

THE NORTH DAKOTA Soybean GROWER MAGAZINE

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Connecting with
Global Customers
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Options for Controlling Kochia



Many farmers in the Midwest know all too well the challenge kochia presents. Kochia thrives under drier conditions, so growers in western South Dakota and parts of North Dakota are particularly vexed by kochia.

“In South Dakota, especially west of the James River, kochia is the main concern,” says South Dakota State University Extension Weed Science Coordinator Paul Johnson.

Johnson says dicamba is one of the most effective tools farmers have for managing kochia. He says 2-4D has some effectiveness, as does Liberty® if weeds are treated when they’re small. Glyphosate can be effective for controlling kochia, but increased instances of resistance to glyphosate is limiting its usefulness.

“Getting a pre-emerge down that is good on kochia is an absolute must,” Johnson contends. “Post emerge options are the most limited on kochia of any weed in the state.”

Need Options

Having herbicide or other management options available is important for farmers who have kochia. Mustang Seeds Soybean Production Manager Mason Roerig says kochia control is a key consideration for many farmers when they’re making their soybean seed selections.

“It’s a big consideration, especially for growers in North Dakota and western South Dakota,” Roerig says. “Having weed control options is the deciding factor for a lot of farmers who have kochia.”



Roerig says a lot of farmers are having success in kochia control by using dicamba.

“I know quite a few growers that have switched soybean varieties so they can use dicamba, and it’s cleaned the fields up very nicely. They’ve not had any issues moving forward with kochia,” Roerig says.

Roerig says a popular approach to managing kochia is to apply dicamba as a pre-emerge herbicide, then follow up with other technologies for post-emerge application.

“A lot of farmers do a burn-down or pre-emerge with dicamba, then come back with Liberty® later in the season,” Roerig explains. “They can burn the kochia down right away. Coming back for any stragglers with that second pass of Liberty® seems to work very well in our area.”

New for 2023

Xtend Flex® soybeans are a popular choice for growers with kochia issues because it

allows them the flexibility to use different tools to treat their weed populations. Roerig says Mustang Seeds has been working for several years with partner GDM to develop exclusive new Xtend Flex® varieties that will be available for growers in 2023.

“We have a wide lineup of Xtend Flex® varieties from .00 to 3.0 relative maturity. We’ve been working hand in hand with GDM and having our own breeding line has been crucial for us. We have a lot of new varieties in the range from about an 0.7 to a 1.8 in the heart of that with six to eight new GDM products there that we’re really excited about,” Roerig says.

Roerig says breeders have been testing the new varieties for about two years and all varieties have been included in their test plots, yield trials and production field inspections, so there will be data farmers can use to compare and determine what’s right for their own operation.

“We are looking at all our past research as well as new information from our strip trials that will be monitored this fall comparing past varieties as we move fully from Xtend into this Xtend Flex® system,” Roerig explains. “We also have all of our plot data on the website. Growers can scroll through their area; they can select by state or by variety.”

Variety information is available at www.mustangseeds.com. Roerig says Mustang Seeds representatives are also available to help answer questions on the new Xtend Flex® varieties.



NORTH DAKOTA SOYBEAN GROWERS ASSOCIATION

PRESIDENT
Kasey Bitz, LaMoure | D2 | kasey.bitz@NDSGA.com

VICE PRESIDENT
Ryan Pederson, Rolette | D7 | ryan.pederson@NDSGA.com

SECRETARY
Greg Gussiaas, Carrington | D5 | greg.gussiaas@NDSGA.com

TREASURER
Spencer Endrud, Buxton | D3 | spencer.endrud@NDSGA.com

DIRECTORS
Chris McDonald, Leonard | D1 | chris.mcdonald@NDSGA.com
Mike Appert, Hazelton | D8 | mike.appert@NDSGA.com
Joshua Stutrud, Barton | At-Large | joshua.stutrud@NDSGA.com
Justin Sherlock, Dazey | D4 | justin.sherlock@NDSGA.com
Andrew Cossette, Fargo | At-Large | andrew.cossette@NDSGA.com
Dustin Helmick, Courtney | Corleva Young Leader | dustin.helmick@NDSGA.com

AMERICAN SOYBEAN ASSOCIATION DIRECTORS
Josh Gackie, Kulm | josh.gackie@NDSGA.com
Monte Peterson, Valley City | monte.peterson@NDSGA.com

NORTH DAKOTA SOYBEAN COUNCIL

CHAIRMAN
Chris Brossart, Wolford | D11 | cbrossart@ndsoybean.org

VICE CHAIRMAN
Rob Rose, Wimbledon | D5 | rose@ndsoybean.org

SECRETARY
Mike Schlosser, Edgeley | D3 | mschlosser@ndsoybean.org

TREASURER
Jim Thompson, Page | D4 | rrose@ndsoybean.org

DIRECTORS
Dallas Loff, Wahpeton | D1 | dloff@ndsoybean.org
Dan Spiekermeier, Sheldon | D2 | dspiekermeier@ndsoybean.org
JP (John) Lueck, Spiritwood | D6 | jlueck@ndsoybean.org
Evan Montgomery, Grand Forks | D7 | emontgomery@ndsoybean.org
Milo Braaten, Portland | D8 | mbraaten@ndsoybean.org
Jeremiah Blahna, Carrington | D9 | jblahna@ndsoybean.org
Adam Redmann, Saint Thomas | D10 | aredmann@ndsoybean.org
Jennifer Meyer, Willon | D12 | jmeyer@ndsoybean.org

UNITED SOYBEAN BOARD DIRECTORS

Matt Gast, Valley City | mgast85@gmail.com
Darren Kadlec, Pisek | dkadlec@polarcomm.com
Cindy Pulskamp, Hillsboro | cpulskamp@rrv.net
Ryan Richard, Horace | ryanrichardusb@gmail.com

STAFF CREDITS

PUBLISHER/EDITOR
Nancy Johnson, NDSGA Executive Director
nancy.johnson@NDSGA.com | (701) 640-5215

STAFF WRITER
Suzanne Wolf, NDSC Communications Director
swolf@ndsoybean.org | (701) 566-9300

CONTRIBUTING WRITERS
Daniel Lemke
Stephanie Sinner
Jena Bjertness
Betsy Armour

CONTRIBUTING PHOTOGRAPHERS
Wanbaugh Studios
Betsy Armour Images

NORTH DAKOTA SOYBEAN COUNCIL
4852 Rocking Horse Circle South, Fargo, ND 58104
(701) 566-9300 | www.ndsoybean.org

NORTH DAKOTA SOYBEAN GROWERS ASSOCIATION
4852 Rocking Horse Circle South, Fargo, ND 58104
(701) 566-9300 | www.ndsoygrowers.com

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D epartments

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Visiting trade teams from around the world have come in full force to North Dakota this summer and fall. Delegations included customers from India who were interested in food-grade soybean applications. Their visit to Fargo included soymilk and tofu demonstrations at the Northern Crops Institute.

—Photo by staff



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Water Drainage Committee and Soy Crushing Update

Prior to this article, I mentioned that a new interim committee—Water Drainage—was formed in 2021.

Water attorney Jack Dwyer testified to the Water Topics Committee that, in his opinion, the Water Drainage Committee was formed because of a dispute over Drain 11 in Sargent County. In late August, the committee met for the last time and decided to forward a couple of bill drafts to Legislative Management. The way it works in our state is that, if an interim committee decides to bring a bill to the full session, January-April 2023 in this case, it goes to Legislative Management for a decision on moving the bill forward or not. If Legislative Management, mostly comprised of seasoned legislators and leadership, kills the idea, the bill can still move on if any individual legislator decides to bring it up during the regular session.

The Water Drainage Committee is perceived to be an anti-water resource district (WRD) because of some provisions that could put more regulations in place, especially concerning an economic analysis for drainage projects. Should the proposed economic-analysis tools become law, the WRDs would see not only added expenses, but also time added to projects. The WRDs testified, again, that farmers vote to tax themselves for these projects. Proposed drain projects, as most readers know, can be voted down (and often are) until a majority of landowners agree. Readers also know

that water projects will always have people against them and that there are almost always a few people who complain. The testifying WRD board member stated that the system is not perfect and will never be, but that it has worked well and relatively efficiently. It seems the proof is in the pudding; producers voting to assess themselves certainly do so for their economic benefit. County commissioners appoint members to the county WRD and serve as a check to their power, if needed, although the check is rarely exercised.

While that draft bill on economic analysis may be introduced during regular session regardless of what Legislative Management decides, the other proposed bill should meet with little or no resistance. The Water Drainage Committee did a nice job combining two different parts of water law in our Century Code. The two sections had coexisted for years, and some cherry-picking by using provisions of one or the other was causing problems. I believe it is safe to say that this issue has been resolved and that this bill should pass without significant controversy.

In addition, the North Dakota Soybean Growers Association (NDSGA) is working on how to help animal feeding operations become established in our state to a magnitude that could make use of the meal that will be churned out from the two new crush plants in Spiritwood and Casselton. NDSGA Executive Director Nancy Johnson has been instrumental



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

in getting the various parties, including counties, the Department of Transportation, engineers, producers, crushers and others, together around transportation in the Spiritwood area to identify key roads and to make a plan for building with the necessary specifications. That plan is on the move.

In late August, there was a groundbreaking ceremony for the North Dakota Soybean Processors crush facility in Casselton. The NDSGA thanks all involved for bringing these plants to reality. Economic benefits for the farmers' basis, and the resulting employment and building should show up for decades.

Together
our industry thrives

Add your voice to the hundreds of fellow producers. Together we bolster agriculture in our state and influence policy decisions. Make a personal commitment to the health of the soybean industry by joining the NDSGA today.



To join us, visit ndsogrowers.com

Individual and Collective Voices

Voting is an interesting process because the end results are determined by a collection of individual actions. Each eligible voter has the right to cast a ballot and to make individual voices heard. People make their own choices, and in the end, the candidates or issues which receive the most support win.

North Dakota will, once again, have some interesting choices to make this November as new faces have joined familiar names in campaigning for seats in Washington. There will also be statewide races that look a little different because of redistricting.

The North Dakota Soybean Growers Association (NDSGA) exists in much the same way as our democracy. The NDSGA is a collection of individuals who have made the choice to become members. On our own, we can make our voices heard on local and national issues. We can and should talk to our representatives to share our thoughts on issues that are important to us. Joining our individual voices together with thousands of our fellow farmers gives the NDSGA a collective chorus that is hard to ignore.

The NDSGA is a policy organization that represents the state's soybean farmers. Our interest covers the gamut of issues from taxes and ag policy to transportation funding and much more. We strive to stay informed about all the issues that affect us as farmers and as taxpayers in North Dakota. We also work to make sure that lawmakers know how policy decisions will affect us and our industry.

The NDSGA doesn't exist without the individuals who have joined together for a common goal. Our local, state and national governance wouldn't exist in the same way without individual voters.

With the noise of everything that is happening today in politics, it's easy to tune out or to get overwhelmed by the sheer volume of news, rancor and hype. That scenario is especially noticeable as we draw nearer to the November elections. As we all know, there are many policy decisions that have the potential to affect our operations. From the farm bill to local school referendums, decisions have ramifications. This November, don't underestimate the value that your individual vote lends to the collective voice. Be informed, and let your voice be heard.



Kasey Bitz
President, North Dakota
Soybean Growers Association

Email:
kasey.bitz@ndsga.com

Website:
ndsoygrowers.com



Membership Application

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

Name: _____

Spouse: _____

Date of Birth: _____

Farm/Company Name: _____

Address: _____

City, State, Zip: _____

County: _____

Phone: _____

Cell: _____

Email Address: _____

Occupation (Please check all that apply)

- Farmer Retired Agribusiness
 Finance Elevator Other

Do you raise:

- Cattle Hogs Poultry Dairy

Do you currently grow soybeans?

- Yes _____ No _____

Soybean Acres: _____ Total Acres Farmed: _____

How did you hear about NDSGA? (Please circle one)

Recruited in person; Recruited by phone, Magazine;
Internet; Mailing; Radio; Event; Other

3-Year Membership \$200 1-Year Membership \$75

Check enclosed (please make checks payable to NDSGA)

Credit Card: Visa / MasterCard / Discover / American Express

Card Number: _____

Expiration Date: _____ / _____ CVC: _____

Name on Card (Please print): _____

Signature: _____

Mail application with payment to: North Dakota Soybean Growers Association; 4852 Rocking Horse Circle South; Fargo, ND 58104



IMMERSED IN Agriculture

There wasn't much doubt in Mike Schlosser's mind that farming would be in his future. Growing up on the family farm near Edgeley, Schlosser would join his dad in the dairy barn on many early mornings.

"I just always loved being out on the farm and always knew I was going to do that," Schlosser says, "but it can be difficult to come back, given the size of farming operations, so I went off and did some of my own adventures for a while."

Those adventures included getting married and moving to Hawaii after graduating from North Dakota State University (NDSU). Schlosser worked as a pre-foundational operations manager for Bayer. After three years in Hawaii, Schlosser moved back to the Midwest, taking on a new role for Bayer in Aberdeen, South Dakota.

"I always enjoyed the four seasons because I like the outdoor activities like ice fishing and hunting, but it was quite an adjustment for my wife and me moving back from a place where it's 80 to 85 degrees and sunny every day," Schlosser admits.

When a sales territory opened in the Edgeley area, Schlosser seized the opportunity to move home. In addition to farming with his father raising soybeans, corn and some wheat, Schlosser continues to be a Dekalb Asgrow sales representative.

