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Soybean
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INSIDE

Familiar Trend, But No Guarantee

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On the cover

North Dakota farmers dealt with an extremely wet year in 2019, and very dry conditions in 2020, so interest in weather trends for 2021 is very high. While there are similarities to previous years and some emerging patterns to consider, each growing season presents its own challenges. Two weather experts weigh in on trends for the coming year.

—Photo by Wanbaugh Studios

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Halfway Through This 67th Legislative Session

The situation going into the 45th Legislative Day is a Tale of Two Sessions. One Tale is that policy is really close to being wrapped up as far as the Agriculture committees are concerned and there are some good outcomes from prior collaboration to report. Among the positive outcomes would be bill 1026, the Grain Inspection bill that I wrote about in the fall. Because so many different players were brought together by Interim Committee and Regular Session Agriculture Committee Chairman Dennis Johnson to hammer it out, the topic bypassed difficulties often encountered in the last five sessions of lawmaking. The Grain Inspection bill passed both Houses and has already been signed by the governor.

Another topic famous for being contentious is water. Again, during the Interim, Water Resource Districts, the State Water Commission, attorneys, tiling companies, farmers, and engineers were brought together by Representative Cyndi Schreiber-Beck to talk it all over concerning subsurface water management. That collaboration resulted in House bill 1437, which passed the House and on the 43rd Legislative day garnered a 7-0 Do Pass recommendation from the Senate Ag committee. It should do well on the floor.

More water disagreement was handled by taking drainage issues discussed in bill 2208 and putting it into an Interim Study for the coming 18 months. Senator Larry Luick is head of the Senate Agriculutre committee and is determined to get it right for the next session.

If you are still with me, you may be recognizing a good trend in my opinion, of getting concerned folks together to avoid all out battles in the Capitol. If you have been in any of these fights, you know it is no fun. Two more examples of this include Senator Robert Erbele's gathering of many different parties to arrive at compromise when posting and trespass is the issue. Bill 2036 continues a pilot project for electronic posting whereas bill 2144 gives landowners the right to post either electronically or physically with unposted or well-maintained fences being automatically posted but for licensed hunters and fishermen. Both sides maintain that while neither group got everything they wanted, the compromise is respected by those involved and having passed the Senate, it is expected to do the same in the House.

While usually not a big legislative issue, I am hoping that bill 1183, also being a collaborative effort, will bring some uniformity across our state in the arena of sewage and septic systems. Installers and local health units varied widely in methods and enforcements, so this could help our rural residents especially. It has passed the House and I am going to go out on a limb and project success in the Senate. Take me to the outhouse if I am wrong on this one.

Another goal, the Ag Products Development Center and Northern Crops Institute project on the campus of North Dakota State University (NDSU), looks to be in good shape. NDSU Research and Extension budget is in bill 2020 on the House side, its fate is undetermined, but we are working to overcome the governor's proposed cuts there.

The other Tale is one of mystery and intrigue concerning dollars, namely, what effect will the $1.9 trillion American Rescue Plan have in North Dakota? Just passed within a week of this writing, the $1.36 billion or so given to us can be seen as bad, or good timing, depending on your viewpoint. With ag and political subdivision groups usually doing whatever we can to improve our roads and bridges, we had joined a Transportation Coalition, supported various bonding bills and had even gotten halfway home on a 3-cent gas tax increase. Now I would hazard to say that no one knows what will happen. Perhaps (and most likely) we will pursue the policies of the bills, but I can see some saying we do not need that North Dakota money now with the infusion from the Feds.

The day of this writing was the new revenue forecast which is a bit rosier than the last forecast after the bump in oil prices the first three months of this year. Then there is the threat to the Dakota Access Pipeline (DAPL) which, if closed, will increase the basis significantly. There is no crystal ball on this Tale, but you will know much more by the time you read this.

Veteran lawmaker and educator Phil Murphy is the NDSGA liaison between legislators and farmers.

Staying Vigilant in Virtual Times

We've all heard the phrase "out of sight, out of mind." We only have so much time and energy to commit, so sometimes, even important things can slip into the background and be ignored or forgotten. That situation can be especially problematic when the workload is heavy.

Most of us have a lot on our plates as we gear up for the 2021 planting season. There are decisions to be made, inputs to secure and equipment to get ready for the season ahead. With all those things occupying our mind, it's easy to overlook what's happening in Bismarck.

Each legislative session includes discussion and actions on a wide range of topics. Some issues directly affect us as farmers, including transportation infrastructure, water issues, grain inspections and trespass laws. Other issues, such as taxes and education, affect us all because we are citizens of North Dakota.

Because of COVID-19, there is significantly less in-person interaction than is typical during the legislative session. Many hearings and some citizen testimony are taking place virtually. While there's no substitute for face-to-face discussions, using video technology is the next best thing. In fact, this year, more than ever before, many legislative floor sessions and committee meetings can be watched live online or viewed in archives. This availability offers a level of citizen access that we've not had in the past.

North Dakota Soybean Growers Association (NDSGA) staff and grower leaders are diligent in following the discussions for issues that are likely to affect the state's farmers. I encourage you, as a farmer, to also pay attention to the discussions going on in the legislature. Active, involved and informed citizens help keep our agriculture industry strong. Having farmers engaged in what is happening in Bismarck also gives the NDSGA a broader voice to support North Dakota agriculture.

The NDSGA is committed to advocating strongly for North Dakota farmers. The organization also strives to keep its members informed. Farmers can do their part to stay connected to the issues and to the individuals representing them at the state capitol so that agriculture's interests don't slip out of sight!

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To join ASA and the North Dakota Soybean Growers Association, complete and return this application with payment.

Name: _____

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"A NEAT Chapter"

Brad Thykeson drew on previous experience to help him navigate nearly constant change during his tenure as North Dakota's U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) executive director. Thykeson had decades of experience in agriculture-organization leadership as well as more than three decades as a farmer, but he also relied on lessons learned on the hard court.

"I had the luxury to be a basketball coach for 14 years at the high school level in two different seven-year stints," Thykeson recalls. "I can't believe how much that coaching helped me try to run an agency."

Thykeson was appointed as the state FSA director in November 2017. He served in that role until January 2021.

"For the most part, I just wanted a team concept that we were all in it for the team, and we needed to move the ball forward or needed to get the program out the door," Thykeson says. "We didn't get hung up on this is my program or this is your program or it's not my responsibility, we tried to focus on the team."

Hectic Times

Thykeson's team approach was put to the test during his three-year tenure. A trade war with China and a global pandemic spurred the creation of several new programs which were administered by the FSA as a way to support farmers during difficult economic times.

"It was all new to me being new to the position, but even to long-term staff, they had never had to implement so many ad-hoc programs. We had the Market Facilitation Program (MFP) 1 and MFP 2, the Coronavirus Food Assistance Program (CFAP) 1 and CFAP 2, the Wildfire and Hurricane Indemnity Plus program (WHIP-Plus), and then right before I left, we had WHIP-Plus Quality," Thykeson explains. "There were a lot of programs over and above the standard programs like the Agriculture Risk Coverage (ARC)-Price Loss Coverage (PLC), Conservation Reserve Program and marketing loans. It was definitely a very busy time and very interesting time not only for me, but also for the career staffers."

Thykeson's leadership and the FSA's responsiveness during hectic times were not lost on farm groups. North Dakota Soybean Growers Association President Joe Ericson says that Thykeson served the state's farmers well.

"I think FSA did a great job of implementing programs in a very timely manner with all the changes flying at them," Ericson states. "Brad kept us informed of what

Brad Thykeson (in blue shirt and sunglasses) headed up the North Dakota FSA during a very tumultuous time, marked by a trade war and global pandemic.

Thykeson (center in light blue shirt) says one of the most enjoyable parts of his role as FSA director was being an ambassador for North Dakota agriculture.

was going on and kept everyone working together. I think he did a tremendous job."

Farm Roots

Thykeson farms with his sons, Greg and Ross, raising corn, soybeans, wheat and edible beans in Steele and Barnes Counties. Over the years, Thykeson was involved with several state and national farm organizations, including serving as the past president of the North Dakota Grain Growers Association (NDGGA) and as a board member for the National Association of Wheat Growers.

While with the NDGGA, Thykeson was involved with some wetland issues that connected him with state leaders, including Sen. John Hoeven. Thykeson credits former FSA employee and good friend, the late Dale Ihry, with planting the seed for FSA leadership.

"When Dale retired from FSA, he thought I should give it a try. If not for his push or his insight, none of this would have happened," Thykeson admits. "Dale had the vision and knew the mechanics."

With a change of administration at the national level, the state FSA director is one of four positions in North Dakota that a new administration gets to select. When the Trump administration took over, Thykeson was in the mix. Thykeson's tenure with FSA concluded when the Biden administration came to power.

"My sons are in their 30s, so that gave me the opportunity to give the FSA state director a shot and to step aside and get out of their way on the farm," Thykeson says.

Rewarding Experience

Thykeson stepped into a period fraught with challenges. He explains how the FSA dealt with staffing reductions along with a hiring freeze at the same time that more programs were being developed and FSA staff members were retiring. Thykeson says that it took a while to restore staffing to a sufficient level which is needed to implement all the programs in a timely fashion.

Despite a frequently shifting landscape and challenges with implementing newly formed farm programs, Thykeson states that the FSA director role had its rewards.

"It was a great chapter of my life. It's one of those things that, as you get older and reflect on the things you wanted to do, I don't know what kind of grade I'd get, but I hope, maybe, I helped a little bit and didn't drop the ball," Thykeson asserts. "Sure, there were some hiccups, but for the most part, it was very rewarding--a very neat chapter."

Thykeson's main vision for the position was to make sure that North Dakota farmers were treated fairly.

"One of the most rewarding things was being an ambassador for North Dakota," Thykeson explains. "During my short tenure, we had USDA Secretary Sonny Perdue here; we had Deputy Secretary Steve Censky; we had Undersecretary Bill Northey here a couple times; we had Richard Fordyce, Bill Beam. These are all national people who came because of the weather phenomena and the issues we were having in North Dakota. Anytime those people came through, we made sure we had the information they needed and were treated fairly."

Thykeson's tenure as the state FSA director ended in January. Now, he plans to return to his farming roots.

"Hopefully, I have a job at Thykeson Farms," Thykeson quips.

In addition to working on the farm, Thykeson hopes to do some traveling with his wife, Karla, to make up for lost time.

"I wouldn't have been able to achieve this without the support of my wife and our whole family because you can't do this as a one-man show. It takes a whole village to pull this off, and I'm very thankful for that support," Thykeson says.

—Story by Daniel Lemke, photos courtesy of FSA

Plenty to Learn and Gain as a Board Member

Checkoff Investment

In March 2015, I was elected to serve on the North Dakota Soybean Council (NDSC) and to represent my fellow soybean producers from Cass County. This April will mark my sixth and final year on the board. My time as a board director has been worthwhile and has provided me with knowledge that makes me a more informed soybean producer.

Before becoming a director, I had attended the annual Northern Corn & Soybean Expo a few times and became interested in getting involved with the NDSC. My father previously served the North Dakota Soybean Growers Association (NDSGA), and I understood the difference between the two organizations. The NDSGA is the legislative and advocacy organization for soybeans in our state while the NDSC invests soybean-checkoff funds into research, market development, and outreach and education to benefit farmers.

During my time on the board, I served as the secretary and then the chairman for three years. I was also part of both the Communications Committee and the Market Development Committee. Promoting the end uses for our soy products is important. Internationally, the NDSC continues to work with producers to deliver a reliable supply of North Dakota soy in order to meet the demands of our global customers. At the same time, here in the U.S., people have many food and farm-related questions. The NDSC strives to provide consumers with accurate and positive stories about today's soy and agriculture industry.

One of the NDSC's external boards is the Soy Transportation Coalition (STC), which I served on for the past six years. The infrastructure aspect of our industry and the shipment of our beans have always been of interest to me. The STC addresses current and impending transportation challenges that affect the soybean industry. In North Dakota, the STC is funding a project with rural bridges, including reviewing the ratings and cost-efficient ways to improve bridges.

I don't know if I can name just one favorite experience while serving on the NDSC, but I very much enjoyed the educational aspect of being a board member. There is certainly work to be done during every meeting, event and trade mission, but from this work, there is much to be gained. All the valuable knowledge and friendships from here in North Dakota and in other soybean states are my biggest payoff from the past six years. For farmers who are interested in getting involved with the NDSC, I would surely recommend the experience. The work that the NDSC undertakes is important, and farmers should be prepared for a time commitment. Be sure that you have the support of your spouse, family and employees back at your operation. The time you invest will be worthwhile, and the experience will make you a more informed producer and contributor to agriculture in North Dakota.

