would help the Experiment Station address critical repair needs across both the Main Station and REC's.

I would also be remiss if I failed to mention the importance of a compensation package for our ND Agricultural Experiment Station employees. We believe that a compensation package will allow us to continue to retain and recruit the caliber of scientists and other personnel that the citizens of North Dakota have come to expect from our agency. We ask for your consideration of a compensation package for our employees as you consider this budget.

The ND Agricultural Experiment Station works to provide timely solutions to a variety of challenges faced by agricultural producers across the state. These solutions provide return on investment through improved yield and

milling characteristics in new grain varieties, more cost effective fertilizer solutions, and improved livestock performance just to name a few. Perhaps more importantly, these solutions also provide a means for enhancing the economic conditions across the state and improve the economy of communities, both large and small, by allowing farmers and ranchers to reinvest those returns at main street businesses. In short, when we provide research-based solutions, farmers, ranchers, and agribusinesses are more profitable and they reinvest those dollars locally. Here are just a few examples of some of our impacts.

AES Impacts

- Established agribiome programs focused on soils, plants, and livestock. Began to characterize the microbiome and health of soils in spring wheat fields across the state.
- Began conducting human coronavirus testing at the Veterinary Diagnostic Laboratory in conjunction with the ND Department of Health. The lab focuses on rapid turnaround PCR testing required by various entities.
- Released new varieties of spring wheat, hard red winter wheat, field peas, and soybeans.
- Continued to develop work in precision agriculture impacting both crop and livestock enterprises. Work includes unique collaborations with a variety of corporate and NGO's at the Grand Farm.
- Developed a Smart Farm project in collaboration with Microsoft and Dakota Carrier Network at Casselton, ND. This project enhances our ability to carry out work in precision agriculture and will serve as a demonstration site for forward looking technology applications in agriculture.
- Developed supplementation strategies to help livestock producers prevent the negative consequences of poor maternal nutrition and improve productivity of cattle production.
- Developed grazing strategies for central North Dakota that improve grazing efficiency and reduce negative impacts of exotic cool season grasses.

We also have a number of individuals who wish to testify on behalf of the ND Agricultural Experiment Station. At this point I will conclude my testimony and answer any questions you may have.

Thank you for your questions and consideration of our request. At this point Blaine Schatz, director of the Carrington REC will begin testimony from our REC Network.

YouTube Link to testimony from REC advisory board members:

https://youtu.be/KjDC6SKgKj8