Research Driven

Several years ago, Schlosser was encouraged by some fellow farmers to consider serving on the North Dakota Soybean Council (NDSC). Schlosser agreed and is now in his second term serving as a director.

The NDSC has a variety of farmer-led committees that focus on particular areas of the soybean industry, from transportation and communication to research. Schlosser describes how he quickly gravitated toward the research area.

"I'm an agronomist, so research was really interesting to me," Schlosser explains. "I dug into that one right away and have been on that committee ever since."

Schlosser is also a North Dakota representative for the North Central Soybean Research Program (NCSRP), which is a 13-state, collaborative effort to support soybean farmers and to drive the soybean industry forward through production research and outreach.

"We address issues that are important on a broader scale so that each state isn't spending checkoff dollars trying to come up with a solution for the same thing. We do it as a collaborative effort," Schlosser states. "When you think about it that way, it saves each state money if we work collectively to come up with solutions to the big-



Mike Schlosser's journey back to the family farm near Edgeley involved a three-year stint in Hawaii.



As a trained agronomist, Schlosser has a particular interest in soybean research efforts.

ger problems that are affecting the North Central region for soybeans in areas like disease management and breeding.”

Addressing Challenges

As a farmer and NDSC director, Schlosser knows the scope of the challenges that North Dakota farmers face. He brings that knowledge and understanding of the industry to the table when decisions are made about how to allocate checkoff funds.

“The agronomy side is ever changing,” Schlosser says. “Every year we plant soybeans, we find a new pest or a new weed, new disease, something that’s going to make a new challenge.”

Schlosser explains that providing checkoff funds for efforts like the NDSU soybean breeding program is a valuable investment to help further the state’s soybean industry. Providing reasonably priced soybean varieties with the qualities needed to help soybean farmers in western North Dakota be successful is an

important endeavor for the growth of North Dakota’s soybean industry.

Disease issues are an ongoing concern as pests such as soybean cyst nematode (SCN) expand their presence in North Dakota. As the biggest yield-dropping soybean pest in the country, SCN is a chal-

lenge that North Dakota farmers are dealing with more frequently.

“SCN hasn’t typically been a big thing on a lot of farmer’s minds, but it seems to be a bigger challenge, and it’s an ever-expanding pest,” Schlosser asserts.

Weed management is also a challenge that Schlosser sees frequently. He describes how the NDSC funds research designed to help keep current weed-management tools effective while looking for new and innovative ways to control weeds.

In addition to investing in ways to solve problems, Schlosser says that there are also emerging opportunities to increase the value of North Dakota soybeans through new uses for oil and meal.

“There’s a ton of unique stuff that comes through that pipeline,” Schlosser contends. “There’s a lot of interesting ideas, but as a farmer, you have to ask, is this a step that’s going to benefit soy in the long run, or is this just a small sliver that’s not going to go anywhere? You have to make some difficult decisions on that once in a while.”

With the addition of North Dakota soybean crush capacity with Green Bison Soy Processing near Spiritwood and the North Dakota

Soybean Processors near Casselton, the dynamic for using soybean oil and soybean meal in the state has changed. While much of the soybean oil is likely destined for biofuels, such as renewable diesel and biodiesel, the additional soybean-meal availability is opening doors for livestock expansion in the state.

Diverse Opportunities

Schlosser not only helps decide how to invest soybean checkoff funds, but he’s also one of the founders and investors for the Butcher’s Edge custom meat-processing facility in Edgeley. (See the article on page 8.)

When he’s not busy with farm activities, Schlosser might be found on a music stage somewhere in the region.

“We have a little family band,” Schlosser states. “My 13-year-old is actually our lead guitarist. He plays electric, and I play acoustic, and my wife, Erica, sings.”

Schlosser says that he and his family have been warmup acts at events for stars such as Cole Swindell and Big & Rich.

“It’s been fun,” Schlosser adds.

—Story and photos by Daniel Lemke



As part of the North Dakota Soybean Council, Schlosser credits research with helping to grow the number soybean acres in the state.

Taking the Initiative



Not all ideas hatched at the local coffee shop stay on the back of the napkin. The Butcher's Edge meat-processing plant in Edgley is a good example of an idea turned into reality.

Mike Schlosser and some friends were having coffee at a local shop several years ago when the conversation turned to livestock.

"Five of us friends met for morning coffee one day, and we just we were talking how we didn't have a local butcher shop," Schlosser says. "There were a few smaller ones around, but they were getting to the point where you were a year to year and a half out to get a slot book for custom slaughter. It was becoming really difficult and a deterrent for some of these feedlots or small growers to get a beef butchered. We just thought this

was an opportunity."

Schlosser states that several of those friends raise Wagyu Angus beef cattle, a premium meat with a growing customer base. They were looking for a way to market the high-quality meat and to capture more value, rather than shipping the cattle to a large processor. The group decided to take matters into its own hands by opening a butcher shop.

"We kind of brainstormed on that. We made some pencil drawings. Then, when it came down to getting down to the nitty-gritty, we knew our pencil drawings weren't good enough to build a butcher shop," Schlosser recalls.

The group connected with a person who builds butcher shops. He told them that he could come up with a feasibility study, identifying how everything would run and the general layout.



Butcher's Edge was warmly received by local residents during an open house event held at the facility.

The group applied for and received an Agriculture Products Utilization Commission grant to conduct the feasibility study.

"That was invaluable," Schlosser explains, "just for us to know how many head of cattle we had to do it, how many people we needed, all those kinds of things."

The group identified a vacant building on the edge of town that would suit the need and proceeded to renovate the facility.

"The five of us did a lot of work ourselves and made it into, I would say, one of the nicest plants down in the southern half of the state. It's turned into a pretty nice spot," Schlosser adds.

The Butcher's Edge has been running since mid-June, Schlosser says, with the capacity to process about 20 head of cattle a week. The plant started as a custom exempt processor, but it now also has a

retail license. Customers can purchase steaks, burgers, brats and other products directly from the store. Eventually, Schlosser describes how the plant will become state inspected, so products from the Butcher's Edge can be sold to outlets in 23 states that have reciprocity.

"There has been really good response. It fits right into the rural development plan, adding jobs to local communities," Schlosser contends.

Schlosser states that the Butcher's Edge is providing jobs for the local community as well as benefiting consumers and local farmers.

"Our main goal is to have a place for local people to come buy fresh, locally sourced meat that they know where it's coming from," Schlosser explains, "and to have a different avenue to help out local ranchers as well."

—Story by Daniel Lemke, photos by Lemke and ND Farmers Union



Butcher's Edge has been operating since mid-June and offers an option for custom livestock processing to local producers.

WISHH works with international associations to build lasting potential for **U.S. soy** trade.

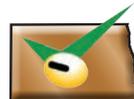


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WISHH is a program of the American Soybean Association and is funded in part by the United Soybean Board and state soybean board checkoff programs.

A Rewarding Experience



My path to join the board of the North Dakota Soybean Council (NDSC) wasn't a traditional route, but the journey I've been on has been rewarding.

I represent District 2, which is comprised of Ransom and Sargent Counties. The year that I joined the board, there were no candidates seeking the position. Several people asked me if I would consider running. After conversations with them and the NDSC staff, I attended a council meeting and was appointed to the board. That meeting was more than 5 years ago. Next June, I will term off the board that has helped me learn so much about the soybean industry.

I have been on other boards and have been involved with other groups, but as a farmer, I was interested in doing something to help agriculture. I had the following thoughts: we have these crops; what are we doing to sell them? How are we moving them? How are we going to keep on getting a better price? If you want a better price, you better be looking for ways to move the crops and to find more uses for them.

Being on the board was a learning experience from the start. The first couple of years that I was on the board, I was awestruck because of all the amazing relationships that the North Dakota Soybean Council has, from the county structure all the way to international connec-

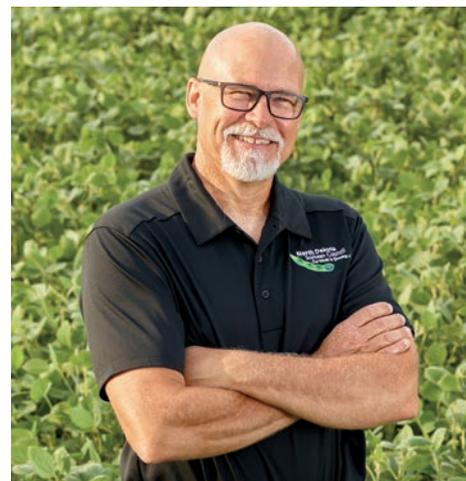
tions. The board works with people, ranging from county Extension to the U.S. Soybean Export Council, and international buyers from some foreign countries that you've barely even heard of before. The connections are remarkable.

The NDSC is involved with just about everything from soybean planting research to new uses for soybean-oil gels as well as food-grade and industrial-grade oils. It's not only about how well we can grow soybeans, but also what to do with them after they're grown, including different uses from medical and edible to oils and biofuels. Renewable diesel is going to be important for us, especially as new soybean crushing capacity comes online in North Dakota.

I've also been involved with the Northern Soybean Marketing group, which has representatives from four northern states, including North Dakota, to promote the benefits of northern-grown soybeans. Generally, up here, we have lower-crude protein, but we offset that value with the essential amino acids, which are higher than beans grown in the south, as well as the higher sugar and energy contents. Those selling points are good for our soybeans.

Not only have I been impressed with the work that the NDSC does, but I also appreciate the knowledge and perspective the other NDSC board members bring. Their willingness to serve and their knowledge are astounding.

The NDSC holds elections each year to



Dan Spiekermeier, Sheldon, North Dakota

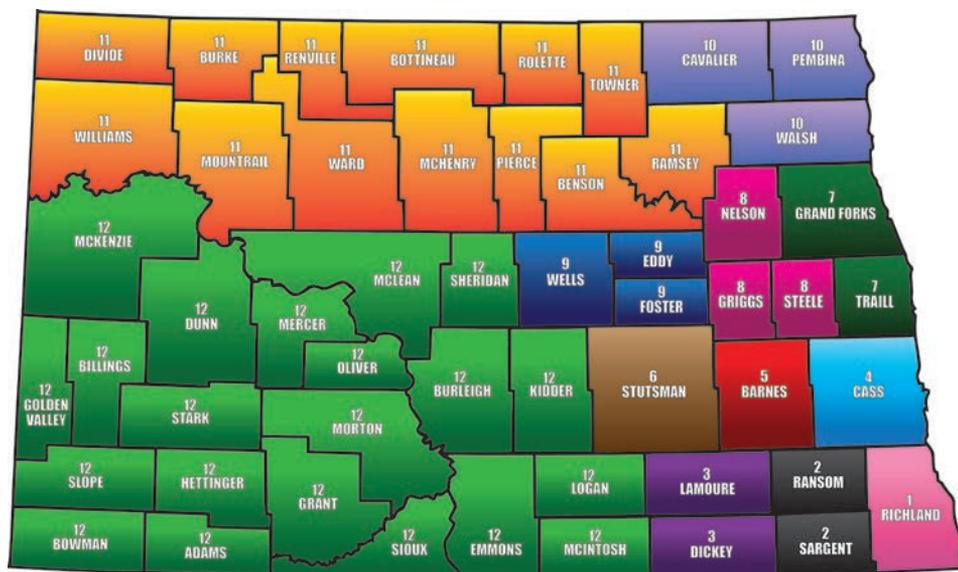
North Dakota Soybean Council

Email:
dspiekermeier@ndsoybean.org

Website:
ndsoybean.org

replace farmers who term off the board. It's important that other farmers step up to fill the void and to offer their unique perspectives.

Overall, it has been amazing to see the cooperation that we have with all aspects of trying to move and use soybeans. It's been very rewarding to be on this board that keeps you busy and learning all year long.



The North Dakota Soybean Council's 2023 Election Process will begin December 2022 for the following counties:

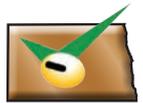
- **District 2:** Ransom & Sargent Counties
- **District 8:** Nelson, Griggs & Steele Counties
- **District 10:** Cavalier, Pembina & Walsh Counties
- **District 12:** McKenzie, Dunn, Billings, Golden Valley, Slope, Bowman, Stark, Hettinger, Adams, Mercer, Oliver, Morton, Grant, Sioux, McLean, Burleigh, Kidder, Logan, Sheridan, Emmons & McIntosh Counties

To learn more about the NDSC election process, visit bit.ly/NDSCelections23



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Biodiesel powers your harvest through improved equipment performance when you need it most. Biodiesel improves diesel's lubricity, which saves wear and tear on engines in valuable farm machinery and trucks.

When harvest is complete, regardless of your choice of diesel fuel, you should prepare your farm and equipment for cooler temperatures through routine maintenance of your fuel systems. Here are some simple steps you can take this fall to minimize the fuel-related issues that winter temperatures can bring.

Install A New, 30-Micron or Larger Dispenser Filter

Dispenser filters are a must on a storage tank to keep contaminants from getting into the equipment. With the onset of cooler temperatures in the fall, install a new, 30-micron filter to accommodate the increased viscosity of the fuel that can be restricted by even minor filter debris. **DO NOT** use water-absorbing filters. The pleats will become saturated with water and freeze at temperatures of 32°F or lower.

Check For Water: Remove if Present

Water is a major source of fuel problems. Over time, water accumulates in the tanks due to condensation caused by warmer daytime temps and cooler nighttime temps, so you need to check every year. Water leads to icing, microbial

contamination and fuel degradation. Visually check the tanks for free water by obtaining a tank sample from as close to the bottom as you can.