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NDSC Congratulates Scholarship Recipients

Annually, the North Dakota Soybean Council (NDSC) sponsors two scholarships for undergraduate students and two scholarships for graduate students at North Dakota State University (NDSU). The NDSC's Undergraduate Scholarships are awarded to sophomores or juniors in crop and weed sciences, soil science, food science, animal science, agribusiness or agricultural economics who have a demonstrated a tie to soybeans, are U.S. citizens and have a minimum 3.0 GPA.

NDSC's Graduate Student Scholarships are awarded to graduate students involved with research that benefits the soybean industry.

This year, Wyatt Dopp, Elk River, Minnesota, and Vincent Carruth, Ellendale, North Dakota, were awarded the NDSC's Undergraduate Scholarships. Noah Carlson, Glenwood, Minnesota, and Peder Schmitz, Wheaton, Minnesota, were awarded the NDSC's Graduate Student Scholarships.

—Story by staff, photos courtesy of recipients

Wyatt Dopp

Vincent Carruth

Noah Carlson

Peder Schmitz

The Virtual 2021 Northern Corn and Soybean Expo Was a Success

It wasn't an easy decision, but after careful consideration and discussion among the North Dakota soybean and corn boards, the fourth annual Northern Corn and Soybean Expo (Expo) was held virutally on Febraury 23 and 24, 2021, due to the COVID-19 gathering restrictions. The Expo is held annually by the North Dakota Soybean Council (NDSC), the North Dakota Corn Utilization Council, the North Dakota Corn Growers Association and the North Dakota Soybean Growers Association.

NDSC Executive Director Stephanie Sinner kicked off Expo with a warm welcome.

"We are very pleased with our online event and farmer participation," says NDSC Chairman Austin Langley of Warwick. "We had over 600 pre-registrations for Expo, and we were pleased farmers from across the state had the opportunity to join us this year. Teaming up with a production company allowed us to bring producers the same high-quality content that they've come to expect from Expo."

The 2021 Expo agenda included

- Master of Ceremonies Tyne Morgan of "U.S. Farm Report"
- "U.S. Farm Report" taping
- Transportation Update, moderated by Michelle Rook of AgWeekTV
- Rob Sharkey, The Shark Farmer
- Weather insights with Eric Snodgrass of Nutrien Ag Solutions
- Prepping the Field Panel with NDSU research experts

Tyne Morgan, host of U.S. Farm Report, was Expo's emcee. Expo webcasts are now available online at bit.ly/Expo21Webcasts

At the end of the Expo, producers were encouraged to visit the outline "Research Pavilion" in order to learn more about soybean- and corn-checkoff-funded research. To learn more, visit bit.ly/Expo21ResearchPavilion

For producers and industry representatives who missed the Expo, the webcasts are now available to watch online at bit.ly/Expo21Webcasts

The 2022 Northern Corn and Soybean Expo is scheduled for Monday, February 21, 2022. To learn more, visit NorthernCornSoyExpo.com.

—Story and photos by staff

Suzie Soybean showcases 2021 Expo virtual stage.

Lots of time and organization goes into hosting a virtual event. Rachel Asleson and Anita Hoffarth of Reach Partners helped with the production management of Expo.

Researchers, Extension Centers Make

COVID Lemonade

North Dakota State University (NDSU) researchers, NDSU Extension and Research Extension Centers (REC) are accustomed to juggling myriad research projects in their effort to provide unbiased information to the state's farmers and agribusinesses. COVID-19 didn't change that mission, but coronavirus-related disruptions did throw a wrench into the process and how the results were delivered.

Most of the planned research projects for 2020 were conducted as scheduled, with just a few exceptions. The major disruption that researchers faced came from travel restrictions which limited vehicle occupancy to one person.

"The main difference that had to be incorporated to revise how projects were conducted related to how we were able to utilize our labor," says Carrington Research Extension Center (CREC) Director Blaine Schatz. "For those projects that required multiples of support staff to accomplish project tasks, we had to make additional trips to transfer staff to the field sites due to restrictions on how many people could travel together in a vehicle. Likewise, restricting and guiding student assistants to maintain safe distances in the field and lab, ultimately, required additional efforts on the part of supervisors."

"We were able to get all our research plots planted, but due to COVID, we only could have one person in a car," says Hans Kandel, NDSU Extension agronomist. "We work with students, so it was hard to work as a team. I couldn't be in the field as much with graduate students. But because of research specialists, we were able to accomplish all the trials that we planned last year."

Travel restrictions also forced RECs and researchers to juggle their resources.

"Travel was an issue," says North Central REC (NCREC) Director Shana Forster. "NCREC has four off-station locations. When you have to take at least two vehicles, it adds significant cost. Another issue was we didn't have enough state fleet vehicles."

Dynamic Delivery

Once some of the state's travel restrictions were lifted, most of the Extension research projects went on as usual. When it was time to share the results, researchers faced a different challenge. The typical delivery mechanisms of field days and in-person meetings weren't options, so researchers made the best of a challenging situation.

"Instead of the large classroom setting we're accustomed to with Extension outreach, we changed it up," explains Chris Augustin, director of the Dickinson REC. "We had three soybean schools planned the first week of April last year; due to things being shut down, it was moved to a web format. It took a lot of communication with those who had registered, but I think we took some lemons and made some lemonade."

Numerous Extension workshops were moved to virtual platforms. NDSU staff produced videos that could be shared and archived. Even the annual field-day tours were delivered virtually.

"That was something we wanted to do anyway," Forster says. "It was actually nice we were able to make that happen. We could also include

Chris Augustin heads up the Dickinson Research Extension Center.

Blain Schatz is director of the Carrington Research Extension Center.

NDSU Extension agronomist Hans Kandel (right) says despite COVID-related travel restrictions, most research projects in 2020 were completed.

researchers from main campus."

Some RECs and other Extension locations upgraded their facilities and equipment to deliver better virtual presentations because researchers recognized that the technology is here to stay.

"A number of offices have improved their virtual presence, whether it's updating their meeting rooms, sound systems or technology. I think, in the future, we'll see much more hybrid type of workshops available, maybe even in smaller towns and rural areas," Augustin explains.

The virtual delivery may not be ideal in all circumstances, but it does offer an opportunity for more people to have access to research results than if events are held solely in person.

"Sharing research results using Zoom meetings and related remote transfer methods has actually worked very well," Schatz states. "The virtual or remote events have actually allowed us to share information with some additional growers because of the convenience factor. How we distribute the final research results of projects in most cases hasn't changed beyond not being able to present results in person."

Forster says that tracking shows how NDSU Extension has had more farmer contacts post-COVID than prior, primarily because the virtual format makes information accessible to growers who likely couldn't attend the in-person events.

"From my perspective, if I can interact with the crowd, I have a better understanding, as a teacher and as an educator and agronomist, what an audience is thinking and if I'm hitting my topics," Kandel says. "As an educator, it's a lot more difficult to actually teach on Zoom. But on the flip side, we can reach an audience at an appropriate time, so we can do meetings early or late in the afternoon because it doesn't involve travel time. There are some opportunities."

The REC directors expect future results to be delivered through both in-person and virtual platforms.

Planning for 2021

Despite lingering COVID-related changes, NDSU Extension staff and researchers have a full docket of research projects planned for 2021.

"Our research is still ongoing, and we're out there pursuing answers to questions for the producers that we serve," Augustin states. "For a while, there are going to be these special caveats for how we are going to be able to get this information out."

"We're still here, still doing all the important, unbiased scientific research that we're known for," Forster explains. "We are looking forward to, hopefully, having our annual field-day tour in the summer and getting back to the new normal."

The process of conducting research and delivering the results may have changed, but Extension's purpose has not.

"We are always looking to the future," Kandel says.

To learn more about NDSU Extension, visit: bit.ly/NDSUExtension.

To learn more about NDSU Research Extension Centers and Agricultural Experiment Stations around the state, visit: bit.ly/NDSUrecs.

To learn more about North Dakota soybean research conducted this past year, visit: bit.ly/NDSCresearch and soybeanresearchinfo.com.

—Story by Daniel Lemke, photos courtesy of Carrington Research Extension Center and staff

North Central Research Extension Center Director Shana Forster.

SERIES

Investing in Our Future:
How the Soy Checkoff Supports Tomorrow's Leaders

The North Dakota Soybean Council (NDSC) is committed to supporting the next generation of agriculture leaders who are seeking to help feed a growing world population, to address climate change and sustainable agriculture, and to protect water resources and the environment. The NDSC proudly funds opportunities for students who are exploring degrees that have careers in the agricultural industry.

Each year, the NDSC provides scholarships to undergraduate and graduate students at North Dakota State University (NDSU) who are pursuing degrees in agriculture. In 2006, the NDSC began providing four $4,000 scholarships.

In 2011, the NDSC provided funding to develop the Commodity Trading Lab (CTL) in Barry Hall at NDSU. The CTL is a unique, state-of-the-art resource that is invaluable to train students who are entering the world of agribusiness. Approximately 245 students per year use this lab for their classes. The room is also used for marketing and risk-management seminars that are hosted by the NDSC and are designed to help farmers and industry leaders increase their knowledge and skills. International trade groups are often introduced to the facility and the resources that it provides when visiting North Dakota.

The NDSC's internship program for college students began in 2014 and is typically available year-round. Because of COVID-19, the internship program has been on hold. The NDSC looks forward to resuming this program later in 2021. From producer- and consumer-outreach projects to market development and research-project assistance, there are opportunities for students to learn through hands-on experience with the NDSC.

In future issues of The North Dakota Soybean Grower Magazine, the NDSC will feature the students and young adults who have benefited from the opportunities and scholarships that the soybean checkoff has provided. The focus of the series will be to reconnect with past interns, scholarship recipients and CTL graduates to learn their success stories and "where are they now."

First Soybean Council Intern Climbing the Professional Ranks

Heather (Milbrath) Drader was a groundbreaker for the North Dakota Soybean Council (NDSC), serving as the organization's first intern in 2014-2015. Drader says that the experience gave her a well-rounded view of agriculture and helped prepare her for opportunities in agribusiness.

Drader grew up on a grain farm near Bottineau. That rural upbringing helped chart her future course.

"I was exposed to agriculture at a young age, was really involved in FFA (Future Farmers of America), and all of those things led me to pursue a career in agriculture," Drader states.

Drader attended North Dakota State University (NDSU), beginning in 2011, to pursue a degree in agricultural communications. By her senior year, Drader had secured an internship with the NDSC.

During her NDSC internship, Drader worked on outreach and education for both producers and consumers. She also worked on biodiesel promotion and education. Drader had an interest in graphic design, so she created several informational brochures.

"It was really fun because I got to sit in on their weekly meetings, and they never treated me like I was an intern. They treated me like I was part of the team," Drader recalls. "It was a really cool work environment because I could give ideas and have input on the things we discussed."

Drader graduated from NDSU in 2015 and was hired by Gooseneck Implement as its marketing coordinator. Gooseneck Implement is a 13-location John Deere dealer that serves western North and South Dakota. Her internship experience helped make her more marketable to employers.

"I was a fresh college grad without a ton of in-field experience. Working

with the soybean council and being as hands-on as I was really helped Gooseneck Implement to see that I had received some real-world marketing experience," Drader states.

Drader has stayed in a marketing role at Gooseneck Implement. In July 2020, she was promoted to marketing and aftermarket sales manager. In addition to heading the marketing team and its efforts, she leads a group of nine aftermarket salespeople.

On a personal level, 2020 was a memorable year because Drader married her husband, Matthew Drader, in October on the Milbrath family farm.

The NDSC checkoff-supported internship was created to help future agribusiness leaders gain valuable experience and to prepare young people for careers in agriculture.

"It's a nice introductory spot. What I liked about the soybean council was I was involved in everything," Drader explains. "It definitely gave me a good experience from writing press releases to doing graphic design to planning events to social media. It gave me good exposure to all the facets of marketing. From that standpoint, the marketing internship was really good. But even more, even though I grew up on a farm, I didn't have a full understanding of the soybean industry in North Dakota. For example, where soybeans all go, how that impacts farmers and how trade can impact farmers. I often tell people that internship probably taught me more about the soybean industry than I'll ever need to know in my life, but I really enjoyed it."

"(The) NDSC is proud to be able to offer an internship to students in North Dakota who are interested in learning more about the soybean industry," says NDSC Executive Director Stephanie Sinner. "We enjoy getting to work with our student interns and helping them learn about the career opportunities in the agriculture industry."

Heather (Milbrath) Drader (left) helps fellow staff Stephanie Sinner (center) and Molly Fern (right) with Expo registration in 2014.

To learn more about the NDSC's internship opportunities, be sure to follow the NDSC on social media at facebook.com/NDSoybeanCouncil and twitter.com/NDSoybean.

—Story by Daniel Lemke, photos by staff and courtesy of Heather Drader

"Let's Talk Todes" North Dakota Video Collection

The Soybean Cyst Nematode (SCN) Coalition's "Let's Talk Todes" video series explores SCN best-management practices and gives information from the experts.

In this video series, Richland County soybean producers Mike and Chandra Langseth of Barney, North Dakota, visit with North Dakota State University (NDSU) Plant Pathologist Dr. Sam Markell about how they actively manage SCN. North Dakota Soybean Council (NDSC) Executive Director Stephanie Sinner joins the conversation to explain the checkoff's commitment to track the spread of SCN and to develop new management tools.

"If you're not managing SCN, it will get ahead of you," says Mike Langseth, the NDSC secretary.

SCNs are plant-parasitic worms that cause $1 billion in yield losses to U.S. soybeans annually, and that number is likely to increase, explains Dr. Markell.

First detected in North Dakota in 2003, SCN continues to spread throughout the state, and it is overcoming genetic resistance in much of the U.S.

"As SCN spreads to new areas and becomes more damaging in established areas, it's important that soybean growers are well equipped for the fight," states Dr. Markell. "The soybean checkoff has been very aggressive in funding some work on managing SCN."

To learn more about SCN and to watch the video series, visit: bit.ly/todesnd.

—Story and photo by staff

Farmers Chandra and Mike Langseth join NDSU Plant Pathologist Sam Markell (right) in a video discussing soybean cyst nematode.

North Dakota Research Plot Points to Ways of Managing Soil Salinity

The old adage about making lemonade from lemons could be applied to a North Dakota soybean research project. Aaron Daigh, North Dakota State University (NDSU) associate professor, recently completed a study that could have statewide implications for managing soil-salinization tolerance.

The soil scientist and his research group were headed to a farmer's field to set up research plots for a study and found that most of the soybeans were dead or dying from salinity in the soil.

"We knew this field had salts far down in the sub-soil, but the history of the field hadn't dealt with major salinity issues that had affected the crop," says Daigh. "Until that year: 2018."

A pilot took aerial photos to confirm the damage. Looking at the photos, Daigh and his team noticed that one corner of the field had thriving soybeans while the rest of the field had 70 to 80 percent crop failure. This corner wasn't in any of the current research plots, which prompted the researchers to find out why the area was doing so well.

"This was an unintended project," Daigh explains. "We wanted to reverse-engineer the field to find why this happened and whether it could be replicated elsewhere. The North Dakota Soybean Council funded the study, which was unlike anything they'd funded before. With most field research projects, we go out and impose a treatment to see what happens. This was the reverse."

Daigh states that the summer of 2018 wasn't a particularly rainy one. It just rained consistently enough to keep the water table raised throughout the growing season, which pulled the salts up from the ground below.

Because of its geology, North Dakota has salinity issues statewide. As the glaciers moved across the state, they deposited shales, which are laden with salts, in the sediment. As a result, there's no getting rid of the salts; there is only management, says Daigh.

Soil management makes a difference

"We took soil samples across both areas of the field," Daigh states. "We were looking to see if there were some set of properties that could help us identify if a field will be more at risk when conditions for salinization occur."

The team conducted many analyses, including soil fertility, biological components, levels of fungi, mycorrhizae and bacteria. The researchers looked at the soil's physical structure and ran soil cores through CT scanners, but could not discern from where in the field the soil samples were taken.

The researchers also reviewed all the previous projects that had been conducted in that field and found that the two areas had been managed differently. Daigh concluded that the only variables between the good and bad field areas were in the differences in soil management.

"That little square had been a research site which was decommissioned about three years prior," Daigh says. "The area had small, lateral lines of tile drainage just in that corner. They had also converted that corner into no-till and then later planted cover crops."

After that project ended, the tile drains remained, and the farmer

NDSU Associate Professor Aaron Daigh says there's no way to get rid of soil salinity, only management.

Soybean Research and Information Network is soybean farmers' source for information regarding soybean diseases, pests, diagnostic tools and more. Read curated summaries and highlights of the latest research. Learn more about SRIN by visiting soybeanresearchinfo.com

returned to tilling the field, except for that little square. The conclusions drawn from this field-corner study indicated that the processes taking place on the land do make a difference.

"With this 'case study,' we know that tile drainage is a way to keep water levels down, and that's good if you don't want the salts coming up," Daigh explains. "We also know that no-till keeps more residue on the surface, which cuts down on evaporation, also keeping the salts from coming up. This combination seems to be the main solution to those salinity issues."

Daigh says that, maybe, if the entire field had tile drainage and was no-tilled, the field might have been protected like that little corner; the farmer might not have even known there was a salinity issue. These management practices could be applied to other North Dakota farms, and this project may end up being a proverbial cautionary tale.

"Sometimes, things are really working for us in the field, and we don't even know it," Daigh states. "Sometimes, we don't know what we've gained by simply avoiding an issue or a loss."

To find research related to this Research Highlight, please visit: soybeanresearchinfo.com.

—Story courtesy of Soybean Research & Information Network (SRIN), photos by staff

Determining Suitable **Planting Dates, Soil Temps** in Western North Dakota

North Dakota soybean acreage continues to grow, especially in the dry-climate western part of the state. However, specific management guidelines for no-till, dryland soybean production are limited for that area. Research funded by the North Dakota Soybean Council is evaluating suitable seeding dates and soil temperatures to help avoid plant stress and to create higher, sustainable soybean yields.

"Planting date plays a significant role in soybean production. Early or late planting may decrease grain yield and quality caused by pest or weather stress," says Dr. Gautam Pradhan, a North Dakota State University Williston Research Extension Center research agronomist and principal investigator for the research. "The cool, semi-arid climate in the west with annual precipitation of less than 15 inches is at least 5 inches lower than the eastern part of the state. Optimal soybean planting dates are needed for optimum growth to increase production there."

As part of the trial during the 2018 growing season, soybeans were seeded every week from May 3 to June 15. Growth and yield were monitored throughout the season, along with soil temperatures and moisture at 4-inch depths. Dr. Pradhan hypothesized that the optimal soil temperature for planting is likely different than the 50°F recommended for all of North Dakota.

"The trial received heavy rain, wind and hailstorms that damaged the crop and adversely affected yield," states Dr. Pradhan. "Soybeans planted on May 16 produced the highest yield, although soybeans planted on May 10, May 25 and June 9 did not have statistically different grain yields."

Soybeans seeded on May 16 were 3- to 5-inches taller and had better above-ground biomass, test weight and grain protein than the other seeding dates. The May 16 maximum grain yield of 17.8 bushels per acre was 3.3 – 6.8 bushels higher than the other planting dates.

Overall, Dr. Pradhan explains how the growth, grain protein, test weight and yield results showed that mid-May is suitable for seeding soybeans with the no-till, dryland conditions in western North Dakota.

Another study from 2016-2018 showed that, under semiarid, no-till conditions, 7.5-inch row spacing with a planting population of 90,000 seeds per acre was more profitable for soybean farmers than combinations using 15-, 22.5-, or 30-inch row spacings and planting populations of 120,000; 150,000; or 180,000 seeds per acre.

"We repeated the experiment with additional treatments in 2019 and 2020," Pradhan says. "We need several years of study to confirm results and determine that these same principals regarding planting date may also be applied in other states with similar geo-climatic conditions."

—Story courtesy of Soybean Research & Information Network, photo by Staff

Dr. Gautam Pradhan explains how seeding dates play an important role in helping farmers maximize soybean yield potential.

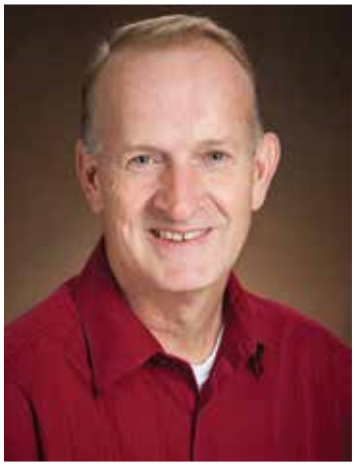
Soybean Research and Information Network is soybean farmers' source for information regarding soybean diseases, pests, diagnostic tools and more. Read curated summaries and highlights of the latest research. Learn more about SRIN by visiting soybeanresearchinfo.com

FAMILIAR TREND, BUT NO GUARANTEE

It's ironic that much of North Dakota is very dry given that millions of acres weren't planted in 2020 because of excess moisture. The February U.S. Drought Monitor placed 58 percent of the state in severe drought, with the entire state considered abnormally dry.

North Dakota Agricultural Weather Network (NDAWN) Director Daryl Ritchison says that the drought designation can be misleading because subsoil moisture in some parts of the state remains good. In fact, some farmers were able to produce a crop in 2020 because of that soil moisture.

"If you go down 12 inches or below, the subsurface moisture is still good going back to the extremely wet fall of 2019," Ritchison states. "But in the top foot, it's dry, and crops like soybeans couldn't tap down into that lower moisture. So even though it's there, it wouldn't be a benefit going forward. A lot of farmers I talked to were living on that wet 2019, but of course, that's not going to be available this year."



Daryl Ritchison heads up the North Dakota Agricultural Weather Network.

Ritchison describes how the state is really one good storm away from having the drought issue solved. The question is, will that storm come? Ritchison says that the odds favor it not happening.

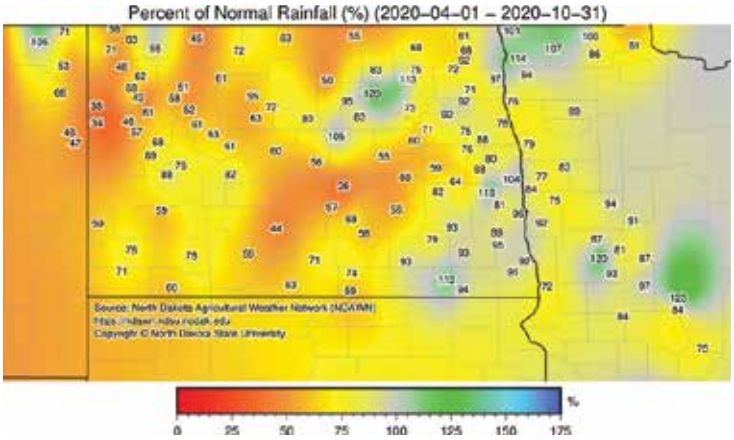
"It's really going to come down to spring rain for that soil recharge, but the reality is, you don't want a wet April, or you're going to delay planting," Ritchison explains. "In a perfect world, everyone would get their planting done, and we just get a little bit of rain to get the seeds germinated, but then, we start to get more average or slightly above-average rains the end of May into June; then, we'd be good to go. But, we all know that those perfect scenarios very rarely work out."

Critical Stretch

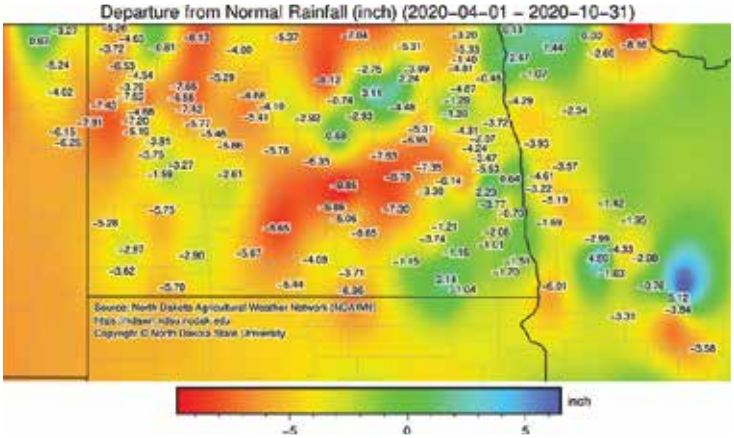
Ritchison says that the key period of make-or-break weather occurs between May 15 and July 15 because that period is typically the wettest time of the year.

"I tell people don't worry about it being dry until you get well into June because that's, by far, the rainiest month of the year here. Most years, if June is dry, we finish the year dry," Ritchison says.