Winterize Your Fuel Before the Temperatures are Below 15°F

Make plans for winterizing your fuel, and don't wait until the cold temps are bearing down. Typical No. 2 diesel in North Dakota starts clouding (reaches cloud point) anywhere from -5°F to +5°F. No. 1 diesel has operability of at least -40°F. North Dakota weather usually involves utilizing a combination of No. 1 diesel and cold-flow additives. The best advice is to have your fuel supplier bring its winter blend. If you do add your own winter additives, they should be administered when the fuel temperature is at least 10 to 15 degrees above the fuel's cloud point. When blending No. 1 diesel with No. 2 diesel, put the No. 1 diesel in the tank first. No. 1 diesel is lighter than No. 2 diesel and will not mix if No. 1 diesel is put on top of No. 2 diesel.

WHAT IS CLOUD POINT?



Cloud Point is the temperature at which small solid crystals are first observed as a fuel is cooled. Once these crystals become large enough, they can cause temporary issues in storage tanks and engines.

You Can Use Biodiesel in the Winter

Biodiesel blends up to 5% have the same physical characteristics and perform the same as No. 2 diesel. As Rob Rose, North Dakota Soybean Council vice chairman, attests, "Biodiesel provides excellent lubricity to fuel, extending engine life by reducing wear on moving parts and directly benefits soybean farmers." Blends higher than 5% will raise the cloud point of the fuel and require more No. 1 blending or the use of fuel additives. Try to get your blend down to 5% or less in the winter.

Fill Your Equipment Before You Put it Away for the Winter

After harvest, fill the fuel tanks for all your equipment. Keeping the tanks full reduces the amount of air in the tank. Exposure to air causes fuel oxidation and degradation. Excess head space in the tank can lead to condensation and water problems. Below 32°F, that means icing. The same advice holds true for your storage tanks as well, but at minimum, fill those equipment tanks.

Winter is a great time to start planning for spring's work. This spring, talk to your fuel supplier about bringing you a biodiesel blend such as B10 or B20. Both options are quality, high-performance fuels that meet strict quality standards. In warmer temperatures, biodiesel blends up to B20 can be used in your diesel equipment with no modifications, and you can easily go back and forth from using biodiesel blends to using straight No. 2 diesel without concern.

Rob Rose recently started using B20 on his farm. "Making the switch to biodiesel was simple and caused no issues in my operation," Rose states. "I was concerned I may need to replace a few filters; however, I did *not* have to do that. I am proud to use the fuel that I grow right here in North Dakota."

If you aren't sure if your supplier offers biodiesel, check out the map of fuel distributors that offer biodiesel blends at bit.ly/NDSCBiofuels



Diesel Helpline

If you have questions, encounter a fuel-related problem or need help troubleshooting the cause of filter plugging, please call the Helpline at 1-800-929-3437, or email info@megcorpnmn.com.

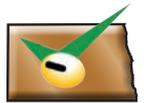
—*Story courtesy of MEG Corp and staff, photo by staff*



For the first time, NDSC Secretary Rob Rose, Wimbledon, purchased biodiesel for his farm operation and is quite pleased with the performance.

Ag Mag Helps to Set Soy Foundation

Checkoff Investment



Soybeans are produced in nearly every region of North Dakota. Elementary students across the state will have the chance to increase their knowledge about this valuable crop with an issue of the North Dakota Ag Mag that is dedicated to all things soy.

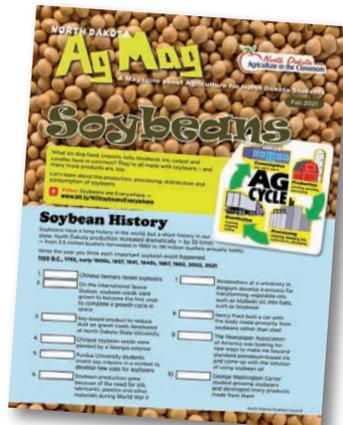
The North Dakota Ag Mag was first published in 1999 and is now a project of the North Dakota Agriculture in the Classroom Council through the North Dakota Department of Agriculture (NDDA). The NDDA contracts with North Dakota State University (NDSU) Agriculture Communication to develop and design the Ag Mag.

In late 2021, the first Ag Mag dedicated solely to soybeans was produced.

“Since soybeans are one of the largest crops in North Dakota, and they provide a huge economic impact to our state, we want students to understand the importance of our crop,” says North Dakota Soybean Council (NDSC) Communications Director Suzanne Wolf. “Almost every day, soybeans are used in many aspects of our lives. This Ag Mag examines the versatility of soybeans.”

The soybean-specific issue of the North Dakota Ag Mag features information about soybean production; plant physiology; the importance of exports; and interesting facts about soy innovations, including biodiesel and other industrial products. The issue also features Casselton soybean farmer Joe Morken.

Veteran NDSU communicator Becky Koch is instrumental in putting together the Ag Mag in



a way that helps students learn about the state’s important agriculture sector.

“I work with subject-matter experts, an elementary teacher and a graphic designer to develop a magazine that has fun, educational activities for students about agriculture,” Koch states. “Rather than just reading about wheat or beef or ag history or whatever, we integrate the content into math problems, language arts activities, geography and science lessons, critical thinking exercises and more.”

The free Ag Mag is produced three times a year and is available as an interactive 8-page magazine for North Dakota’s third, fourth and fifth-grade students. Each issue focuses on a North Dakota agricultural topic with fun facts, games and activities. The Ag Mag includes a teacher’s guide with more background information and additional teaching ideas.

Koch explains that the North Dakota Ag Mag targets the state’s fourth-grade students because North Dakota Studies is taught in fourth grade across the state. However, she describes how the activities and reading level are appropriate for a broader age range, especially third to fifth-grade students.

“The Ag Mag needs to be educational, rather than promotional, for classroom use,” Koch asserts. “That’s why I work with a fourth-grade teacher to make sure each Ag Mag meets North Dakota’s standards and benchmarks, the reading level and exercise levels are appropriate, and the content is simply approached in a way that students will engage with the content.”

Even though agriculture is one of the leading industries in North Dakota, there are many people in the state who don’t have a direct connection to farming. Using the Ag Mag teaching tool helps to lay the foundation for a better understanding of agriculture’s importance and diversity.

“If children learn about agriculture at all—especially if they don’t have family who farm, ranch or are involved in agriculture—it’s probably a stereotypical Old MacDonald or talking livestock and tractors. But the North Dakota Ag Mag tries to teach them about where their food, fiber, forestry and fuel products come from, though still in an engaging way,” Koch says. “By understanding even the basics of agriculture, hopefully they’ll be better consumers down the road.”

During the Ag Mag production process, Suzanne Wolf worked closely with Koch to provide accurate U.S. and North Dakota soybean subject matter, facts, history, and information for the creation of the new publication. North Dakota soybean specific video links, along with high-resolution soybean photography were provided and included in the magazine. Additional soy educational resource links from the United

Soybean Board and other state soybean boards were shared and included in the Teacher’s Guide of the soybean Ag Mag.

Thanks to the NDSC and the soy checkoff, the soybean Ag Mag is printed and distributed free to elementary students in North Dakota. The NDSC plans to annually distribute the soy-focused Ag Mag during Living Ag Classroom events across the state this winter.

The Living Ag Classroom educates elementary school children about the diversity of agriculture in North Dakota and agriculture’s role in feeding the nation and the rest of the world.

“As part of the NDSC board’s mission, we want students in North Dakota to understand the important role that soybean farmers have in producing a safe, sustainable, and accessible food and fuel supply,” Wolf states. “This new, colorful educational Ag Mag is the perfect educational tool for students, and it’s fun!”

Not only is the Ag Mag fun, but it’s also award-winning. The soybean Ag Mag won the gold award in Publications for Targeted Audiences from the Association for Communication Excellence and received first place for Publications Regularly Written by Entrant, newsletter/other publication, non-profit, government or educational from the National Federation of Press Women.

—Story by Daniel Lemke

To download North Dakota soybean’s Ag Mag, visit bit.ly/NDSCeduMaterials





Mini-Grant Program

NOW AVAILABLE FOR 6TH – 12TH GRADES

The North Dakota Soybean Council (NDSC) is now awarding grants to middle and high school teachers. The grants are worth up to \$500 and will be awarded on a competitive basis to support lessons related to soybeans or soy products. Applications can be submitted throughout the 2022–2023 school year.

Grants are limited and will be awarded on a first-come, first-served basis. Grants awarded for the 2022-2023 school year need to be used by April 30, 2023.

Funds can be used for materials associated with projects that help students to learn more about soybeans, soybean-related products, soybean research, soy innovations, and soy as part of health and nutrition.

To learn more and apply, visit bit.ly/NDsoyEduGrants



New grant program helps teachers incorporate soybean lessons into their classrooms.

Meet Our New Intern

Katelyn Duchscher recently joined the North Dakota Soybean Council (NDSC) as a marketing communications intern. Duchscher started her position with the NDSC at the end of August 2022.

“After pausing our internship program during COVID, we are excited to have the program back in 2022,” says NDSC Executive Director Stephanie Sinner. “The NDSC is proud to be able to offer internships to students in North Dakota who are interested in learning more about the soybean industry and preparing for a career in agriculture.”

Duchscher is originally from Rugby, North Dakota, and is currently a freshman at North Dakota State University majoring in marketing. She brings knowledge about the soybean industry through her family farm and marketing intern experience with Gooseneck Implement, a John Deere dealer in Rugby. Duchscher is currently serving as the North Dakota

FFA state secretary, where she promotes FFA activities and programs to students across the state.

“We are delighted to have Katelyn as part of our team, and we are looking forward to the expertise she brings from her role as a state FFA officer, her past work experience, and growing up on and helping on a family farm,” Sinner states.

“I am beyond excited to be given the opportunity to work with the North Dakota Soybean Council through their internship program,” explains Duchscher. “This program allows me to gain on-the-job experience in my selected career field as well as attend school full time. I cannot wait to meet growers, collaborate with my co-workers, and expand my knowledge on both marketing practices and the soybean industry in North Dakota.”

—Story and photo by staff



Rugby native, Katelyn Duchscher.

GLOBAL CONNECTIONS AT Soy Connex

Checkoff
Investment



Hundreds of soybean industry representatives, buyers and farmers gathered for the world's largest soybean summit, which was held in San Diego in August. The U.S. Soybean Export Council (USSEC) hosted more than 600 industry representatives at Soy Connex, the global U.S. soy summit.

The three-day event attracted more than 400 international U.S. soy customers from over 50 countries. More than 200 U.S. farmers also took part in the summit to help provide information about the quality of the U.S. soybean crop and to help prospective buyers better understand U.S. soybean production.

Valley City farmer and USSEC board member Monte Peterson took part in Soy Connex, including participating on a farmer panel to help give potential buyers a clearer picture of the 2023 soybean crop.

As part of Soy Connex, customers from 38 countries visited U.S. soy farms across 14 soy-producing states to engage with farmers; to inspect the crop; and to discuss challenges, needs, and opportunities.

"We had trade teams going to the Pacific Northwest; we had trade teams ahead of ahead of Soy Connex down at the Gulf," Peterson says. "Several teams were going into the interior of the country, including North Dakota, South Dakota, and Minnesota, to look at the crop. There's a tremendous amount of interest in knowing what this year's crop is like, in garnering a better understanding about what soybean availability will be like for this coming marketing year."

Peterson states that there was also strong interest from overseas participants who wanted to understand how additional domestic

soy-crushing capacity will affect the availability of whole beans, soybean oil and soy meal.

"I think Soy Connex provided a lot of really good information about what the driver is behind soybean oil for renewable fuels and what it means for available feedstock for buyers around the world," Peterson explains. "I think we did a pretty good job of answering their questions. It's not food versus fuel. It's a food and fuel conversation. When you really crunch the numbers, you'll see that there is going to be plenty of inventory available for sale around the world, whether it be soybeans or whether it's a meal, or whether it's food-grade products. I think the whole conference really set people's minds at ease about the quality and the quantity of the U.S. crop."

Soy Connex topics included examining the shifting vegetable oil market, sustainability in the global feed industry, trends and opportunities in plant-based proteins, sourcing specialty and identity-preserved soybeans and more. The event also featured live reports about the 2022 U.S. soybean crop

from the Pro Farmer crop tour.

The USSEC launched the new "Soybean Value Calculator," an innovative tool for soybean crushers to calculate and to compare the economic value of soybeans from various countries. Customers can enter company-specific data along with soybean-composition and physical-factor data to analyze the potential economic benefit of choosing U.S. soy products relative to soy from other origins.

"It's about helping customers and providing solutions to what would benefit their business. Those solutions have to start with providing information about the

U.S. soy crop," Peterson says. "The conference really provided some good information for the whole supply chain, about the whole supply chain. It probably eliminated some confusion about what's to come from the U.S. soy industry because of the increase of crush and how that changes the dynamic of our ability to market whole soy or the other products from soy. From that standpoint, it was transparent and informative."

—Story by Daniel Lemke, photos courtesy of Northern Soy Marketing

To learn more about the U.S. Soybean Export Council, visit ussec.org



Customers from 38 countries traveled to San Diego to participate in the Soy Connex event.



North Dakotans Monte Peterson (left) and Justin Sherlock were among the farmers from 14 states who were part of Soy Connex.