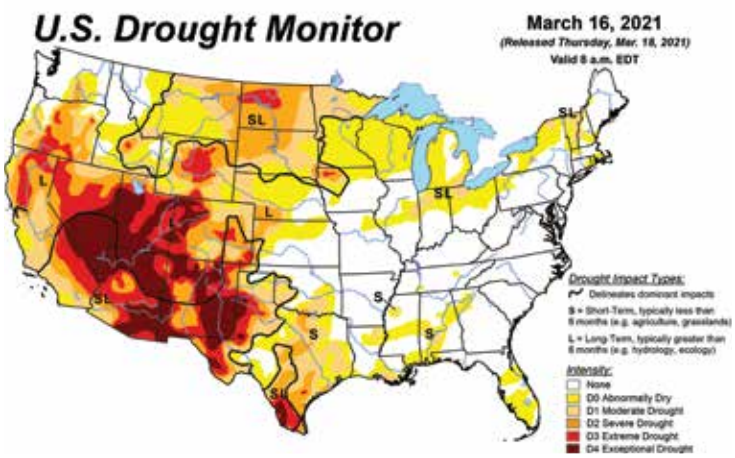
The winter of 2020-2021 has been dry, with very little snowfall for North Dakota. However, Ritchi-



This map shows the percentage of normal rainfall North Dakota received from April through October 2020.



Much of North Dakota received several inches less rainfall last year than in a normal year, leading to drought concerns for 2021.



As of Mid-March, North Dakota is facing moderate to extreme drought. *—Author Brad Pugh, CPC/NOAA*

son states that droughts don't begin or end in the winter because North Dakota doesn't average that much precipitation in the winter. Most of the runoff from the spring melt helps to recharge lakes and rivers but does little to help soil moisture because the ground is still frozen.

A Look Ahead

Ritchison says that he gave his first 2021 spring forecast in early October. He expects a drier-than-average year for North Dakota and northwestern Minnesota. He also predicts that the 2021 growing season will likely be cooler than the 2020 growing season because 2020 was very warm.

"We'll probably end up with the same number of growing degree days because we had an early freeze last September, which cut three weeks off the growing season. May was cool, so planting was delayed," Ritchison states. "So even though we'll likely be a little bit cooler, we'll still get the same number of growing degree days because our season will probably be a bit longer than in 2020."

Ritchison adds that there is reason to believe there will be more dry areas than wet areas in 2021. He says that conditions are very similar to other years when North Dakota had below-average precipitation.

The NDAWN director bases the long-term forecast on the concept of analogs, which is finding past years that are similar to what's happening now and then looking at what happened the rest of those years. Ritchison explains that this year been remarkably similar to winter of 2011-2012.

"What followed in 2012 was widespread drought in the U.S., especially across the corn and soybean belt," Ritchison says. "This winter has been remarkably similar to 2012, but I don't think it's going to be a repeat of 2012 in the sense of how large the dry area is going to be. Our area is looking dry, but I don't have other parts of the country in the same boat."

Ritchison isn't expecting a drought across the entire U.S. Instead, he thinks the dry conditions will be regionally based.

"Just because this winter rhymes very closely with what happened nearly a decade ago, other factors are out there in play that are just not the same. This year, Nebraska and Iowa are just getting snowstorm after snowstorm, and that wasn't happening a decade ago," Ritchison states. "The pattern is similar for us but not for everywhere in the United States."

Ritchison says that the trend is pretty accurate, but there are always specific spots which get more rain.

"There's a big difference between 2 inches below normal rainfall and 4 inches below rainfall in yield potential," Ritchison adds.

Eric Snodgrass is Senior Science Fellow for Nutrien Ag Solutions.

Variability Remains

Nutrien Ag Solutions Science Fellow Eric Snodgrass agrees that 2021 does share some similarities with 2012, but not enough to believe weather conditions in the coming year will play out the same.

Snodgrass says, "2012 was different because we already had a firmly established drought over the Southern Plains and the southeastern United States." He continues, "The western U.S. was not nearly as dry then as it is now. The drought scenario is different in 2021 versus 2012."

Snodgrass, who spoke at the 2021 Northern Corn and Soybean Expo, is concerned with the drought possibly getting worse across the Northern Plains. However, he explains that some weather-forecasting models are hinting at more moisture returning to the Upper Midwest and North Dakota.

"Several models are favoring above-average precipitation through the Great Lakes. This is the best look that could tell us that there is a better chance of at least bringing more precipitation into spring," Snodgrass states. "Will it be drought busting? Given what I know at this stage, the answer is no, but at least it's not a forecast calling for drier, and drier, and drier conditions."

—Story by Daniel Lemke, photo by Wanbaugh Studios, and submitted photos

A Pair of Problematic Pigweeds

Weeds have an insidious way of taking advantage of any opportunity they're given to establish themselves and to reproduce. For menacing species such as Palmer amaranth, farmers can do just about everything right and still end up with problems.

North Dakota State University (NDSU) Extension Weed Control Specialist Joe Ikley says that North Dakota has 15 known Palmer amaranth infestations across 13 counties. The unwanted weed arrived in a variety of ways.

"In 2018, we believe we had several different types of introductions through contaminated equipment, including a used combine purchased from the Midwest, another probably from custom combiners," Ikley says. "One infestation was near a railway, so the seed could have fallen off rail cars. The other two were more mysterious. 2019 infestations all seemed to relate to millet plantings."

Ikley states that, of the new cases in 2020, one likely came from a custom combiner, or it may have gone unnoticed for a couple years. Another likely infestation source was a used corn combine head because a few Palmer amaranth plants were found near where the equipment had been cleaned.

"The big news of 2020 was infestations found in cattle feed," Ikley asserts.

Four new counties on North Dakota's Palmer amaranth list were all related to cattle feed, largely in operations that fed contaminated sunflower screenings.

Ikley is concerned that, if dry conditions persist in parts of North Dakota, cattle producers who are forced to purchase feed and forage from other states could be at risk for bringing in more than they want.

"We know Palmer has infested alfalfa in some of areas, so importing Palmer through hay is high on my radar as a risk for 2021 if we don't get some drought relief and (if) we have to import more feed," Ikley explains.

Know the Foe

Proper identification is crucial for managing any weed, and Ikley says that Palmer amaranth is challenging to identify because it's one of multiple pigweed species that can grow in North Dakota. Extension staff and crop advisers have worked hard to help farmers more easily identify Palmer amaranth, but determining which weed species is present remains a challenge.

A petiole as long or longer than the leaf blade is one frequent tipoff that a suspected weed is Palmer amaranth. Another clue is a hairless stem.

"North Dakota has two pigweeds that do not have hair on the stem, waterhemp and Palmer," Ikley explains. "From a practical perspective, if there are no hairs on the stem on the newest growth, you've got one of the bad weeds. Palmer amaranth and waterhemp can be equally problematic."

One way to know for sure if a weed is Palmer amaranth is through testing done at the National Agricultural Genotyping Center, which operates under the U.S. Department of Agriculture-Agricultural Research Service on the NDSU campus. Ikley says that the genotyping center can do a number of genetic tests to determine if a plant is Palmer amaranth or one of the other pigweeds that inhabit North Dakota. Results are typically available within a few days.

"This really is a good way to get confirmation on which pigweed you have," Ikley states. "When it comes to documenting official new counties with Palmer infestations, that's part of the protocol from the Department of Agriculture. We not only have to have plants confirmed visually in the field, but also genetic confirmation from the genotyping center. Only once both those boxes are checked is a county added to the list."

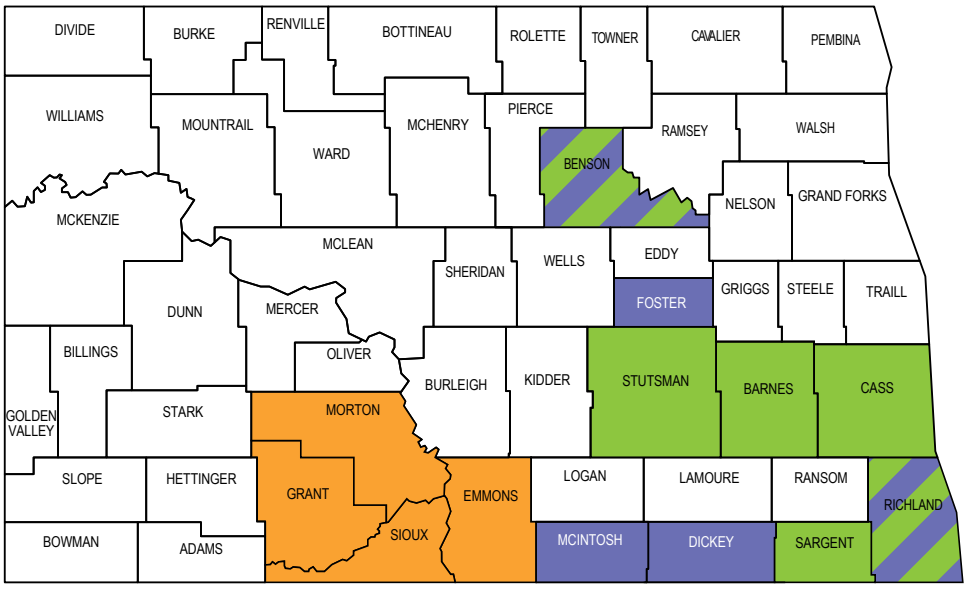
While farmers can send samples to the genotyping center directly, growers who suspect that they may have a Palmer amaranth infestation should first contact their local Extension agent or Research Extension Center agronomist for proper identification and weed-management steps.

A Familiar Enemy

The threat of Palmer amaranth is real, but waterhemp is already a widespread North Dakota menace. Ikley puts waterhemp as the biggest threat presented by pigweeds.

"That's because of the footprint waterhemp currently has, the fact that its well adapted to our region and many of our soils, and the fact that I don't have to drive

North Dakota Department of Agriculture Palmer Amaranth Distribution



Lab confirmed positive for Palmer amaranth
2018 2020
2019

As of 11/13/2020

too far from campus to find fields that are wall to wall waterhemp," Ikley explains. "If I look at what's going to be more problematic for reducing crop yields in 2021, I still put waterhemp ahead of Palmer in terms of weeds that are going to cause headaches and heartburn."

Certified crop adviser Sarah Lovas agrees that waterhemp is changing how farmers in her scouting territory are raising crops. She says that farmers need to take both Palmer amaranth and waterhemp very seriously because both weeds are prolific seed producers and because both are resistant to a number of herbicide modes of action. The weeds can also germinate through nearly the entire growing season.

"One of the things that's pretty unique to North Dakota is our overall crop diversity," Lovas states. "Among the things we always have to look at for weed management is the whole crop rotation. That's going to be more important as we go forward because residual herbicides are really an important way that both of those weeds are controlled."

Both Lovas and Ikley recommend that farmers use residual herbicides to control waterhemp, but that option presents some management challenges.

"When you're using residual herbicides, you need to take a look at the rotational restrictions for what crops you can plant after," Lovas says.

Typically, crop rotation and crop diversity are recommended for an overall weed-management strategy, but given that some specialty crops have limited herbicide options, the diversity can create management challenges. Lovas explains how farmers who raise pulse crops or sunflowers, for example, "really have to be thinking about rotational restrictions when selecting their chemistries and

Certified crop advisor Sarah Lovas says farmers need to consider their whole crop rotation and weed treatment plan to manage weeds like Palmer amaranth and waterhemp.

their herbicide programs. Farmers often feel they don't have enough herbicide options for controlling Palmer amaranth or waterhemp in soybeans, but there are even fewer options available in some of these other specialty crops."

Lovas asserts that, in circumstances where herbicide options are limited, farmers need to have a multi-year plan for the entire crop rotation.

"We really need to take a look at the weed-control program across the entire crop rotation for a number of years going out. What's going to become the question is, in what crop are you actually going to try to control that pigweed species? If we don't have options to control weed in some of these crops, some weeds are going to get through," Lovas explains. "What is your chemistry plan, your active ingredient plan, to manage this weed in those other crops?"

Early Start

Ikley says that, with any field where waterhemp went to seed or was run through a combine last year, farmers should treat the field as one that will have waterhemp in 2021 and beyond. Growers should do their best to get ahead of weed issues on those acres as soon as possible.

"It's vital to get a pre-emergence herbicide down on soybean acres where we're battling waterhemp or Palmer," Ikley states. "We can do a pretty good job of cleaning up infestations post emerge with the Enlist™ and Xtend® systems, but it makes it a whole lot easier, and I'm a lot more confident in season-long control if we get that pre-emergence herbicide down."

Prevent-plant acres also require early attention, especially if the weeds went to seed last year, which would deposit a tremendous amount of seed in the soil seedbank. Such conditions also call for early management action.

"Be sure you're talking to someone about your plan so that you can have a successful program," Lovas explains. "As always, take a look at the number of herbicide modes of action that you're using for your entire farm and crop rotation to make sure you are rotating those modes of action."

—Story by Daniel Lemke

UPDATE

Biodiesel

Continues To Offer Benefits for Cities Area Transit

It's hard to miss the brightly wrapped bus powering through the streets of Grand Forks that is adorned with biodiesel messaging. The green and blue bus has been a moving billboard since late summer.

"People have been asking what it's all about," says Nathan Viergutz, transit operations supervisor for Cities Area Transit (CAT). "We explain what we're doing. A lot of people either don't really know what biodiesel is or they've never heard of it, so after explaining where it comes from and that it's made with local crops, it sparks their interest a lot. Riders ask a lot of questions, and they're happy that we're doing something. When we tell them that it's good for the environment, they like that aspect of it, too."

Since last July, CAT has run nine diesel-powered vehicles on biodiesel. One fully wrapped bus and several other buses sport biodiesel messaging, advertising which is supported by the North Dakota Soybean Council (NDSC). The wraps help tell a story, but it's what's inside those vehicles that counts most.

Viergutz says that CAT has burned about 30,000 gallons of biodiesel since it purchased its first load in late June 2020. For most of the year, the vehicles ran on a blend of 20 percent biodiesel and 80 percent petroleum diesel called B20. Viergutz states that CAT switched to a 10-percent biodiesel blend (B10) at the end of December and will use that blend during the colder months. When temperatures warm up again, CAT will switch back to B20.

So far, Viergutz explains that there have been no issues with the biodiesel, only benefits.

"We've seen a big improvement in our diesel particulate filter (DPF) plugging. We've had a lot less issues with our emissions systems, especially with our older 2010 model buses. Those were made the first year of the new emission standards the government put out," Viergutz says. "We had experienced a lot of issues just because of the excessive idling that we do with the buses, especially in the wintertime. We can't get away from that. Since we switched to biodiesel, we've noticed a big decrease in filter plugging issues."

Solving Problems

Because city buses have high idle percentages and don't run at high RPMs, there tends to be more issues with emission systems and plugging DPF filters. Viergutz states that, after burning nearly 30,000 gallons of biodiesel, the fuel has helped to address the bus-filter plugging issues.

"We've had a lot less maintenance issues with our DPF filters. We haven't had to take them out and clean them. Normally, we'd have to do that every three months because they were plugging so bad," Viergutz explains. "Now, we're well over six months into this, and we haven't had to do anything to them."

Special signage on Cities Area Transit buses has prompted questions about biodiesel from riders.

The wrapped buses attract attention, but biodiesel's performance inside the buses has CAT staff enthused about the soy-based fuel.

Viergutz asserts that biodiesel has provided a major reduction in maintenance costs while decreasing the amount of equipment down time. Engine-oil samples are coming back cleaner, with 30 to 40 percent less soot. Carbon-dioxide emissions have also been reduced by over 15 percent.

"We've actually seen a two-tenths of a mile-per-gallon increase in fuel mileage," Viergutz adds. "We attribute that to less plugging in the DPF filter."

CAT vehicles travel about 400,000 miles each year, so improved fuel mileage can add up quickly.

Sharing the Message

Viergutz was introduced to biodiesel's potential when he participated in a past National Biodiesel Conference at the invitation of the NDSC. This year, he highlighted the results that CAT achieved as a presenter for the 2021 virtual conference.

Wimbledon farmer and NDSC director Rob Rose wasn't surprised that CAT saw favorable results from using biodiesel.

"We knew that would probably be the case," Rose says, "but they were pretty surprised and ecstatic with the results. We had several farmers involved with this year's Biodiesel Conference, and I know they were pretty excited about the results, too."

Viergutz states that CAT has been approached by other entities which are interested in learning about Grand Forks' experience with biodiesel.

"We've been approached by other places, and their interest in biodiesel is sparked. In our own public works department, they're going to start using it," Viergutz says. "We have had people contact us and ask us how we like it and if we've had any issues. I just tell them it's business as usual. We've only seen benefits. We haven't seen anything negative from it. What's exciting is there's zero cost for infrastructure to use it, so it's really no money up front to run biodiesel. It's really a win-win for us."

Interest has come from sanitation companies and other transit agencies, Viergutz explains. Vehicles for those operations tend to operate with low RPMs, making frequent stops and starts. The success CAT has achieved with biodiesel is intriguing to other companies that operate trucks and buses the same way.

"Our engines don't work as hard, so they tend not to function and clean themselves out the way an over-the-road truck would. We're always searching for better solutions, and I'm very confident that this is the answer to those problems," Viergutz states. "We definitely want to spread the word and share that message with other folks."

Viergutz says that CAT intends to run biodiesel for years to come. He's interested in exploring higher biodiesel blends to see if they can achieve even more favorable results. The environmental benefits and the fact that biodiesel supports North Dakota farmers are just too promising to pass up.

"We want to work with our bus manufacturers and engine people to see if they would back a 30-percent blend for next year," Viegutz states. "We want to meet with them and discuss moving to a 30, maybe even as high as a 40-percent blend just to see how things go. We're real excited with the benefits of biodiesel because it's been a big plus for us."

To learn more about using biodiesel in your equipment or operations, visit www.biodiesel.org or www.bit.ly/NDSCbiodiesel

—Story and photos by Daniel Lemke

Biodiesel on the RISE in North Dakota

The North Dakota Soybean Council (NDSC) again hosted a group of North Dakota fuel-industry representatives to attend the National Biodiesel Conference to learn about the biodiesel industry. Like so many events this past year, the National Biodiesel Conference went virtual.

North Dakota fuel-industry participates included Luke Krueger of Farstad Oil, Fargo; Jamie Reese of Western Choice Cooperative, Killdeer; and Nathan Viergutz of Cities Area Transit, Grand Forks. This year's farmer-leader participants included NDSC Vice Chairman Chris Brossart, Wolford; NDSC Director Rob Rose, Wimbledon; and Spencer Endrud, Buxton. Mike Appert, Hazelton, represented the North Dakota Soybean Growers Association. NDSC Director of Market Development Jena Bjertness also participated.

The theme for this year's conference was "RISE," something everyone involved with the biodiesel industry had to do this year. Farmers, biodiesel producers and fuel suppliers had to meet the challenge of the COVID economy. Nathan Viergutz attended the 2020 Biodiesel Conference, and thanks to what he learned, Cities Area Transit did RISE to embrace B20 for its fleet of buses.

Viergutz shared CAT's biodiesel success story during a small-group meeting and explained how what he learned last year really helped him to consider using biodiesel.

"This is the data and information people want to see when deciding to try biodiesel," says NDSC Director Rob Rose. He is quick to remind farmers that biodiesel adds so much value to the price of soybeans and has hopes that, "if we can increase the use of biodiesel in North Dakota, maybe that will help us get a crush plant."

As farmers begin to get ready for a new planting season, it is their turn to RISE to the occasion and to ask their fuel supplier for biodiesel this spring.

To learn more about using biodiesel in your equipment or operations, visit www.biodiesel.org or www.bit.ly/NDSCbiodiesel

—Story courtesy of MEG Corp.

Open House Shows a North Dakota Community the Benefits of LIVESTOCK PRODUCTION

North Dakota's Livestock Industry is Growing

In February, the North Dakota Livestock Alliance (NDLA) welcomed the community of Oakes to an open house at a new swine operation in Sargent County. This operation is owned by the Quandt family who added the barns to diversify the family operation for the younger members.

The facilities include two 4,800-head swine-finishing units. When full, these units will house around 15 percent of all hogs in the state of North Dakota.

When livestock are added in the state, increased demand for feed benefits local crop markets. NDLA Executive Director Amber Boeshans says that the pigs will eat roughly 1,600 tons of soybean meal, equating to around 68,000 bushels of soybeans, plus 220,000 bushels of corn and 1,600 tons of dried distiller's grains. The development of these facilities continues to point to the state's need for a soybean crush plant to process North Dakota-grown soybeans into soybean meal for these livestock producers.

As is the case with many new livestock construction projects, the unknown can be a cause for concern. Boeshans states that having events such as an open house or other on-farm demonstrations helps farmers and non-farmers obtain a better understanding of how an individual livestock operation is going to operate. Often, local residents have concerns about how animal-agriculture operations are going to manage manure and if there will be water-quality effects. Getting a firsthand look at facilities often allays those fears.

The Quandt family is committed to operating the facilities in an environmentally sensitive manner. All manure will be stored below the buildings in concrete pits and will be applied to crops in the summer. This process minimizes odor and best utilizes the nutrients in manure for crop production. This nutrient resource will be used to improve the health of the region's sandy soil, resulting in healthier and more productive land.

"We talk about social acceptance

Modern hog facilities cater to animal comfort, efficiency and proper handling.

Giving community members a look inside modern livestock facilities helps to alleviate some concerns about animal agriculture.

and people getting answers to questions before a facility is proposed because we want to make sure that we eradicate that fear of the unknown. The best way to eliminate that fear is for them to actually see exactly what these new, modern facilities are going to look like; their footprint; their manure management," Boeshans explains. "How is all this going to impact our community? The best way for people to understand is for them to tour these new barns and see the amount of technology and thought and engineering, especially, that goes into a modern facility."

Even in a largely rural state such as North Dakota, concerns can arise. The NDLA is there to help smooth the process for animal-agriculture development.

"I think, every day, we see people who are concerned about the increasing size of animal-agriculture operations, and it can be shocking to someone whose only experience with pigs might have been their Grandpa had 10 of them out in the backyard," Boeshans says. "It can be really difficult to imagine the scale. But once they're able to understand why we do things that way, why we have more animals in one place and how the labor works out, the technology and air quality, then the numbers actually do make sense. We work hard every day, so people can get a better understanding of why animal agriculture has started to manage this way."

A walk-through of the facility was recorded along with 360-degree images, aerial views and interviews with attendees. This footage will be compiled and posted on NDLA's website so that interested people can take a virtual tour of the barns. To learn more about the NDLA or to take a virtual tour of the Quandt swine facility, visit www.ndlivestock.org.

—Story by Daniel Lemke and staff, photos courtesy of the North Dakota Corn Utilization Council and staff

COVID-19 and its Effects on Livestock Industry

The nation's livestock producers were among the sectors that were hardest hit by the COVID-19 pandemic. Outbreaks at several Midwestern processing plants caused shutdowns that gummed up a system which is predicated on the timely and regular delivery of animals.

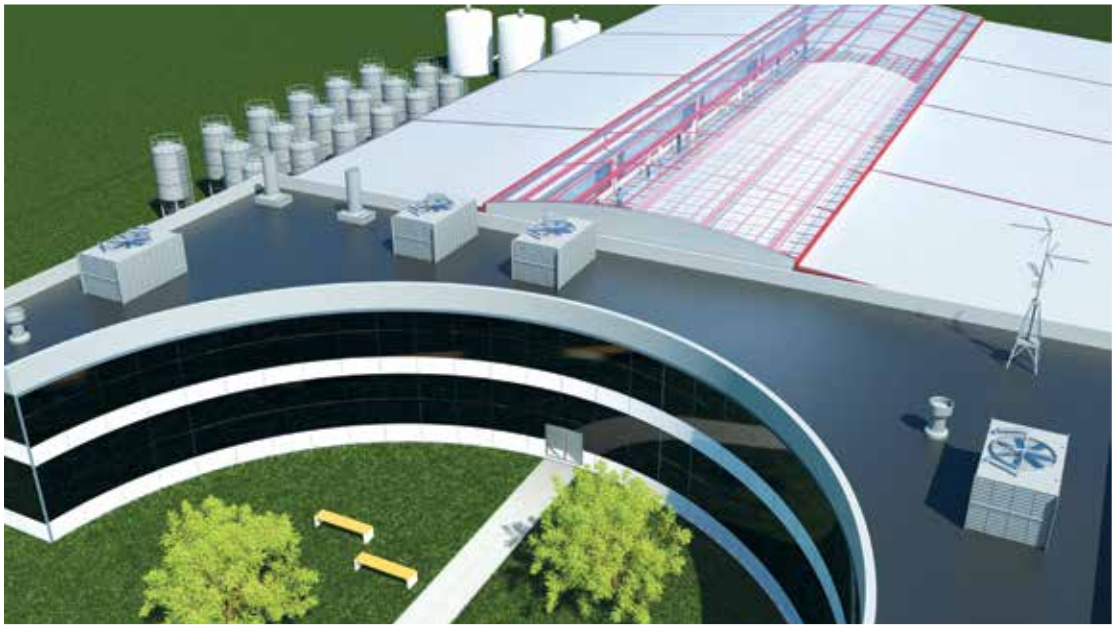
Changing habits for meat purchases at the beginning of the pandemic encouraged the demand for local livestock production and meat availability. North Dakota Livestock Alliance (NDLA) Executive Director Amber Boeshans described how there is growing recognition for the value that animal agriculture can bring to farm operations and entire communities.