Trade Teams Get Full North Dakota Soybean Experience: Visits Spanned from Field to Port

Checkoff Investment



Members of a trade team from southeast Asia explored the Pacific Northwest of the United States during an August visit. NDSC's Stephanie Sinner accompanied the team of buyers on a number of agriculturally focused tours.



In August, two trade teams embarked on very different journeys to learn more about the soybeans they purchase from North Dakota farmers. While one group visited the Peace Garden State to learn more about the extra care of food-grade soybeans, the other team met North Dakota soybeans at the end of a U.S.-based journey in Seattle.

The trade team that visited the Pacific Northwest (PNW) August 24-26 was comprised of 19 southeast Asian buyers of U.S. soy, specifically companies focused on feeding livestock, poultry and aquaculture. The countries represented by this trade mission included the Philippines, Vietnam, Indonesia and Myanmar.

“These countries represent a significant amount of business for farmers in North Dakota and throughout the United States,” says Stephanie Sinner, executive director of the North Dakota Soybean Council (NDSC). “The Philippines is the no. 1 importer of U.S. soybean meal in the world while Vietnam is a powerhouse when it comes to pork and aquaculture production. These customers are all important to farmers’ bottom lines, and hosting them is an important step to continuing those relationships.”

Sinner joined the trade mission

in Seattle to give current crop progress insights from North Dakota along with sharing more in-depth knowledge about the path North Dakota soybeans take from the field to the PNW for exports. Sinner used her time not only to highlight the advantages of soybeans sourced from the PNW, but also to preview what is to come.

“With buyers in southeast Asia driving demand for soybean meal exports, I had the opportunity to provide details to these customers about the new crush operations we are seeing come online in North Dakota,” states Sinner. “These customers have already developed a preference for U.S. soybean meal, and our added infrastructure will drive growth in many of their markets.”

In addition to hearing from Sinner, the group was able to tour a number of export-related businesses in the greater Seattle area that are pertinent to the exports of U.S. soybeans and soybean meal. AGP hosted the trade team at its Gray’s Harbor port location in order to discuss ongoing expansion efforts to ensure that it can handle the rapidly increasing demand for U.S. soybeans in southeast Asia.

Expansion at the Port of Gray’s Harbor was announced earlier this year and is scheduled to begin in

2025, with additional freight capabilities and rail terminals being added. The visit to Gray’s Harbor was a highlight for the tour attendees who were able to board a vessel as it was being loaded with soybean meal.

The vessel was destined for the Philippines, which also provided an opportunity for trade team members from the Philippines to share their experience with U.S. soy and the value they see in U.S. soybean meal.

“The quality and consistency of U.S. soybean meal are factors influencing our purchasing decisions,” explains Lauren Chau, sales director of Simon Agribusiness

Corporation, one of the Philippines’ leading farm and companion nutrition and health companies. “Our customers in the Philippines prefer U.S. soybean meal.”

Trade-mission participants were in the United States as part of a larger conference, The U.S. Soybean Export Council (USSEC) hosted Soy Connex, a global U.S. soy summit, which brought more than 600 people from over 50 countries together under one roof in San Diego, California, August 22-24, to discuss U.S. soybean exports from field to port to international buyer and beyond.

—Story and photos courtesy of USSEC



NDSC Executive Director Stephanie Sinner discusses the advantages of purchasing U.S.-derived soybeans through the Pacific Northwest and the infrastructure improvements coming to further serve southeast Asian customers.

Setting up for Success in 2023

Checkoff Investment



consideration because of the magnitude of the IDC challenge.

“Look at that NDSU soybean variety information, and choose the varieties that are suitable for your area, or make sure your seed buyers are actually doing breeding and screening in this area and not just selling stuff,” Dr. Franzen explains. “A lot of people get burned every year because they plant a variety that they think has high IDC ratings, but those ratings come from an area that doesn’t have nearly the pressure we do, so those ratings are not useful.”

If growers are going to strip till or no-till seed soybeans into corn stubble, Dr. Franzen recommends that the farmers not use a chopping head on this fall’s corn harvest. Chopping produces fine material which creates a mat over the soil that may be hard to plant through next spring. Also, the fine corn residue will easily blow off the field, leaving the field more susceptible to erosion and disrupting spring drainage by plugging culverts and ditches. Leaving the stalks upright with as many leaves remaining on the stalks as possible will help catch snow more evenly and will lead to earlier spring planting. This practice will also help farmers plant into the soil next spring with minimal disturbance and better soybean stands.

Dr. Franzen also says that, if farmers had to take prevented planting on some of their acres, there is still time to get cover crops started to help prevent soil erosion.

—Story and photos by Daniel Lemke and United Soybean Board

For more research and information from Dr. Franzen, visit bit.ly/NDSUFranzen



Each growing season comes with its own challenges, but what farmers do one year can have an effect on future years.

One of the first steps that North Dakota State University (NDSU) Extension Soil Scientist Dr. David Franzen recommends farmers take this fall is to soil sample. Zone sampling of fields is vital so that farmers know what’s present in their soils. While rising input costs may compel more farmers to soil sample so that they’re not applying nutrients they don’t need, Dr. Franzen stresses that regular sampling should be a part of good management.

Dr. Franzen mentions several soybean specific things farmers should watch for this fall including phosphate levels and soil pH.

According to Dr. Franzen, soil pH is a variable that should receive more attention from farmers.

“Soil testing the fields in zones so that the high-pH areas of the field don’t overwhelm the areas that are really acid. Zone soil testing will give a farmer a really good idea about what the pH is in various parts of the field,” Dr. Franzen explains. “There’s a substantial number of acres in the state where the pH is below five. Farmers need to know that to prepare for

remedial lime application.”

Dr. Franzen states that farmers should also know the salt levels in fields can impact soybean production. Salts increase the severity of iron deficiency chlorosis (IDC) and limit yield potential even when IDC is not expected, so understanding the salt and pH levels can help growers determine if soybeans are a good option for that field.

“The first step towards next year’s soybean crop is selecting fields that are going to support some decent yields,” Dr. Franzen says. “The high price for soybeans really looks good on paper, and everybody thinks they’re going

to get 40 bushels per acre. If you have high salts and conditions with high pH and carbonates that result in severe IDC the next year, then those higher yields are not going to happen. If salts and/or the risks for IDC are high, a farmer should really take a hit by overestimating the yield.”

Dr. Franzen describes how soybean seed selection is the primary defense against IDC. He says that NDSU has good information about varieties that were bred for North Dakota and northwestern Minnesota. That’s an important



NDSU Extension Soil Scientist Dr. David Franzen recommends farmers use the fall to sample soil to know what nutrients may be needed for 2023.

Collaborating for Growth:

Think Tank Brings Together All Facets of the Soybean Industry



Checkoff
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NDSC Executive Director Stephanie Sinner (second from right) discusses soybean research opportunities.

Soybean farmers know that one constant in agriculture is change: change in the customers' needs and what's required on the farm to drive production and profitability.

In 2021, staff from various state soybean organizations started thinking about these changes.

Katherine Drake Stowe, then the research coordinator for the North Carolina Soybean Producers Association, teamed up with Ed Anderson, senior director of research for the Iowa Soybean Association's Research Center for Farming Innovation, and other state soybean research staff.

"We wanted to start thinking about how we in the soybean research community can help farmers thrive in the face of these new challenges and opportunities," stated Stowe.

Thus, the Soybean Research Forum and Think Tank was born. Participants, including researchers, farmers and industry partners, thought about how the research community could drive the industry forward and could help soybean growers face these challenges.

Attendees identified the "grand challenges" that farmers face, including technology and data; climate, carbon and ecosystem marketplaces; and uses for soybean oil. Researchers also said they wanted to be more connected to the entire value chain.

"They said we needed a better understanding of who was doing

what, and where there were gaps and opportunities to leverage current resources to fill those holes," Stowe explained.

Think Tank in Action

Not wanting to let the ideas generated during the meeting sit on a shelf, the researchers determined that a specific project could help these ideas take flight.

Then, the U.S. Soybean Research Collaborative came into play.

Led by Stowe, the U.S. Soybean Research Collaborative (USSRC) is a project that works to bring more collaboration and coordination to soybean-checkoff research.

Soybean leaders in Iowa and Illinois provided initial funding to kickstart the USSRC. Four additional state-checkoff partners—North Dakota, South Dakota, Ohio and North Carolina—provided funding for Fiscal Year 23 and more. These leaders are in the process of reviewing and acting on investment proposals.

Stowe described how the USSRC fosters a broad-industry and value-chain view for soybean research opportunities that move beyond traditional production research and bridge the gap between supply and demand.

Expanding Opportunities

The 2022 Think Tank event, hosted in Indianapolis in August, involved various participants, ranging from researchers to farmers and sustainability experts to food-company executives.

Guiding the event, Stowe challenged participants to think about soybean research and topics differently. This year's Think Tank focused on four specific areas: aquaculture, renewable diesel, plant protein and technology.

"We wanted to look at topics that would help us bridge this supply and demand gap," Stowe said.

This approach helped researchers to better understand the entire value chain, a request stemming from last year's event.

Experts provided an overview and the needs of these specific markets. Split into groups comprised of various interests and expertise, attendees discussed the opportunities and challenges for each market, and how people in the soy value chain have a role to play.

North Dakota Soybean Council (NDSC) Executive Director Stephanie Sinner attended the 2022 Think Tank along with Dr. William

Aderholt, program manager of Fargo's Grand Farm. The Grand Farm Education and Research Initiative capitalizes on the region's potential and expertise in the agriculture and technology industries.

"There were a lot of ideas in the room from a diverse group of farmers, researchers, industry and university, collaborating to discuss the best ways to invest research dollars to advance the soybean system through new uses, increased demand or new technologies to help producers," asserted Stephanie Sinner.

To ensure that farmers have access to the latest soybean research, national and state soybean-checkoff organizations have compiled a database of research results that is accessible to farmers. The Soybean Research and Information Network (SRIN) is designed for farmers to read about all the benefits of checkoff-funded research projects in their state and nationwide. For more information about soybean checkoff-funded research, visit soybeanresearchinfo.com.

—Story and photos courtesy of the Iowa Soybean Association



Dr. William Aderholt of Grand Farms attends the 2022 Think Tank to learn more about the soybean research industry and value chain.

Biofuels and Decarbonization



Once hesitant to use biofuels, the rail industry is now looking into ways renewable fuels can help cut their carbon footprint.

are competing with over-the-road transportation and home heating for renewable liquid fuels.

“These huge container ships that are sailing all over the world are full of Nike shoes and Amazon goods that people are buying. They’re full of computer chips and cell phones, so it’s those large corporations that are driving this decarbonization effort currently,” Fenwick explains.

Fenwick says that shipping companies have looked at new technology which could help them operate while lowering their carbon footprint. Some new vessels can operate on compressed or liquefied natural gas. Those fuels can help reduce carbon, but they’re still fossil fuels. There is also a push to examine fuels such as methanol, ammonia or hydrogen to power those vessels, but Fenwick describes how those technologies, while laudable, aren’t currently economical.

“What is economical and possible and can reduce their carbon footprint immediately are liquid renewable fuels such as biodiesel and renewable diesel,” Fenwick contends. “It doesn’t require

Whether it’s driven by concerns about climate change, sustainability or a host of other reasons, the push for decarbonization is on, and transportation fuels are caught in the swell.

“There is a global push to decarbonize fuels and not just for trucks driving down the highway, but for off-road, ag, construction equipment, railroads, marine, aviation and home heating oil,” says Scott Fenwick, Clean Fuels Alliance

America technical director.

Fenwick explains how, until recently, the push has come from federal, state and local governments. Now, the drive towards decarbonizing fuels is being pushed by large companies such as Microsoft, Google and Amazon.

“Even large transportation companies like FedEx and UPS have these new environmental, social and governance (ESG) plans which they are prescribing to all of their suppliers to lower their carbon footprint,” Fenwick states. “Some

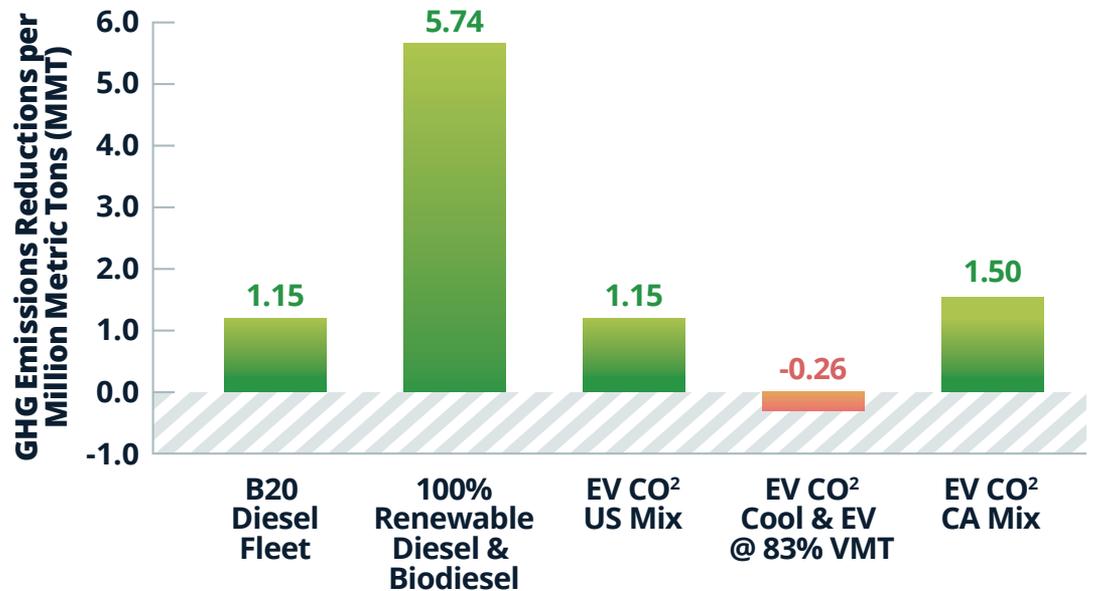
go so far as to say, if you don’t follow these guidelines, we’ll find another supplier who will. That’s been further driven now by the Securities and Exchange Commission and a proposed rule that would mandate these ESG programs in publicly traded companies.”