"I think more and more economic developers and rural communities are understanding and getting excited about (the benefits) livestock can bring...That's really the most important part, for the community and the neighbors to see the tremendous value that animal agriculture can bring to a rural area," Boeshans explains. "I think that message is really starting to get out there, and the motivation is really starting to pick up."

It has taken some time to get the process flowing again, but Boeshans says that producers are forging through the difficulties with eyes on better days ahead.

For more information and resources about North Dakota livestock development, visit www.ndlivestock.org/resources

Ag Innovation Campus
Could Fuel EAA Message



Outside concept for the Ag Innovation Campus.

A first-of-its-kind crush facility under construction in northwest Minnesota could be a shot in the arm for research about northern-grown soybeans and could help to spread the essential-amino-acid message for Northern Soy Marketing (NSM).

In late October 2020, ground was broken for the Ag Innovation Campus, a 67,000-square-foot complex that will serve as a hub for the next generation of value-added processing. This complex could include the research and study of new technologies and new soybean varieties. The campus, which will be located in Crookston, Minnesota, is on an ambitious schedule to begin production in late 2021.

Ag Innovation Campus (AIC) officials say that the facility will be a place where benchtop successes can be tested at a large-enough scale to take beyond the farm gate and to the consumer, according to NSM Executive Director Tom Slunecka.

"It's the first of its kind in the world, a nonprofit [processing] facility that can do research," stated Slunecka. "The plant will serve as an incubator for agricultural innovation, with a goal to foster new and novel products."

The Ag Innovation Campus will feature a specialty crushing facility that will give public and private ag groups, such as commodity organizations, universities and seed developers, access to affordable processing that aims to lower costs while promoting the growth of value-added products.

"It will be the first plant in the world to buy and sell [soybean meal] based on amino-acids count," Slunecka explained. "It will be a testing and proving ground as to how it can be done."

The aim is for the AIC to produce about 64,000 tons of soybean meal per year (240 tons per day), crushing approximately 28,000 bushels of soybeans per day; in total, 2.5 million bushels a year. The 15,600-square-foot crush facility will support three separate crushing lines, keeping identity of soybeans intact. Each line can be cleaned to avoid cross contamination with other lines. The AIC will also set aside time to process small quantities of soybeans in development.

"It's been tough to find a medium-scale research facility like this will be," said NSM Chair and North Dakota Soybean Council Secretary Mike Langseth of Barney, North Dakota. "This is going to be a great resource."

In 2019, the Minnesota Legislature approved $5 million in state funding for the AIC in a bipartisan, omnibus agriculture-finance bill that was signed by Gov. Tim Walz. Funds were released to the AIC in September of 2020, and the official groundbreaking took place with a ceremony on the AIC's 10-acre site on Oct. 28.

Walz, who attended the groundbreaking, called the AIC "bold," adding, "There's no place in the world that has something like this."

Once fully in operation, the AIC is projected to support 60 jobs and to feature state-of-the-art laboratory and classroom space for hands-on agriculture production and technology training. The AIC will be open for tours and will have a biosafe observatory where visitors can see processing in real time.

—Story courtesy of Northern Soy Marketing

A glimpse of the complex's courtyard.

The gallery bay will allow visitors to see processing of soybeans.

Video Series Highlights the

Consequences of Foreign Material in Soybeans

Northern Soy Marketing (NSM), the tri-state partnership between the North Dakota, South Dakota and Minnesota soybean councils, has invested in an educational video series about the potential consequences for delivering soybeans with high levels of foreign material (FM) to local elevators as well as the larger downstream effects on soybean exports to China.

Dr. Seth Naeve, Dr. Debalin Sarangi and David Nicolai from the University of Minnesota Extension developed the videos for NSM.

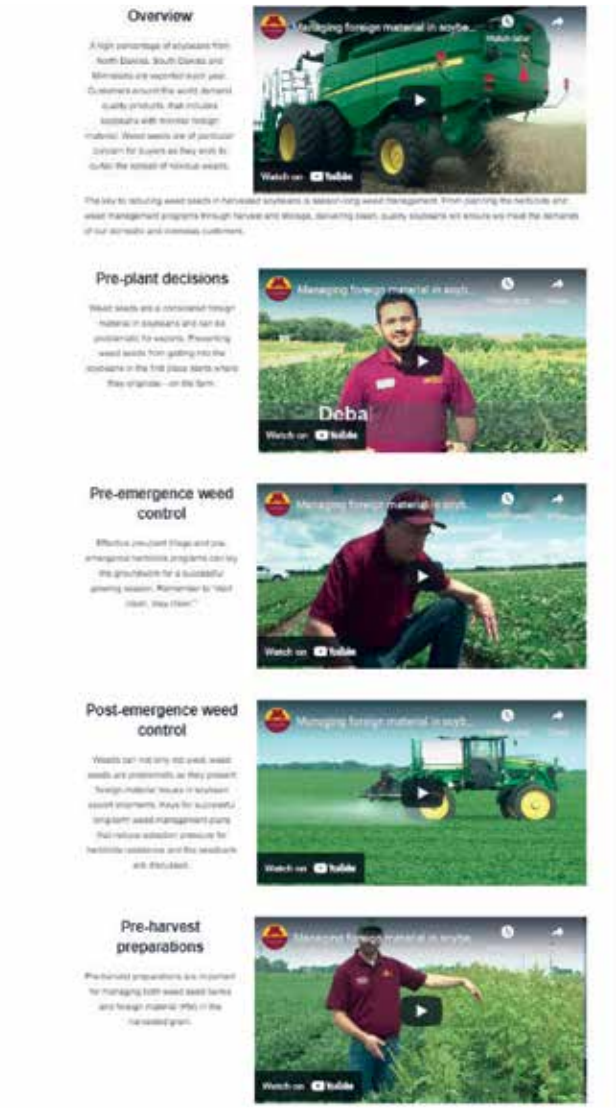
Beginning in 2018, Chinese officials began rejecting shipments of U.S. soybeans that contained more than one percent FM and contained a weed seed which was listed on the prohibited species list.

During trade disputes between China and the U.S., the few soybean shipments from the U.S. to China were not overly scrutinized. However, as soybean exports to China increase, the higher trade volumes will likely lead to more inspections. Excessive (>1 percent) FM, including weed seed, corn and wheat, found in the shipments could cause a significant hardship for exporters.

Managing herbicide-resistant weeds in-season through harvest enables farmers to reduce weed-seed entering the weed-seed bank. This is the first and most-critical piece of managing these difficult and costly weeds. Reduced FM and weed seed in grain will also ensure competitiveness on the global market. This is especially important to North Dakota soybean farmers due to their reliance on exports.

The NSM videos provide an overview of this important issue as well as giving basic information for farmers to manage herbicide-resistant weeds and to keep weed-seed from their soybeans. The videos can be viewed at www.bit.ly/FM-NSMvideoseries.

—Story courtesy of Northern Soy Marketing



A series of videos is available to help farmers understand and minimize foreign material in soybeans.

What's the Secret to High Soybean Yields in 2021?

In a new video, North Dakota State University (NDSU) Extension Agronomist Dr. Hans Kandel explains how soybean production research conducted at NDSU focusing on planting date, soybean maturity, seeding rate and row spacing factors can influence soybean yield. Learn the combination that has the potential to result in the highest soybean yields by watching Dr. Kandel's video at www.bit.ly/BestSoyYield21.

To learn more about NDSU's recommendations on soybean planting rate and row spacing, visit www.bit.ly/NDSUsoyplanting.

—Photo courtesy of NDSU

April is Soyfoods Month!

Shifting Consumer Priorities to Boost Health and Wellness Will Create Soyfood Opportunities

Get ready for the post-pandemic shift in consumer health and wellness priorities. The U.S. Soybean Export Council (USSEC) tracks trends that may represent global market opportunities for U.S.-grown soy. As evolving consumer priorities elevate health and wellness, soyfoods are well-positioned to respond to the changing food and shopping behavior of global consumers.

U.S.-grown soy is a good fit for the anticipated diet and nutrition changes as more global consumers begin making dietary choices which are intended to boost their immune systems and their general health while considering the planet's wellness. Health concerns are among the largest factors that drive consumers to consider eating more plant-based foods or to adopt more plant-forward diets. For example, Packaged Facts projects that retail sales of plant-based dairy and egg products will rise at an average annual rate of 6.0 percent, reaching $5.2 billion by 2024. The estimated sales in 2020 were $4.3 billion, up from $3.9 billion in 2019.

Soyfoods connect to consumer attitudes. Global food and ingredient company Archer Daniels Midland (ADM) recently shared research suggesting that consumer priorities are evolving in the face of worldwide pandemic concerns. ADM's OutsideVoice consumer-insights platform reported that an estimated 77 percent of consumers want to do more to stay healthy in the future.

Increasingly, the quest to maintain health incorporates fitness. Nearly half of the global consumers now consider physical strength an integral part of being healthy. With those priorities in mind, it is not surprising that high-protein diets, including protein from soyfoods, are gathering momentum. In a recent survey, 55 percent of global consumers associated a high-protein diet with physical energy; 51 percent associated high-protein diets with muscle health and tone; 50 percent linked a high-protein diet with daily health; and 40 percent connected a high-protein diet with weight management. Soyfoods are a unique vegetable-protein source compared to other legumes, as characterized by a combination of the soybeans' high protein content and lower carbohydrate content.

When it comes to food choices, according to the International Food Information Council, 28 percent of consumers ate more protein from plant sources in 2020 than they did in 2019; 24 percent ate more plant-based dairy alternatives; and 17 percent ate more plant-based meat alternatives.

Global trends highlight the advantages of soyfoods

ADM research has identified the following global trends for 2021.

- ***A more proactive approach to nourishing the body and mind:*** ADM research found that 31 percent of consumers are purchasing more items tailored for their health; 50 percent prefer foods and beverages that naturally contain beneficial ingredients. Soyfoods fit this category. More than 2,000 soy-related, peer-reviewed articles are published each year, with much of the research being conducted because of evidence that soy, independent of its nutrient content, may have a variety of health benefits.
- ***Sustainability takes center stage:*** Approximately 65 percent of consumers say that they want to have a positive influence on the environment through their everyday actions. This goal is a key reason why 32 percent of consumers buy sustainably produced items. U.S. soybean farmers meet national sustainability and conservation standards in order to ensure sustainable soybean production.
- ***Plant-based food boom:*** Globally, 56 percent of consumers are trying to include more plant-based foods and beverages in their diets, propelling alternative proteins into an increasingly mainstream phenomenon. The versatility of soyfoods ranges from edamame and minimally processed choices, such as tofu and soymilk, to convenience products, such as frozen meals and desserts.

To learn more about soyfoods, visit www.TheSoyfoodsCouncil.com and www.SoyConnection.com

—Story and photo courtesy of Linda Funk of The Soyfoods Council

There is an ever-increasing array of new soy products that fit every lifestyle.

CommonGround ND

CGND'S NEW BLOGGER

Maria Bichler Gives a Glimpse into Farming, Ranching and Family Life

Maria Bichler, writer for CommonGround North Dakota's newest blog: "Our Pasture View." *—Photo by Jeff Meyer, Grant Company*

CommonGround North Dakota (CGND) is engaging in conversations and interacting with consumers primarily online due to the COVID-19 pandemic. CGND took action to streamline its online content in order to continue to help drive important farm-to-fork conversations with consumers. CGND is happy to announce that it recently partnered with Maria Bichler, a wife, young mother of two and owner of Bichler Simmentals in Linton, North Dakota. She works from home as a journalist alongside her husband, Doug, as they manage their family's 100-year-old farm and ranching operation. Bichler will provide a firsthand glance at modern farming and ranching from her point of view in the CGND blog "Our Pasture View."

Since December 2020, Bichler's perspective has given consumers a matter-of-fact view into her family's life and ranching operation as well as how they intermingle.