When the nation’s biodiesel industry was developing, Fenwick describes how some market segments, including railroads and the marine industries, had little interest in using the biofuel. Now, those industries have jumped to the forefront and



Shippers are being pushed by their customers to lower carbon emissions which support sustainability efforts.

Heavy-Duty Scenarios 2022-2032 Cumulative GHG Emissions Reductions



purchasing new ships. It doesn't require purchasing brand new fueling infrastructure. It literally is drop and go."

Much like the marine industry, railroads weren't initially big biofuel users. Like shipping firms, many railroads are looking at biodiesel and renewable diesel as viable tools to help them decarbonize.

"Likewise, the people and the organizations that are putting goods and services on those trains, shipping them across the country, are driving this effort towards lower carbon fuels. So not just Clean Fuels Alliance America, but also several of our member organizations that are producing these fuels are now working very closely with these railroads," Fenwick states.

New Technology

Fuel users aren't the only ones affected by the drive for reduced carbon emissions. Engine manufacturer Cummins is investing in a range of low- and zero-carbon technologies. Cummins is developing engine-based solutions as part of its Destination Zero strategy to reduce greenhouse gas and air quality effects of its products.

"Low-carbon fuels are important to this strategy," says Traci Kraus, director of government relations at Cummins.

Cummins designs and manufactures a wide range of engine technologies of different sizes and for a wide range of applications. Kraus explains that the huge variance with off-highway and agricultural equipment means that different solutions are needed for various duties and modes of operation. Transitioning to low-carbon fuels presents some challenges for companies as they evaluate technologies that are a good fit and don't cause major disruptions to

their day-to-day operations.

"The industry needs multiple solutions to meet different needs of all customers and applications," Kraus contends. "Cummins is invested in the development of a range of engines that can utilize low-carbon fuels to help customers begin the transition to zero emissions, wherever they are in their own journey. We see low-carbon fuels as a key element of our Destination Zero plan to decarbonize our products. Adoption of these fuels can help our customers reduce emissions today while the infrastructure, development and deployment of newer technology solutions come to scale."

In February, Cummins announced the development of its low-carbon, "fuel-agnostic" engine platform. This system will use common engine blocks and core components to be optimized for a variety of low-carbon fuel types, making the adoption of low-carbon fuels easier for customers.

Kraus says that the latest Cummins engines use efficient, high-pressure fuel systems that burn less fuel, lowering overall CO₂ emissions. Power increases have enabled customers to downsize to a smaller engine to do the

same work.

Cummins Performance Series engines can operate with 20% biodiesel (B20) and 100% renewable diesel. Renewable diesel delivers up to a 90% reduction in greenhouse-gas emissions "from well-to-wheels" when compared with petroleum diesel.

Operating heavy equipment using biofuels and new engine technology has been shown to reduce more lifecycle greenhouse-gas emissions than electric vehicles used in medium- to

heavy-duty applications.

Kraus describes how a recent study commissioned by Diesel Technology Forum and prepared by the consulting firm Stillwater Associates found that medium- and heavy-duty battery, electric vehicles did not provide emission reduction comparable to medium- and heavy-duty diesel vehicles that were powered by biodiesel and/or renewable diesel.

—Story and photos by Daniel Lemke, graphic provided by Stillwater Associates, Cummins



Cummins Director of Government Relations Traci Kraus says low carbon fuels are part of the company's strategy to reduce greenhouse gas emissions.

TRADE SERVICING THROUGH *Education*



Trade servicing is an important part of growing and maintaining a preference for U.S. soy products around the world. One unique approach that the U.S. soy industry is taking is through the establishment of Soy Excellence Centers (SEC).

Four SECs, operated by the U.S. Soybean Export Council (USSEC), are located around the world to service Asia, Africa and the Americas. The goal is to build budding soybean markets into consistent U.S. soybean customers. The SECs deliver educational curriculum that is focused on building career paths in the protein value chain, exposing students to a range of required skills and knowledge.

Valley City farmer and USSEC Chair Monte Peterson recently

visited Singapore to see the work of the center charged with serving southeast Asia.

“We went to see how the Soy Excellence Center in the south Asia region was putting together a curriculum specific to the food-grade industry,” Peterson says. “The team out of Singapore is responsible for the southeast Asia region, and they’re the first SEC to develop a curriculum specific to the food-grade industry.”

The SEC is designed to identify emerging professional leaders and to support their growth within the food and agricultural sectors. The SECs help participants to advance their career and to serve as a resource for business leaders to employ as a tool for talent development.

Peterson’s visit coincided with a

training focused on the soyfood sector. “Soyfoods are really a big thing in Singapore,” Peterson explains. “We got to meet and learn about the region’s team and learn about the expertise of the people in that area that are working with USSEC and are identifying things that are beneficial and helpful to our customers in that region of the world.”

The SECs work in budding markets to build capacity and to increase the market potential of businesses in the food and agricultural supply chain. The regional centers facilitate food and agribusiness company employee trainings and workshops that can help to overcome inefficiencies, challenges and operational hurdles while sharing information about the uses and applications of soybeans.

The curriculum focuses on building career paths in science, technology and business, exposing students to a range of required skills and knowledge. The technical training improves the workers’ skills in commercial operations, teaching business and marketing tactics that are necessary to increase entrepreneurial opportunities.

“Certainly, it’s a means of trade service, and that can vary from region to region, where our customers land within their own industry and within their own knowledge levels,” Peterson states. “But to be able to explain procurement, processing, transportation and all of those facets throughout the supply chain to provide a clearer picture of what that can entail and what U.S. soy can provide along those lines is really at the forefront of what the SECs do.”

The USSEC leaders believe that promoting education and excellence in emerging markets is a first step toward creating the stability needed for increased global prosperity.

“We’re hoping our customers and prospective customers understand what U.S. soy has to offer, so we’re helping all throughout the supply chain,” Peterson asserts. “We’re helping them through a number of ways, but it’s also about market promotion.”

—Story by Daniel Lemke,
photos courtesy of USSEC



Valley City farmer Monte Peterson (second from left) visited Singapore to see how the Soy Excellence Center was helping support U.S. soy.



The Soy Excellence Center focused on food uses for soy including tofu and soy milk.



KEEPING THE FUTURE OF SOYBEANS BRIGHT

From researching new uses for soybeans to identifying new markets for U.S. soy, the soy checkoff is working behind the scenes to create new opportunities and increase profits for soybean farmers. We're looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And it's helping make a valuable impact for soybean farmers like you.

See more ways the soy checkoff is maximizing profit opportunities for soybean farmers at unitedsoybean.org

Trade Teams Tour the North Dakota Soybean Industry:

Farmers and Processors Host International Customers During Visits



The USSEC trade team from India visited Joe Sauvageau's farm in Horace, North Dakota, to learn more about food-grade soybean production.



Thirty-one international food buyers from seven countries visited North Dakota in August; the delegates were part of three different trade missions that were hosted by the North Dakota Soybean Council (NDSC) and the soy checkoff. The groups, hailing from southeast Asia and India as well as Taiwan, toured a variety of agribusinesses and farms to highlight the high quality and reliability of

U.S. soybeans. One key message that was on display during the visit was U.S. soy's sustainability.

The demand for food-grade soybeans continues to grow globally, outpacing even population growth, at a compounded annual growth rate of 3%. The drive for that growth primarily comes from markets in Asia, western Europe and Latin America. The U.S. Soybean Export Council (USSEC) helps lead market outreach to key

customers in these regions and has partnered with the NDSC to host the buyers on North Dakota soil.

"North Dakota is a leading producer of food-grade soybeans in the United States, and it is the right market to showcase U.S. soy's qualities to international buyers, especially when it comes to soy foods," said Jena Bjertness, director of market outreach for the North Dakota Soybean Council. "Hosting international

customers builds stronger connections and relationships, ultimately driving stronger demand. We are proud to demonstrate the added value that comes when you purchase U.S. soy and continue creating a preference for U.S. soy over soy from other origins."

While the trade teams receive customized schedules based on business interests, some itinerary highlights included visiting companies that are specifically focused on the food-grade business—Brushvale Seed, Inc.; Richland IFC; and SB&B Foods, Inc.—and hearing from organizations and educators with the Specialty Soya and Grains Alliance, the Northern Crops Institute and North Dakota State University. The farms which hosted the trade teams were McMillan Farm in Wimbledon, KTM Farm in Wahpeton, Sinner Farm in Casselton and Sauvageau Farm in Horace.



A soy milk and tofu demonstration was provided to participants from India during their visit to the Northern Crops Institute.



The USSEC's southeast Asia trade team visited KTM Farms in Wahpeton, North Dakota.



McMillan Farms of Wimbledon, North Dakota, hosted a food-grade soybean trade team from Taiwan.

“As farmers and through (the) USSEC and our checkoff, we are building a reputation that U.S. soy is a reliable and sustainable supplier of quality soy and soy products,” stated Darren Kadlec, a soybean farmer from Pisek and a director on the USSEC board. “These types of missions help us showcase our sustainability methods and soy expertise to buyers,

something that is lost in just pictures or videos. You can’t replace face-to-face conversations, and we will continue to build upon these relationships throughout the year.”

All three North Dakota trade teams were in the United States

for Soy Connex, the global U.S. soy summit. This USSEC-driven event was held in San Diego, California, on August 22-24, with the purpose of connecting buyers and sellers of U.S. soy with every part of the value chain,

building connections and sharing expertise. The North Dakota Soybean Council was a platinum event sponsor.

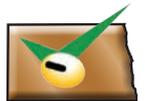
—Story courtesy of the USSEC, photos by staff



Jeff McMillan of Wimbledon, North Dakota, answers questions about North Dakota soybean production from Taiwanese trade team participants.

Connecting the Soybean Dots

Checkoff
Investment



North Dakota soybean farmer-leaders and staff get an up-close look at what's involved with moving soybeans to customers around the world.



Most North Dakota soybeans are well traveled by the time they reach their final destination, and it takes many hands to help them get there. The North Dakota Soybean Council (NDSC) recently took several North Dakota farmers to the Pacific Northwest (PNW) to get an up-close look at what's involved with moving soybeans to customers around the world.

The NDSC has offered a See for Yourself program since 2013. Due to COVID, the program had

been on the shelf since 2019. The program was dusted off in 2022 to help give board members a fuller view of the soybean industry and how all the pieces fit together.

"This really was a program for new board members to get a feel for what happens after we drop our beans at the elevator here in North Dakota," says NDSC Executive Director Stephanie Sinner. "There's a lot that happens and a lot of people involved in the process to get them on a ship and all the way out to ports in Asia and southeast Asia. It's really trying to help our grow-

er-leaders connect those dots and learn what's beyond the elevator."

Hillsboro farmer Cindy Pulskamp is one of North Dakota's directors on the United Soybean Board. She says the See for Yourself program was an eye opener.

"This was, in my mind, probably one of the best things that I have attended in regard to what happens when a commodity leaves my farm and all of the additional people, strategies and operational things that have to be in place to make sure that everything moves from beyond my farm to the end user and desti-

nation," Pulskamp explains. "It was an excellent learning opportunity."

Sinner says that many See for Yourself participants are awestruck by the magnitude of the facilities and the coordination that's required to efficiently move soybeans to global markets. The See for Yourself program was done jointly with South Dakota Soybean because the states face many of the same marketing concerns.

"Seeing the scale and size and the people that it takes from the elevator workers right here in North Dakota coordinating with the rail, with the employees of BNSF, with the ports out at the PNW, and then each of those companies that has a facility at the port and all of their staff and the inspection workers, every piece has to work for things to get to their end destination," Sinner states. "I think seeing that all in action is pretty inspiring."



A tugboat ride provided a firsthand look at how operators navigate ships safely from ports on the Columbia River to the Pacific Ocean. The Columbia River Bar, located at the intersection of the Columbia River and the Pacific Ocean, is considered one of the most dangerous stretches of water in the world.



A tour of the Kalama Export Company showed the coordination that's required to efficiently move soybeans to global markets.

See for Yourself participants were given a tugboat ride to get a firsthand look at how operators navigate snags and other hazards to move ships from ports on the Columbia River to the Pacific Ocean.

New Challenges

One of the primary purposes for the visit to the PNW was to reconnect with partners in the region who are integral to soybean movement. These partners include port operators, transportation representatives and more.

“We wanted to have some good conversations with our partners out at the PNW ports about what they are doing to prepare for the soybean meal coming their way with all the crush plants coming online,” Sinner asserts. “We wanted to learn how are they planning to ramp up or add to their systems things that will help them move soybean meal to export markets as the crush facilities get built.”

Sinner says that most industry partners are aware of what's happening in the soybean industry as well as the growth for biodiesel and renewable diesel demand as states and companies look to reduce their carbon footprint. With more uses for soybean oil, a lot more soybean meal will need to move to domestic

and international markets.

“Some of the facilities that maybe have a smaller piece of their operation that can handle soybean meal will be getting that capacity ramped up and start taking meal in on a more regular basis,” Sinner explains. “Exporters at the PNW that already export whole beans are committed to helping the soybean industry, and they will watch the developments and the growth opportunities, and be ready to respond as demand dictates.”

Sinner expects that soy-industry partners will respond to the changes in the soybean industry because many of them made substantial investments to help facilitate the growing global demand for U.S. soybeans shipped from the PNW.

“I think we will see our partners out there respond,” Sinner contends. “They responded and met the need of increased whole beans going out of those ports 15 or 20 years ago, and I would imagine, if this tidal wave of meal develops, they will rise up and meet the need again.”

Learning Experience

Sinner describes how the See for Yourself program included speakers from Clean Fuels Alliance America who led a conversation about biodiesel and renewable diesel.

Participants also visited Daimler's North American headquarters for a discussion about electric vehicles.

Sinner says that Daimler is working on a prototype electric truck that can be used for shorter, repeatable routes which companies can use to reduce emissions.

Sinner continues, “I think our board members came away feeling like they had learned a lot from the meeting at Daimler and that they were really willing to have good conversation and answer good questions. It's one of those topics that we all are kind of fearful of it

because we don't know a lot about it. But really, the discussion and conclusion is that we are going to need all forms of energy for powering vehicles across the United States. Each region and area has such different needs that we need all the fuel options, including corn and soybean biofuels.”

For Pulskamp, the entire experience gave her a greater appreciation and understanding about how soybeans move to market and how seemingly unconnected factors can affect soybean farmers in North Dakota.

“I don't know if, before this trip, I could have sat down and really given you a layout strategy of how soybeans get from here to market,” Pulskamp says. “Now, I can walk through that process. Now when I'm watching the news or see things that affect the process, like if they're having a bad weather out on the West Coast, does that affect the Columbia River for example? Those are the things that I'm just a little more in tune with now.”

—Story by Daniel Lemke,
photos by staff



During the stop at the Tacoma Export Marketing Company (TEMCO) at the Port of Kalama, a Panamax ship loads corn from South Dakota bound for China.



The Care and Maintenance of Soybeans

Farmers work an entire season to grow a quality soybean crop. Some of the growing season's final actions—combining and storing—have a major effect on the quality of the soybeans that farmers supply to market.

Because soybeans can spend months in grain bins, proper care during the harvest and storage process is important to maintain soybean quality.

Fall weather conditions can vary widely, which can influence soybean moisture levels. Soybeans can absorb or lose moisture daily while they're in the pod, waiting to be harvested. North Dakota State University (NDSU) Professor and Agricultural Engineer Dr. Ken Hellevang says that managing the harvest is the first step for maintaining soybean quality.

“One of the characteristics of soybeans is that, if we have reasonable field conditions, they tend to dry down pretty quickly,” Dr. Hellevang says. “We might end up targeting harvest at 13% moisture,

and the next thing we know, we're down to 10% moisture. As the soybeans get drier, they become much more fragile. So, the first thing is to do what we can to make sure that we harvest as close to 13% moisture as possible.”

Dr. Hellevang states that soybeans can have a 2-3% moisture swing in a single day. If soybeans have dried below the optimal moisture levels, the harvest timing can make a difference. Harvesting in the morning when there's dew or higher atmospheric moisture can replenish some of the moisture in the soybeans that gets lost during the day.

Harvesting soybeans at the optimal moisture level is not only important for soybean quality, Dr. Hellevang explains, but it also has an economic effect.

Dr. Hellevang asserts, “when harvesting soybeans below the optimal moisture levels, not only are we looking at more potential damage to the beans, but we get paid less on the pounds of beans that we deliver. It isn't exactly a one-to-one

relationship, but if we're harvesting at 11% moisture rather than at 13%, that's two percent less of soybeans that we harvest. If we're ending up down at 9% or 10%, it's not huge numbers, but we are losing a percentage of the crop. So, that is another thing to keep in mind and a reason to try to manage the moisture content as close to the 12% to 15% moisture range.”

Dr. Hellevang describes how soybeans can trick grain-moisture meters. The outside of a soybean may be drier than the inside, resulting in an inaccurate moisture test. Dr. Hellevang says that putting a soybean sample in a sealed bag for several hours at room temperature will allow the moisture to balance out and will provide a more accurate reading.

Some growers may be tempted to use artificial drying in order to reach optimal moisture levels. Dr. Hellevang contends that the process for drying soybeans is more complicated than drying corn. Soybean drying has to take place at a lower temperature to prevent

damage. Because harvested soybeans often contain pods and other chaff, artificially drying soybeans may present a fire risk.

Cool Beans

Ambient temperature isn't typically a concern when harvesting, but soybean temperature during storage is something farmers need to manage. Dr. Hellevang explains that the goal is to cool soybeans down as outside temperatures drop.

“Whenever we're looking at an average 10-to-15-degree temperature difference between the soybeans and the average outdoor temperature, we should run the aeration fan to cool down the soybeans prior to storage,” Dr. Hellevang says.

Some farmers are concerned about running fans when the humidity is high because the practice might introduce more moisture into the stored beans. Dr. Hellevang states that growers should avoid running aeration fans when it's raining or foggy. Otherwise, aerating soybeans removes a small

amount of moisture from the stored beans.

Daily temperatures can vary widely during the months of September and October, so the temperature of the soybeans placed in storage can cover a wide range. Dr. Hellevang recommends running aeration fans initially to get a uniform temperature within the bin. As the season progresses and temperatures drop, he recommends running fans to bring the stored beans to near or just below freezing in order to preserve quality.

“If we’re dealing with food-grade soybeans, we want to handle them as gentle as we can. When working with food grade soybeans, the temperature becomes more important because damage increases at cold temperatures,” Dr. Hellevang explains. “But if we’re talking commercial-grade soybeans,

I recommend bringing the soybean temperature to somewhere in the 20-to-30-degree temperature range for winter storage. The goal is to keep soybeans cool as we go into late winter and early spring.”

While there’s no shortage of things to do during a hectic fall harvest season, Dr. Hellevang recommends that farmers do a regular check of their stored soybeans until the beans are cooled down for winter storage.

“The reality is that we may not be out there checking the bins a whole lot in January when it’s 20 below zero,” Dr. Hellevang says. “But in the fall when we’re still cooling down, it’s important that we’re monitoring the grain. I also encourage farmers to do at least one moisture check so that we know that the moisture content is what we thought it was in the bin.”

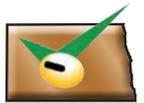
Many storage bins come with sensors and automation that take care of some grain management for growers. The technology is very helpful, but Dr. Hellevang doesn’t recommend completely turning grain management over to an automated system. Farmers still need to check and make sure that equipment is in calibration and that the grain is in good condition.

Long-Term Storage

Most North Dakota farmers used to sell many of their soybeans either right off the combine or certainly by early spring. With the growing year-round demand for soybeans, farmers store soybeans later into the spring and summer in order to take advantage of marketing opportunities.

Dr. Hellevang and other NDSU researchers are working on a

Checkoff
Investment



project, which is supported by the North Dakota Soybean Council, to provide updated data about the maximum allowable storage time for a number of soybean varieties. The study examines factors such as mold growth and oil-quality changes over the course of the time that the beans are stored. The information is expected to be available later this fall.

—Story by Daniel Lemke,
photo by Wanbaugh Studios

For more information on grain storage and drying, courtesy of NDSU, visit bit.ly/NDSUGrainDryingStorage



International Soy Trade Teams Return to NCI’s INTSOY Short Course

Food company leaders from around the world comprised the first INTSOY (Introduction to Soy) Short Course to return to the Northern Crops Institute (NCI) in Fargo since COVID; the event took place on August 6-13, 2022. This course showcased soy as a food ingredient to international buyers who have not yet started using soy in their products.

The course explored new ideas for soy-based foods, including snack foods, soy as a supplement to fortify foods, soy in animal nutrition and an overview of soy production in the U.S. Participants began the week in Minnesota, traveled to North Dakota and South Dakota, and ended in Minnesota to showcase the northern-soy growing region.

The North Dakota Soybean Council has been a long-time supporter of the INTSOY program at NCI and contributed checkoff funds for this effort.

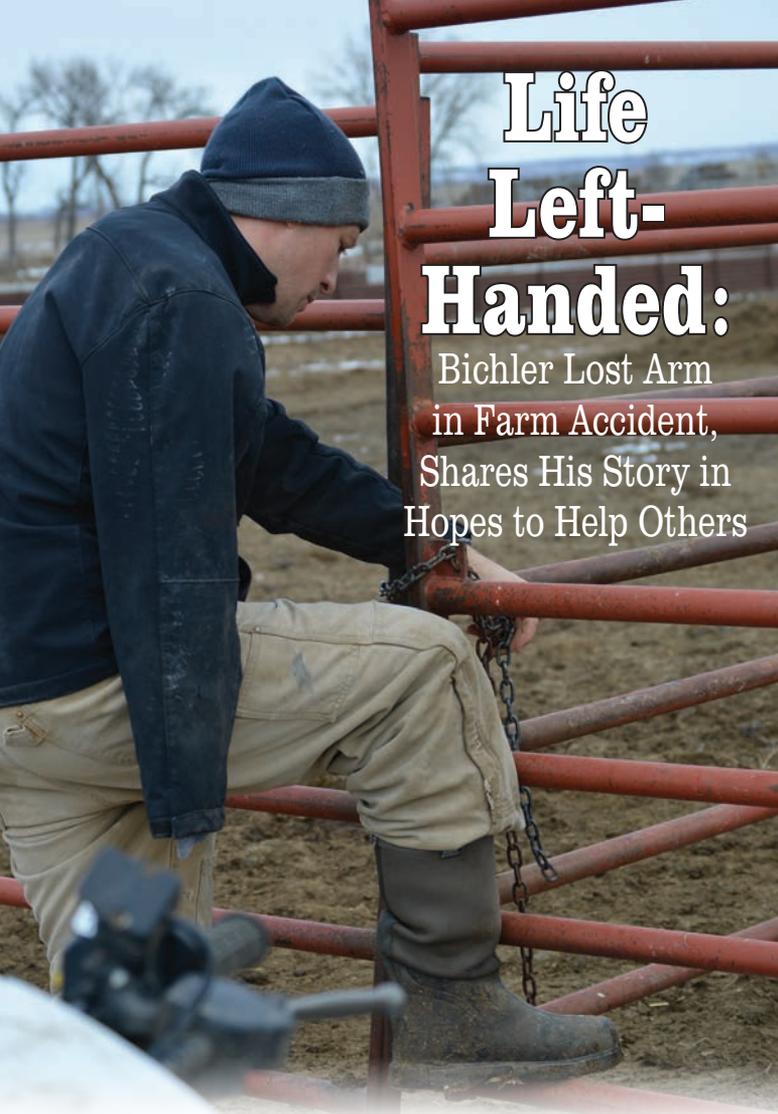
—Story by staff, photo courtesy of NCI



Christopher Dohl of Wenger Manufacturing demonstrates applications of texturized soy protein to the group of food-company leaders.



Life Left- Handed: Bichler Lost Arm in Farm Accident, Shares His Story in Hopes to Help Others



Doug Bichler will never be able to undo the happenings of June 26, 2017. After more than five years since Bichler lost his right arm in a farm-related accident, he said that he only hopes his story can help others.

“I want people to be more aware of what they are doing on their farms and ranches every day,” Bichler stated.

Bichler; his wife, Maria; and their children, Amelia, Therez, and Abram, raise registered Simmental cattle and Dorper sheep on their third-generation farm near Linton. All of their crop ground goes toward feed for their livestock, and they also own and rent pastureland.

Bichler described how safety on the farm was not a new concept to him, having been born and raised on the farm, and later serving over

a decade with North Dakota State University Extension. However, his actions on the day of his accident could have been avoided,

Bichler explained.

“I don’t think I was being careless, but if I would have disengaged the power take-off, done that one extra step, I would still have my arm,” Bichler asserted.

The evening the accident occurred, Bichler was doing routine maintenance on the baler at the farm site. When he finished, the baler door was locked open with the baler running. Bichler walked around the baler to shut the tractor off. While walking by, a piece of net wrap, which was hanging on the frame of the baler, caught his eye. With a long-sleeved shirt and a leather glove on, Bichler reached for the net wrap; his right arm instantly became entrapped in the moving belts.

“I almost immediately lost consciousness,” Bichler said. “But my shirt started to strangle me, and I awoke to realize my arm was trapped.”

After being pinned in the baler at his bicep for what Bichler estimates to be a half hour, Bichler felt his body being pulled in further. With no one around to call for help and a cell phone out of reach, Bichler took

matters into his own hands.

“I just decided I’m not going to die in this baler,” Bichler stated. “I tugged backward twice, and my arm didn’t come out. But the third tug, my entire arm came out.”

Filled with adrenaline, Bichler retrieved his cell phone, which was no longer working; climbed in the tractor to turn it off; and walked to the house. He took a sweatshirt from his car to wrap his arm.

Upon entering the home, Bichler dialed 911 and called for Maria.

“I was eight months pregnant at the time and was waiting for Doug to be done, so we could have supper together,” Maria explained. “While I was waiting, I fell asleep. I awoke to Doug yelling for me and found him sitting in the basement on the phone with emergency personnel.”