"I am happy to provide an inside look into modern farming and ranching in North Dakota," Bichler said. "Many years ago, most people knew a farmer or rancher as their next-door neighbor. Now, there are fewer ranches and farms, and more sprawling cities. The need to foster relationships and conversations between consumers and producers (is) more important than ever."

As a journalist, Bichler has the ability to write engaging copy and to ask questions that assist with opening a gateway for consumers to pose questions about modern agriculture production. In her introductory blog, "Our Pasture View | Meet Maria Bichler," she offers a glimpse into her family's business along with the array of species the farm has.

"Having worked as a journalist, I'm not afraid to ask the hard questions of myself and offer those answers to consumers," Bichler said. "There is quite a bit of misinformation about where our food comes from, and by writing this blog for CommonGround North Dakota, I'm excited to share the ins and outs of what we do on our ranch and how those actions affect the environment and the food supply chain in a positive way."

Her frankness is welcomed and has allowed consumers to be bold when asking questions about production agriculture.

Bichler is excited for these conversations and is looking forward to creating common ground for consumers, farmers and ranchers. She is happy to answer any questions and will continue to use her journalism skills to build relationships in order to help facilitate these important discussions.

To learn more about CommonGround North Dakota and to follow Bichler's blog, "Our Pasture View," visit www.bit.ly/CGNDblog. To engage in conversations with CGND, connect with us on Facebook, Twitter, Instagram, Pinterest and LinkedIn.

—Story by Betsy Armour, CommonGround ND, photos courtesy of Maria Bichler

Maria and Doug Bichler holding their two daughters at their family owned operation, Bichler Simmentals, near Linton, North Dakota. *—Photo by Jeff Meyer, Grant Company*

Ag Groups Manage New, Often-Virtual Reality

Ordinarily, Monte Peterson's passport would have gained a few new stamps during the past year. As the chairman of the U.S. Soybean Export Council (USSEC), Peterson, who farms near Valley City, would typically have traveled the globe, participating in conferences and events promoting U.S. soy products to customers and prospective buyers.

That wasn't the case in 2020, or thus far in 2021.

COVID-19-related travel restrictions have brought most international travel to a screeching halt. For an organization tasked with growing a preference for U.S. soy products around the world, Peterson says that the USSEC, like many other organizations, had to adjust.

"I had some question and doubt in my mind about how effective an organization like USSEC can be through a year like we've had dealing with COVID and the inability for travel to take place," Peterson says. "I tend to think about being out of sight, out of mind. If we're not communicating with our customers, especially when we had seen extremely reduced exports, I wondered if they would ever be a customer again, or will they continue to be a customer when things do change?"

As it turns out, Peterson's fears were not realized. Instead of meeting in person or hosting international trade teams on U.S. farms, communication efforts have turned to technology.

"I think we've used technology splendidly in keeping up communications with our customers overseas," Peterson states, "In fact, we've reached more people this year than we ever did when we had face-to-face communications. We've had many more people register for events that we've hosted virtually."

Hosting online regional and topic-specific events has helped the organization reach more potential customers. Peterson explains how

the cost of travel, the availability of visas and the time away from work limited how many overseas customers were able to participate in the face-to-face gatherings. Online events were a more palatable option for many U.S. soy customers.

Peterson says that the USSEC is being proactive and hosting weekly direct calls with chief executive officers (CEOs) or upper management for many of the United States' best customers around the world. The USSEC staff and farmer leaders have done virtual calls with well over 50 different companies.

"It's more of a narrow focus, and we're not necessarily communicating with the masses, but you're giving individual attention to customers," Peterson explains. "I just see that as something that's going to continue to happen going forward."

Home and Abroad

It's not only global soybean-promotion efforts that have had to adjust. Nearly every farm-related event has had to change course. Several of the region's premier events moved to an all-virtual platform, including the Northern Corn and Soybean Expo in Fargo and the Prairie Grains Conference in Grand Forks.

Coreen Berdahl, vice president of operations for the Minnesota Association of Wheat Growers, states that she was shocked by the number of registrants for the Prairie Grains Conference. More than 700 people attended all or parts of the virtual event.

"I was pleasantly surprised by the number of people who embraced the virtual Prairie Grains Conference and attended," Berdahl says.

Berdahl asserts that, by the time the December Prairie Grains event came around, people had eight to nine months of learning to use video conferencing platforms, so joining an event via computer wasn't new.

By holding the event virtually, Berdahl describes how people who didn't want to travel or who had scheduling conflicts were still able to join when they could. Because all the sessions and presentations were done online, each presentation was recorded. People who couldn't attend the live virtual event could access online recordings.

"That's an added value that we haven't had in the past," Berdahl states.

The North Dakota Livestock Alliance (NDLA) shifted its annual meeting from an in-person summit to a virtual event. NDLA Executive Director Amber Boeshans says that the choice to move away from an in-person event was done with good reason.

"Virtual farm tours allow countless attendees to enter facilities that they, otherwise, would not be able to visit in person. This is due to biosecurity measures in place out of an abundance of caution for the health and safety of the farm's animals and employees," Boeshans adds. "Virtual tours also allow people to interact with each other and have these new experiences from the comfort of their homes."

Because of the virtual format, Boeshans explains that the presentations and speakers were limited in time and scope. Still, there were many good aspects with the adjusted approach.

"The last time we hosted our summit, it was 30 below zero outside," Boeshans recalls. "This year, we had people attending our seminars that we've never had participate before or we had even met. It is bringing new people to the table who we may have not met before."

Boeshans says that, for many livestock producers, especially dairy farmers, getting away from the farm to participate in an event is difficult. The virtual format allows for greater access and participation.

"Travel can be very challenging for people who are stretched for labor or don't have employees beyond immediate family. This allows those at a distance to participate, too," Boeshans states. "We were able to bring people in who normally wouldn't have been there because of travel and time restraints."

Effective Approach

Northern Crops Institute (NCI) Executive Director Mark Jirik describes how it feels like his organization made 10 years' worth of change in a period of a few months. NCI typically brings dozens of trade teams and groups from around the world to its facility on the North Dakota State University campus each year for training and short courses that promote the sale of U.S. grains. That approach wasn't possible given the travel restrictions.

Jirik says that NCI moved many of its courses online.

"What we found was that approach can still be effective," Jirik states.

For example, participants for an NCI grain-purchasing course said,

—Story continued on page 32

North Dakota Soybean Growers Association Thanks Our Industry Supporters for Sponsoring our Association Meeting

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Getting to Know Your NDSC County Representative

Ryan Wolf, Hazen, North Dakota
Mercer County Representative

Tell us about your farm.

Our farming operation is a partnership between me and my father, Gerald, on our family's original homestead. I've been actively involved on the farm since I graduated college about 15 years ago. We have some hired hands, too, including my uncle. We grow soybeans, spring wheat, corn, sunflowers, field peas, barley, and we have grown canola in past years. Soybeans are one of our newer crops. We've only been growing soybeans for two to three years. Soybeans have been catching on in our area more and more.

What do you like best about farming?

I like the freedom of being a farmer. I like setting my own schedule and working outside.

What's most exciting about the upcoming soybean season for 2021?

The prices. The least exciting is that we have not had rain since July 4, 2020.

Why did you get involved with the North Dakota Soybean Council as a county representative?

Since soybeans are a new crop for our operation, I felt it would be a good opportunity to learn about soybeans and the industry. My farming friends also encouraged me to run as county representative and get involved.

What has changed most about farming since you've been involved?

With little local elevators closing, we now need to travel further to market our crops. Additionally, we need to stay on top of all the different herbicides and weed-control management.

What do you like to do outside farming?

I do a lot of running. I also enjoy spending time with family and traveling.

What's the one piece of farm equipment or technology you wouldn't want to be without?

Autosteer.

Ryan is one of the North Dakota Soybean Council's county representatives. To learn more about serving on the North Dakota Soybean Council as a county representative or as aboard member, visit www.bit.ly/NDSCelections.

—Story by staff, photo courtesy of Ryan Wolf

—Story continued from page 29

in a post-event survey, that they had a much higher understanding and confidence in the process of buying grain from the U.S. as well as a 97 percent higher understanding of how risk-management tools are used.

"We found out that you can deliver good online programming, and our hope is that it makes a difference," Jirik adds.

Because many NCI courses are geared toward international participants, some overseas companies don't have the resources to send staff to receive training, and visas to enter the U.S. can be problematic. Virtual courses encourage increased participation and are more affordable.

"We did a pelleting course, trying to teach production people how to make a good pellet in a feed mill. It is hard for companies to let people go from the production facilities, and it can be difficult to get them over here," Jirik explains. "We had nearly 80 people attend that course online. It's a course that, if we'd have had it in person, we would have struggled for attendance. There's certainly demand, but it just comes down to if those companies are willing to invest to get their people over here to get that training."

Jirik says that the NCI started a webinar series, which is something it had not done previously. One webinar focused on work supported by the North Dakota Soybean Council and educated people about feeding full-fat soy to livestock.

"That's another example where we might have had 20 or 30 people show up for a course, but we reached over 650 people on webinar," Jirik says.

Jirik states that the NCI is holding a monthly webinar series, enlisting market experts to explain what's happening in the industry to the overseas buyers.

"It's just another way of tying those buyers back to the U.S. and building those relationships," Jirik explains.

Here to Stay

While the change from in-person to virtual events was forced upon many organizations, some groups expect to harness the power of technology to communicate and to share their messages in a post-COVID world.

"This COVID situation demonstrated that there are a lot of things that we can do virtually and do successfully," Peterson contends. "There's never a complete replacement for one-on-one, face-to-face communications, but I think we've learned a lot in this past year, and I think that a good deal of what we are going to do we'll try to accomplish virtually. Regardless of the pandemic, it's forced us into accepting something that's more a sign of the times."

Jirik says that the NCI will likely embrace a hybrid approach, doing some training in-house while conducting other work through technology.

"It's going to vary (from) program to program," Jirik says.

Delivering quality content is important to every agriculture organization, but may people, like Berdahl, also recognize the value of connecting with the people in the industry.

"I totally missed seeing people," Berdahl admits. "There are a lot of people that I only see once, maybe twice, a year during meeting season, and I truly missed that this year."

"This whole going virtual approach has good points," Boeshans says, "but we do miss each other and having those face-to-face interactions."

—Story by Daniel Lemke

Aaron Daigh
Associate Professor of Soil Physics and Hydrology, North Dakota State University (NDSU)

Where did you grow up?

I grew up in the southern portion of the Ozark Mountains in Arkansas, about 15 miles from the Oklahoma border.

Where did you go to school?

I attended the University of Arkansas and obtained a B.S. in Environmental, Soil and Water Science and then an M.S. in Crop, Soil and Environmental Sciences. I then went to Iowa State University for a Ph.D. in Soil Science and Environmental Science.

What led you to pursue your career path?

It's a bit of a winding, non-strategic path. I never really set out to purposely pursue this particular career path. I just took advantage of opportunities that arrived, and along the way, I found something that I really enjoy and feel has a chance to do some good at the end of each day. For that, I feel very thankful and fortunate.

What is your role at NDSU?

I am an associate professor of Soil Physics and Hydrology, where 90 percent of my time goes towards research for the North Dakota Agricultural Experiment Station and 10 percent to teaching classes in the College of Agriculture, Food Systems and Natural Resources.

For my research, I mostly focus on how things move in the ground for agricultural systems and for sites undergoing remediation or reclamation from the energy-extraction industries.

I teach two classes: Soil Ecohydrology and Physics for graduate and undergraduates, and Advanced Soil Hydrology and Physics for Ph.D. students.

What is the most enjoyable/intriguing part of your job?

Interacting with graduate students is certainly one of the most enjoyable aspects. However, the chance to collaborate with many people of various skills sets adds a lot of excitement to the job. I get paid to learn something new every day, and then to take that knowledge and discover new ways to help people and our community. That's hard to beat when it comes to job enjoyment.

What are you hoping your work accomplishes for farmers in North Dakota?

I hope it makes their lives a bit easier and gives them a bit more time to be with family and not worry: a bit more peace of mind, if you will. I hope it helps to stabilize their production so that the year-to-year weather doesn't make their lives as much of a gamble. I hope it makes their production more sustainable into the future by allowing the land to keep its productivity for dozens of generations ahead.

What do you like to do away from work?

Traveling with my wife and daughter, getting outside as much as possible, long walks while listening to audio books and being with my family.