The Emmons County Sheriff’s Office, Emmons County ALS Ambulance and Linton Fire Department responded to the scene and transported Bichler to Sanford Medical Center in Bismarck where he was stabilized. He was then flown to Regions Hospital in St. Paul, Minnesota, where his arm was amputated on June 27, 2017.



KFGO Farm and Ranch Director Sarah Heinrich interviews Doug Bichler for a radio interview in August 2017.



Doug and Maria Bichler, and their three children, farm and ranch near Linton, North Dakota. Doug was in a farm accident in 2017 which resulted in his right arm being amputated.

The Bichlers, with support from numerous family members and friends, stayed in the Twin Cities until they returned home on July 18, 2017.

“All in all, I’ve had six surgeries,” Bichler said. “I continue to do well despite complications and pain,

but the best medicine for me has been the support of my family and friends. I couldn’t have done this without so many people who have helped me.”

At this time, Bichler does not use a prosthetic arm. He continues to farm and ranch.

Bichler described how one of the largest components of his journey has been an awareness about his own mental health.

“In a way, sharing my story helps me feel like there was a purpose for my accident,” Bichler stated. “I’m more aware of the struggles people

face with mental well-being. My injury is visible, but sometimes, we struggle the most with what no one can see. And it is OK to feel that way and ask for help. We all have bad days and good days.”

Bichler explained that his accident and his long road to recovery feel worth it to him so long as he can help one person to avoid a farm-related accident.

“Be aware of your surroundings, and slow down,” Bichler said. “We, in agriculture, are always in a hurry to be productive, to get things done, but there is always time for our health. We are not invincible.”

—Story and photos courtesy of Maria Bichler

For more important information on farm safety from NDSU, visit bit.ly/NDSUFarmSafety



DIRT (Dakota Innovation Research and Technology) Workshop

Save the Date

December 12-14, 2022

Fargo, ND

This workshop is designed to bring the latest science-based and practical information to farmers, industry, educators, researchers and anyone else who is interested in soil health. Using breakouts, demonstrations, panels and small discussion groups modeled after the NDSU Cafe Talk program, we hit the mark when it comes to encouraging discussion to custom tailor information and applications to your farm, business or programs.

Abby Wick

NDSU Soil Health Specialist & DIRT Workshop Coordinator



For more information
DIRTworkshopND.com

Growing Low-Carbon Opportunities

North Dakota's 26,000 farmers and ranchers are growing conservation agriculture, literally. Don't take my word for it: in 2017, the U.S. Department of Agriculture (USDA) reported that acres under intensive tillage in North Dakota had dropped 30% since 2012, falling to only 25% of the total planted acres. At the same time, cover crop adoption nearly doubled from 213,810 acres in 2012 to over 400,000 acres in 2017. The most obvious signs of conservation agriculture in North Dakota are the seemingly innumerable public and private programs that pay farmers to implement these and other conservation practices.

Today, several programs exist to leverage the rapidly growing ecosystem service markets on behalf of farmers. Why is there a seemingly sudden interest in working with farmers? First, public and private entities are getting serious about carbon reduction. Second, study after study have shown that some of the most cost-effective solutions for climate change come from smarter interactions with natural systems, e.g., better land management. Simply put, researchers, analysts and academics have shown it to be less expensive to use nature and agriculture to fight global warming than to deploy the next electric vehicle. Don't hear me wrong. Both approaches will be important to reduce emissions in the long term, but one can be deployed today, cost effectively and at scale.

To grow their marketplace, these ecosystem service companies have focused on working with farmers to implement conservation practices, sometimes called outcomes. These outcomes are often quantified as a "credit" (i.e., one ton of carbon sequestered and/or one ton of nutrient loss avoided) and sold to corporations and/or government entities seeking to meet self-imposed sustainability goals. These credits can then either be used to 1) offset an entity's continued emissions of carbon dioxide (e.g., tech company) or 2) document the sourcing of more sustainable ingredients (e.g., a food and beverage company). Either market can yield real on-farm value for farmers.

Including new practices within a cropping rotation can yield multiple benefits, some-

times surprising farmers, as highlighted in a June 2022 blog post published by the Soil and Water Outcomes Fund (SWOF), one of the programs operating within North Dakota. In its post, the team highlighted how farmers who switched tillage plans found unplanned savings of \$10-20 per acre by reducing fuel cost, labor and equipment maintenance. If the average North Dakota farm would enroll about 10% of its acres (150 acres per producer), those savings, coupled with SWOF's \$31-per-acre average payment, would generate approximately \$7,000 per year in savings and new revenue. Programs such as SWOF demonstrate that a voluntary carbon market can create a meaningful source of revenue for farmers while providing value to those with self-imposed sustainability goals. What about companies that operate in "regulated" carbon markets How much is carbon reduction worth to the corporations, and can farmers provide it?

"Regulated" environmental markets are also expanding across the U.S., but few programs accept credits associated with agriculture, broadly limiting farmers' ability to participate. Although frustrating, there are good reasons for the current embargo. The restriction exists for two different reasons. First, many of today's "regulated" environmental markets simply rely on the "stick" approach, directly taxing the source of emissions (e.g., a power plant, a gallon of gas, etc.). This approach does not offer clear avenues to reward more sustainable options, such as the ones offered by agriculture. To open markets for nature- and agricultural-based solutions, current and future policy should seek to include more "carrots," rather than simply relying on the "stick" to reduce carbon emissions. This tactic is the simpler of the dual challenges to solve.

The second and more challenging reason that agriculture has been slow to be included in "regulated" markets is due to the quality of the outcome. Agricultural carbon reductions tend to be more uncertain than an emission credit created by avoiding the use of fossil fuel due, in part, to the dynamic variability of the U.S. agricultural system which boasts a diverse range of soil types, crop rotations



Matt Herman
Senior Director, Renewable Products
Marketing: Iowa Soybean Association

and weather. Additionally, certain outcomes, such as ones that lead to increased carbon levels in the soil, require a lookback period to verify that the carbon which was claimed to be sequestered remains sequestered in the soil years later. Many of these challenges are unique to biological systems such as agriculture. Practically and economically, the challenges have limited the farmers' ability to participate in these higher-value markets. Despite these headwinds, many agriculture and energy companies are determined to see this change, and their first target is California.

The California Low Carbon Fuel Standard (LCFS) is one of the "regulated" markets of great interest to our sector, in part, because the policy creates "carrots" to reduce emissions and does not simply rely on "sticks." The LCFS is a premier, low-carbon transportation fuel policy globally, and it requires that the state of California reduce the average carbon footprint of transportation fuels by using more alternative fuels such as renewable diesel, ethanol and electric vehicles. Significantly, this policy not only disincentivizes petroleum, but it also incentivizes ever-lower-carbon energy: the "carrot." Therefore, in

Scholarship Helping to Prepare A Winner for the Field

theory, a gallon of renewable diesel produced from soy grown in a conventional rotation could generate fewer credits than if the soy were grown in a rotation with reduced tillage and cover crops.

Last year, the LCFS market attracted over 1 billion gallons of biodiesel and renewable diesel. The market is increasingly demanding renewable diesel that is made in places such as Dickinson, North Dakota, home of Marathon's renewable diesel biorefinery. If the LCFS would allow Marathon to "claim" (purchase) a farmer's lower-carbon outcome along with his soybean oil—ultimately leading to the production of an even lower carbon biofuel—everyone could generate significantly more value. This opportunity is because, as a "regulated" market, the carbon price is significantly higher than that of voluntary markets. In fact, researchers at Argonne National Lab in Illinois estimate that biofuel produced from more sustainably managed land could net a farmer up to an estimated \$279 per acre of carbon value, nearly 10 times the value of current voluntary markets. This market is one with which farmers, energy and agribusiness companies, and policymakers should want to connect.

No matter where you turn, the market for conservation agriculture is growing. While these voluntary markets can seem complex and disjointed, I can assure you that these markets are maturing and that the demand for outcomes created by farmers is not a passing "trend." As agriculture, carbon markets and environmental policy continue to converge, North Dakota farmers should take the time to learn more about these programs, to consider participating and then to share these experiences with others. It is only through our shared experience that we can improve the existing programs and unlock higher values in the future.

¹*Soil and Water Outcomes Fund. (2022, June 30). SWOF Original: The Multiple Bottom Line Benefits of Conservation Agriculture [Blog post]. Retrieved from <https://www.theoutcomesfund.com/in-the-news/swof-original-the-multiple-bottom-line-benefits-from-conservation-agriculture>*

Spending a couple summers interning as a research agronomist is reassuring Claire Moffet that her chosen career path is likely to be a good fit.

Moffet will be a senior at North Dakota State University (NDSU) this fall; she is majoring in agriculture economics and minoring in crop and weed sciences. Moffet, who grew up north of Barney, is hoping that her degree leads to a career as a crop consultant or an agronomist.

"I have been interning at Minn-Dak Farmers Cooperative the last two summers as a research agronomist and have loved the experience," Moffet states. "I could see myself doing something similar when I graduate."

Moffet's educational experience got a boost from the North Dakota Soybean Growers Association (NDSGA). She was chosen as the 2022 recipient of a \$5,000 scholarship that the NDSGA presents to an NDSU student who is enrolled in the College of Agriculture, Food Systems, and Natural Resources; who has completed a minimum of 90 credits by fall semester; and who is the child or grandchild of an NDSGA member.

"I chose to apply for the North Dakota Soybean Growers Association Scholarship because my grandfather is a member, and I met all the requirements of the scholarship," Moffet explains. "I am paying for college on

my own, and it has been a good opportunity for me to learn more about this wonderful organization."

Moffet says that, because she's financing her own college experience, the scholarship funding is helpful, but she also finds the support to be motivational.

"Because NDSGA is investing in my future, I am driven to do my absolute best in my studies and experiences while at NDSU, and for that, I am so grateful," Moffet asserts.

The NDSGA scholarship is presented annually. Moffet encourages eligible students to apply.

"I would definitely encourage others to apply in future years," Moffet continues. "My best advice is to just apply. There is nothing bad that can come out of applying for a scholarship. If you don't get selected, it gives you an opportunity to improve and apply the next year! Also, don't forget to credit yourself for the things you have done that might seem miniscule in the grand scheme of things. Some of those experiences or activities you participate in are unique and might set you apart from other applicants."

—Story and photo by Daniel Lemke

Learn more about the NDSGA scholarship at bit.ly/NDSGAScholarship22



NDSGA scholarship winner Clair Moffet has honed her craft the past two years as an intern at the Minn-Dak Farmers Cooperative.

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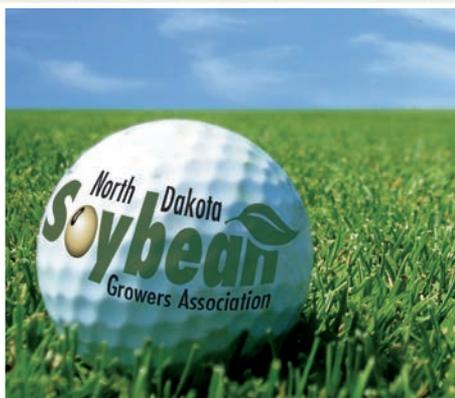
Team SB&B, Tournament Champions

Team Gateway Building Systems, 2nd Place

Team Farmers Co-op Elevator Streeter, 3rd Place



Fore! the Fun of it



Thank you for making the 19th annual Fargo golf tournament successful! The tournament is a way for the North Dakota Soybean Growers Association (NDSGA) to say thank you to its members and supporters. Your membership dues and sponsorship of NDSGA events help to provide the necessary funds to continue policy and advocacy work in Bismarck and in Washington, D.C. We're proud of our past successes and are continually working to make things better for soybean growers throughout North Dakota.

Congratulations to our Fargo tournament winners:

First Place: Team SB&B Foods, LLC: Scott Sinner, Charlie Erickson, Thomas Nelson and Clay Solum.

Second Place: Team Gateway Building Systems, Inc.: Kevin Johnson, Joe Horner, Michael Goetz and Chris Housh.

Third Place: Farmers Co-op Elevator-Streeter: Jeff Williams, Brett Williams, Andrew Heflin and Josh Brehm.

Congratulations to the Fargo contest winners:

Closest to Pin #4: Phil Murphy

Longest Putt #6: Chris Housh

Longest Drive #9: Jordan Frederick

Closest to Pin #11: Randy Bergh

Longest Drive #16: Derrick Rogers

Longest Putt #18: Kevin Johnson

Thank you to our Fargo golf tournament sponsors:

Hole Sponsors: Advance Trading, Inc.; AgCountry Farm Credit Services; AgWeek; American Federal Bank; BASF; Bell Bank; Bremer Insurance; Bushel; Clean Fuels Alliance America; Dyna-Gro Seed; FMC; MEG Corp. Biodiesel; Mustang Seeds; North Dakota Soybean Council; Premiere Service Center; Proseed; and Titan Machinery.

Lunch Sponsor: Ihry Insurance

Dinner Sponsor: BNSF Railway

Signs: D-S Beverages

Golf Balls: Asgrow

Golf Carts: Hoffman Irrigation, Inc.

For more photos of the tournament, check out facebook.com/NorthDakotaSoybeanGrowersAssociation

Two NDSGA tournaments are scheduled for 2023. The first tournament will be at the Jamestown County Club on July 25, 2023. The second will be August 23, 2022. More information is available at ndsogrowers.com/events.

—Story and photos by staff

North Dakota Soybean Processor Breaks Ground

For the second time in a matter of months, North Dakota agriculture and government officials gathered to celebrate the construction of a new, large-scale soybean processing plant that will be opening in the state.