—Story by Dan Lemke, photo courtesy of NDSU

Ericson Recognized for Board Service

Joe Ericson, a soybean farmer from Wimbledon, North Dakota, was recognized for his service to the North Dakota Soybean Growers Association (NDSGA) during the Northern Corn and Soybean Expo. Ericson will retire from the board following the June board meeting. He has served as board president for the past three years. He also served as board secretary. Ericson joined the board as a participant in the Corteva Agriscience Young Leader program.

Ericson, left, was congratulated for his years by service by NDSGA Vice President Ryan Pederson of Rolette, North Dakota.

Matt Swenson of Walcott, North Dakota, will also retire from the board this June. Joshua Askew of Casselton, North Dakota, recently resigned from the board. *—Photo by Staff*

Precision Ag Improves Stewardship While Increasing Yields

The Association of Equipment Manufacturers (AEM), in partnership with the American Soybean Association (ASA), CropLife America and the National Corn Growers Association, released a study quantifying how widely available precision-agriculture technology improves environmental stewardship while providing economic return for farmers.

Precision agriculture leverages technologies to enhance sustainability through the more efficient use of critical inputs, such as land, water, fuel, fertilizer and pesticides. Farmers who utilize precision-agriculture equipment use less to grow more.

The Environmental Benefits of Precision Agriculture study highlights how policies and technological advancements can help farmers increase these outcomes.

The study explored five key environmental benefits which were achieved through precision-agriculture technology adoption, including a yield benefit through increased efficiency, fertilizer reduction with more precise placement, pesticide reduction with more accurate application, fuel savings due to less overlap and better monitoring, and water savings through more accurate sensing of needs.

"Soybean growers know from experience that precision agriculture contributes to both short-term and, importantly, long-term yield, environmental, and economic benefits, and this study helps quantify that progress," says Kevin Scott, a South Dakota soy grower and the ASA president. "But if we want to get to full adoption of the technology—and realize the immense industry-wide gains in yield and input savings—we still have a lot of work ahead of us."

Science Shows that Soy is Good for Health

The U.S. government's "Dietary Guidelines for Americans, 2020-2025" reaffirms the role of U.S. soy in human diets. As a globally respected, science-based reference, the report recognizes soy in core elements of healthy dietary patterns.

The American Soybean Association's (ASA) World Initiative for Soy in Human Health (WISHH) Program offers training on these health benefits with entrepreneurs and organizations in emerging and developing countries that produce nutritious foods and feeds containing soy that contribute to improved health and economic opportunities. WISHH connects trade and development across global market systems, improving food security.

The U.S. Departments of Agriculture as well as Health and Human Services issued the 164-page report. It stresses, "The foods and beverages that people consume have a profound impact on their health." The dietary guidelines are designed for policymakers as well as nutrition and health professionals to help all individuals and their families consume a healthy, nutritionally adequate diet. This edition of the dietary guidelines highlights the importance of encouraging healthy dietary patterns at every life stage from infancy through older adulthood.

Soy's potential to contribute to a healthy dietary pattern includes protein foods, such as lean meats, poultry, and eggs; seafood; beans, peas, and lentils; nuts, seeds, and soy products; soy-fortified beverages and yogurts; and oils.

Knowing that protein plays an essential role in human nutrition, visionary U.S. soybean growers founded WISHH in 2000 to serve as a catalyst in emerging markets.

ASA Supports USDA Lead for Animal Biotech

The American Soybean Association (ASA) applauds the establishment of a memorandum of understanding between the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services' Food and Drug Administration (FDA) that would establish the USDA as the lead regulatory agency for genetically engineered animals that are intended for agricultural purposes, transitioning parts of the FDA's existing role to the USDA.

ASA leaders point to the 2014-2015 highly pathogenic avian-influenza outbreak and the ongoing African swine-fever outbreak overseas as examples that feed markets are directly affected by the health of animal populations.

Kevin Scott, a soy grower from Valley Springs, South Dakota, and the ASA president said, "Genetic solutions have the capability of protecting the health of our herds and flocks, and ASA continues to support predictable, timely, science-based processes for making these innovations available to producers. We have great confidence in USDA's ability to develop an appropriate regulatory pathway for these important tools."

Soy Farmers Seek to Protect Phosphate Choice

The American Soybean Association (ASA) has filed joint comments with the U.S. International Trade Commission (USITC) regarding a petition by the Mosaic Company to enforce countervailing duties on Russian and Moroccan imports of phosphate fertilizer.

Kevin Scott, the ASA president and a soybean farmer from Valley Springs, South Dakota, said, "We believe countervailing duties on these imports will have a negative impact on the availability of phosphate fertilizer in the United States and, in turn, adversely affect crop production and farmer livelihoods."

Phosphorus is one of several main macronutrients which are necessary for plant growth, and it is vital for crop production. Adequate levels of phosphorus in the soil benefit early season root development and help provide the energy that crops need to maximize growth and production. Phosphate fertilizers are widely used by soybean, corn, cotton and other crop producers throughout the United States.

Mosaic's petition in support of countervailing duties is not in the best interest of a healthy U.S. agriculture marketplace, jeopardizing the domestic availability of phosphate fertilizer and reducing the competition and choices available to farmers.

The ASA joined the National Corn Growers Association and the National Cotton Council of America in filing the comments with the USITC.

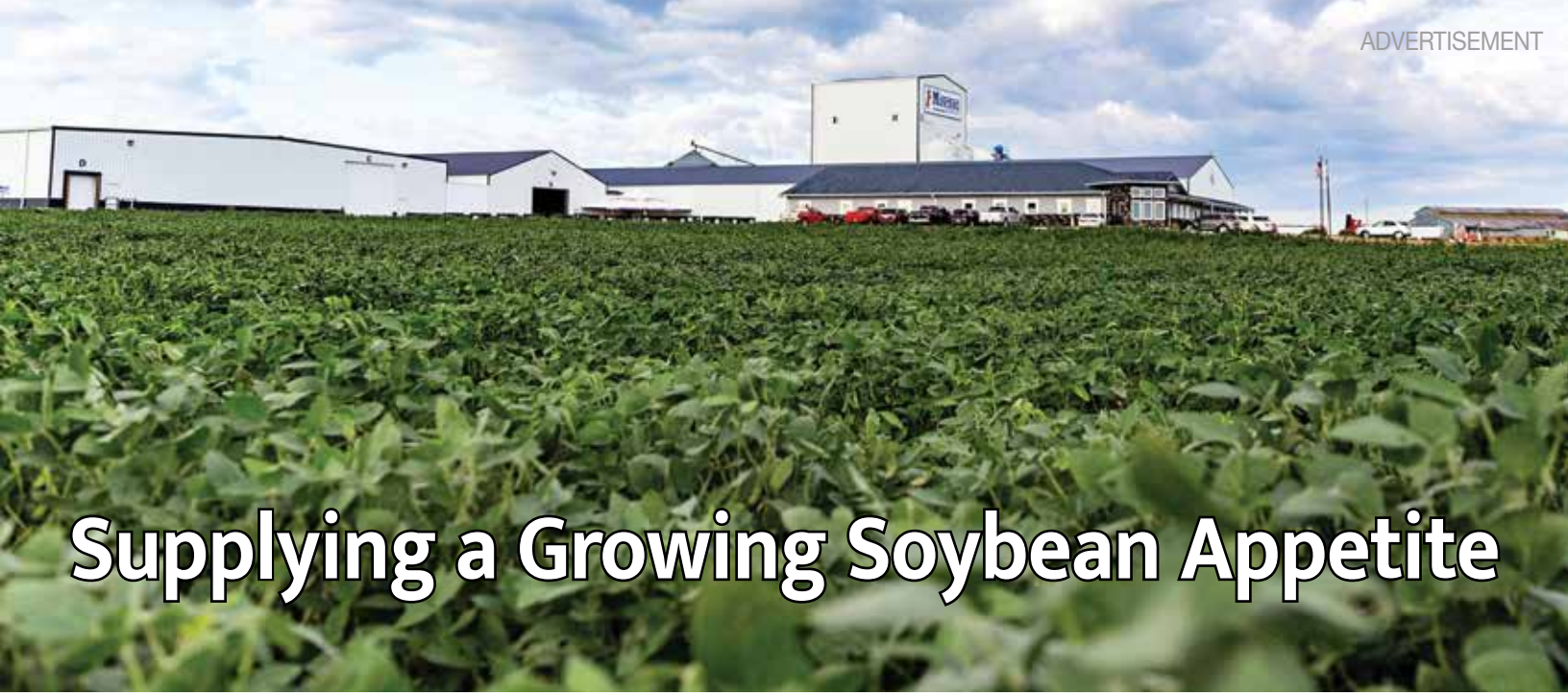
FCC Establishes Broadband Data Task Force

Federal Communications Commission (FCC) Acting Chairwoman Jessica Rosenworcel announced the establishment of a task force that is dedicated to implementing long-overdue improvements to the agency's broadband data and mapping tools. The announcement was accompanied by an update for the agency's current broadband data-collection efforts.

"The Broadband Data Task Force will lead a cross-agency effort to collect detailed data and develop more precise maps about broadband availability," said Acting Chairwoman Rosenworcel.

The Broadband Data Task Force will closely coordinate the commission's broadband mapping and data-collection efforts across the various expert agency teams, including the Office of Economics and Analytics, the Wireless Telecommunications Bureau, the Wireline Competition Bureau, the Consumer and Governmental Affairs Bureau, the International Bureau, the Office of Engineering and Technology, and the Office of the Managing Director. Each team is essential for the effort of ensuring that the commission, state and local governments, tribal entities and consumers will have access to granular, nationwide information about the availability and quality of broadband services.

—Story by staff



Supplying a Growing Soybean Appetite

Midwestern farmers enjoyed a tremendous soybean rally in late 2020 and early 2021. The price runup was largely attributed to strong global demand for soybeans.

Mustang Seeds CEO Terry Schultz is among the industry leaders who expects the world's appetite for soy to remain strong.

"I am very encouraged about the increase in global demand for soybeans, and quite specifically, the demand that China now has," Schultz says. "China is rebuilding their hog herd and they're realizing that they need soybean meal to grow those hogs. We look for this demand to continue for a number of years. That helps us as an industry to put more money into research and development of new and better yielding genetics for growers. We do see a bright future for soybeans in the United States."

Schultz says grower sentiment has changed a lot over the course of the year because commodity prices climbed thanks to those strong export sales. Not only are farmers across the Dakotas and Minnesota planning to plant more soybean acres in 2021, many growers are also opting to enhance their seed purchases to get the most out of their investment.

"We're seeing farmers increasing their soybean acreage and investing more in their seed crop for 2021. We have more growers looking at seed treatments on soybeans for nematodes and sudden death products as well," Schultz explains. "When the soybean price was $8, there was a diminished rate of return that growers viewed on those products. We've seen an increase in growers moving up to take care of soybean cyst nematode and sudden death syndrome in soybeans via seed treatments."

Weather Factor

Strong demand for U.S. soy products has driven the spike in soybean prices, but weather in South America is another factor working in the farmer's favor. Dry conditions in parts of Argentina impacted the size of the Argentine crop. Late harvest in Brazil is pushing global customers to purchase U.S. soybeans later in the marketing year than is typical.

Seed companies like Mustang Seeds sometimes grow seed soybeans in South America to bring back to the U.S. for the coming year. Schultz says that despite some spotty dry conditions in Argentina, Mustang Seeds' production was largely unscathed.

He says Mustang will have the seed necessary to meet the needs of farmers in South Dakota, North Dakota and Minnesota, including XtendFlex®, the new Enlist E3™ lines and even some exclusive non-GMO lines.

"Mustang offers a wide range of seed, but the Xtendflex® and Enlist E3™ are the two main platforms that growers are going for," Schultz explains. "Both of those platforms have three modes of herbicide tolerance. From a weed resistance standpoint, three modes of action are what is preferred so that we do not build up weed resistance. Both Xtendflex® and Enlist E3™ give growers the ability to change up their chemistries."

Giving famers soybean seed options that fit their operations is a hallmark of the Mustang Seeds brand. Schultz says that commitment is vital to help farmers respond to market opportunities.

"We are continuing our research and working to bring our exclusive products to our growers as quickly as we can," Schultz says. "The continued global demand shows that we have a need for increasing productivity in soybeans."

Learn more about what Mustang Seeds has to offer at www.mustangseeds.com.

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Join the NDSGA for a day of fun on **July 27, 2021** at the Jamestown Country Club. Golf, lunch, social, dinner and prizes. Register yourself or a whole team by July 6 by going to the Events tab at NDSoyGrowers.com. For more information, contact Nancy Johnson at (701) 640-5215 or nancy.johnson@ndsga.com.