Groundbreaking was held on August 24 for the North Dakota Soybean Processors (NDSP) facility near Casselton. NDSP is a joint venture of Minnesota Soybean Processors, based in Brewster, Minnesota, and Louisiana-based CGB Enterprises. The \$400 million project will process an estimated 42.5 million bushels of soybeans each year.

“This is a project that we’ve been working on for a long time,” says NDSP President Steve O’Nan. “When we identified North Dakota as the location, things moved quickly. We know how important it is to be breaking ground to show some of the fruits of our labors.”

In addition to creating additional markets for soybeans, the NDSP project is expected to create 50 to 60 new jobs once the plant is fully operational.

“This project is part of a tectonic shift in North Dakota agriculture and energy, shifting away from exporting all our raw commodities out of state for processing and shifting toward adding value to those commodities right here at home, reducing transport costs and improving the prices paid to soybean growers,” concludes North Dakota Governor Doug Burgum. “We’re grateful to North Dakota Soybean Processors for this significant investment, which will create 50 to 60 quality jobs and generate greater economic activity and tax revenue that

supports essential services and critical infrastructure, benefiting all North Dakotans.

At the groundbreaking, Governor Burgum was joined by Senators John Hoeven and Kevin Cramer.

The Casselton site was selected for several reasons, including the proximity to major highways and railroads as well as access to a workforce. Cass County is traditionally one of the nation’s top soybean-producing counties, which made the location particularly attractive.

In addition to drawing beans

from North Dakota, the NDSP plant is likely to provide a market for soybeans from northwestern Minnesota.

“This gives growers in eastern North Dakota and western Minnesota some optionality when it comes to their marketing,” O’Nan says. “They aren’t at the whims of exports. We know those export markets slow down in the off season. Having options 12 months of the year will be very beneficial.”

The plant is expected to be fully operational in 2024, with soybean purchases likely before then.

O’Nan expects that the NDSP’s commercial staff will be in the area next spring to visit with farmers. The plant will process soybeans into meal and oil, which will be used for food and industrial applications such as biodiesel and renewable diesel.

NDSP joins Green Bison Soybean Processing, LLC, in Spiritwood as the new crush facilities being constructed in North Dakota. Green Bison Soybean Processing is a joint venture between ADM and Marathon Petroleum. Groundbreaking was held in June for the Green Bison plant that is expected to be operational by 2023.

—Story by Daniel Lemke, photos courtesy of the Office of the Governor

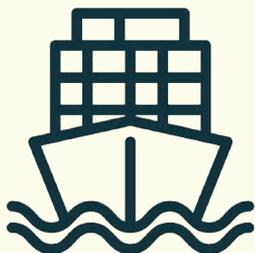


The NDSP groundbreaking began with a program at Casselton High School after shifting from the Casselton plant site.



Dignitaries, including Gov. Doug Burgum (fifth from left) were on hand for the ceremonial groundbreaking on the \$400 million project.

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WISHH is a program of the American Soybean Association and is funded in part by the United Soybean Board and state soybean board checkoff programs.

Getting to Know the NDSC Director



Jeremiah Blahna
Carrington, North Dakota

Tell us about your farm.

My wife and I grow soybeans, corn and wheat in addition to operating a cow/calf operation.

What do you like best about farming?

As a farmer, I enjoy being outside and watching the wildlife.

Did you always know that farming was something you wanted to do?

Yes, I did.

What's the most exciting thing about the growing season?

The anticipation of if we will receive timely rains in our area, good prices and what our yields will end up being.

How and why did you get involved with the North Dakota Soybean Council (NDSC)?

Some local farmers in my area suggested I should get involved.

Why are soybeans part of your crop mix?

We raise soybeans because it's a good rotation crop on our operation and can be harvested with minimal workforce.

If you could change something about the current operating climate for North Dakota Farmers, what would it be?

I would like to see railroad crossing signs and highway signs placed further from the road edge to help

ease equipment movement during harvest.

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

I would say technology has changed the most.

What changes do you expect to see on your farm in the next 5 to 10 years?

I foresee switching to 22-inch rows in the future.

What do you like to do outside of farming?

I enjoy metal working.

If you could go anywhere, where would it be?

I would like to travel to Europe.

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

My high-speed disk.

—Story and photo by staff

Jeremiah is a North Dakota Soybean Council director. To learn more about serving on the North Dakota Soybean Council as a county representative or board member, visit bit.ly/NDSCelections23

Bean Briefs

USDA Holds a Session on Seed-Industry Competition

American Soybean Association (ASA) President Brad Doyle (Arkansas) provided comments during a virtual public listening session that was hosted by the U.S. Department of Agriculture (USDA) to gather information about farmers' concerns regarding seeds and agricultural inputs, fertilizer and retail markets.

In his comments, Doyle said

that, while soybean producers are not as greatly concerned with the state of the seed market as they are about other inputs, such as fertilizers, fuel and pesticides—which have seen significant price increases in the past several years—growers do support steps to enable greater market participation and innovation in the seed industry.

Doyle explained that maintaining a pro-innovation regulatory strategy, reducing entry barriers,

and increasing the variety of innovations which breeders and developers can bring to market are key to achieving these goals.

Bipartisan Senate Letter Urges the FCC to Protect GPS

Sens. Jim Inhofe (R-Oklahoma) and Jack Reed (D-Rhode Island) led a bipartisan letter urging the Federal Communications Commission (FCC) to stay and to reconsider the Ligado Order, echoing the concerns of

14 federal agencies and other end users, including U.S. farmers, who rely on global positioning systems (GPS) to operate safely and efficiently.

The FCC order went into effect in April 2020 and allows Ligado Networks to establish a wireless network that will threaten the reception capability of hundreds of millions of GPS devices and will hamper growers'

—Story continued on page 38



Dr. Jon Biermacher
NDSU Extension Livestock Development Specialist

Where did you grow up?

I grew up in Marion, Illinois, which is down in the southern tip of the state. I was raised on a small beef-cattle farm where we also had chickens, pigs, goats and rabbits. It was a multipurpose farm. The products that we were selling really weren't nearly as important as the work ethic that my parents were trying to bestow on me and my sisters. For about five years, my friends and I also operated a hay baling, hauling and stacking business.

Tell us about your education.

I have a bachelor's degree in agribusiness economics and a master's degree in agricultural economics from Southern Illinois University. My master's work focused on production economics and rural economic development. I earned my Ph.D. in agricultural and applied economics from Oklahoma State University, where I focused on production economics and the economics of technol-

gy and biotechnology.

Tell us about your work experience.

After I graduated with my doctorate, I was hired as a research economist at the Samuel Roberts Noble Foundation in Ardmore, Oklahoma. During my tenure at the Noble Foundation, I developed a recognized research, Extension and outreach economics program designed to help farmers and ranchers achieve their financial, production and quality-of-life goals. At the time, the Noble Foundation's research focused on everything from basic, fundamental plant science, genome and molecular plant-improvement research to applied on-farm research. During my time at Noble, I evaluated the economic potential of all kinds of systems: everything from grazing tolerant alfalfa to producing and marketing high-quality zucchini squash. I started as (an) assistant professor, worked through the ranks and

was promoted to full professor. When the board of directors eliminated the academic research portion of the foundation's internal programs, I went to work for Oklahoma State University as a production economist until accepting my new position with North Dakota State University.

What interested you about the position at NDSU?

I needed a new adventure, something that would recharge my academic curiosity. I just started looking around, and the folks in Extension at NDSU contacted me. We scheduled interviews, and we just really hit it off, and it quickly became apparent that we all had a very symbiotic relationship and similar interests, which was very appealing to me.

What is the goal of the livestock development position?

There are other positions in other disciplines that have the same long-term goal that the North Dakota legislature has created, and that's to improve the revenue streams in the livestock sector in the state over time. It's a long-term goal to improve the economics of livestock, not just beef cattle. They're also interested in swine and poultry and other livestock enterprises. With any Extension program, we're also trying to improve the overall ag sector in the state.

What are your first steps in the position?

Early on, I'm going to get out to some of the research and Extension stations, especially the ones that have animal agriculture, and visit the scientists and Extension people who are conducting studies and are working closely with farmers, ranchers and other livestock producers in the state. I want to

get a handle on how a production economist can help them evaluate the economic potential of the systems and technologies they have been developing at those stations. Then, we'll visit with other Extension folks throughout the state and try to understand their need for applied economic programming for their stakeholders: find out what the big needs are and then roll our sleeves up and see if we can start addressing them one at a time. I have also been invited by the faculty in the animal sciences department on campus to give a seminar on my background and Extension and research interests. I think this kind of interaction will prove to be valuable to the livestock industry in North Dakota as we move forward.

How do you feel about this new opportunity?

I'm very excited about it for a couple of reasons. One, I like the long-term goal. I think the state is really trying to help their stakeholders in ag. I also like the idea of doing some community economic work collaboratively, and other things can be done to help develop livestock, too. For example, if you have remote livestock producers that don't have good access to necessary goods and services (e.g., healthcare, internet service or local markets), how do you expect to increase livestock development for the farmers and ranchers that are producing meat proteins? Things like that interest me as well.

What kind of adjustment do you expect moving to North Dakota?

I like to fish, play golf (badly) and hunt upland game birds. I think I'll fit in just fine.

—Story by Daniel Lemke, photo courtesy of Dr. Biermacher

Continued from page 36—

abilities to use GPS technology in their operations. Because growers heavily rely upon navigation systems and precision technology, the prospect of GPS units not working is alarming to soybean farmers.

The FCC's order acknowledges the likelihood of interference with GPS signals and requires Ligado to pay the federal government for the cost of repairs, but the order does not specify what those costs are and, importantly, does not currently include the private sector. According to a news release from Inhofe's office, 99% of the more than 900 million GPS devices across the country are used by the private sector and consumers as well as state and local governments. Under the current order, private-sector businesses, such as agriculture, or their consumers are on the hook for the repair costs.

The senators urged the FCC to set aside the Ligado Order and to consider the concerns of the executive branch, within Congress and from the private sector regarding the imminent risks for national security and other systems.

A reliable network is imperative for U.S. soybean farmers who use GPS-enabled, precision-ag technologies to efficiently and responsibly grow and harvest crops, and to irrigate their land. The American Soybean Association (ASA) has continued pushing for changes to the FCC's Ligado decision while urging the administration and Congress to step in to protect GPS reliability.

EPA Requests a Partial Rehearing for the Glyphosate Litigation

In August, the Environmental Protection Agency (EPA) submitted a petition to the Ninth Circuit Court of Appeals, requesting a partial rehearing of the three-judge panel's June 17 ruling on the glyphosate interim decision. In that ruling, the panel vacated the interim decision's human-health risk assessment and sent the ecological risk assessment back to the EPA to complete an Endangered Species Act (ESA) analysis by October 1. It is regarding this remand of the ecological portion of the interim decision for which the EPA is seeking a partial rehearing.

In its earlier ruling, the court panel directed the EPA to issue a new ecological risk assessment, presumably including a finalized ESA analysis, by October 1. However, in its request for a partial rehearing, the EPA pointed out that finalizing an ESA consultation is a multi-year process, for which the panel granted the EPA only 106 days. Additionally, finalizing an ESA consultation requires the EPA to coordinate with both the Fish and Wildlife Service as well as the National Marine Fisheries Service, neither of which are parties to the lawsuit or are subject to the court's order. As a result, the EPA cannot comply with the court's order because the edict relies on cooperation from parties outside the EPA's control.

The EPA requested that the court grant the rehearing to, preferably, consider lifting the October 1 deadline. If the court is unwilling to do so, the agency requested that the court vacate the interim decision in its entirety because the EPA cannot com-

ply with the order as it stands. The EPA also suggested that it may withdraw the ecological portion of the interim decision if the court does not lift the deadline or vacate the interim decision.

The American Soybean Association (ASA) is party to the litigation and is continuing to carefully monitor the case for developments. Additionally, the ASA is regularly seeking additional advocacy opportunities to protect grower access to glyphosate and other vital crop-protection tools.

Bioproducts Program Moving Forward

The U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture's (NIFA) Bioproduct Pilot Program seeks to study the benefits of using materials derived from agricultural commodities to manufacture construction and consumer products. This new program, which is authorized under the Infrastructure Investment and Jobs Act, directs the USDA to partner with no less than one qualified institution to support the scale-up of sustainable bioproduct manufacturing, with the goal of providing a low-cost alternative to conventional products. A total of up to \$5 million is available each year for Fiscal Year (FY) 2022 and FY 2023.

In collaboration with USDA Rural Development's BioPreferred program, NIFA will seek research proposals that explore the benefits of bioproducts in relation to their cost savings relative to other commonly used alternative materials, greenhouse-gas emission reductions and other environmental benefits, lifecycle and longevity-extending characteristics relative to

other commonly used alternative materials, landfill quantity and waste-management cost reductions, and more.

Group Designates Monarch Butterfly as Endangered

The International Union for the Conservation of Nature (IUCN), a membership union of government and civil society organizations headquartered in Switzerland, added the monarch butterfly to its "red list" of threatened species and categorized it as "endangered."

This IUCN designation does not change any existing rules or laws surrounding monarchs that would affect American soy farmers. The U.S. has not yet designated the monarch butterfly as an endangered species under the Endangered Species Act (ESA). In December 2020, the United States Fish and Wildlife Service (FWS) announced that adding the monarch butterfly to the list of threatened and endangered species is warranted but precluded by work on higher-priority listing actions. The FWS ESA listing remains up for reconsideration with a final ruling expected by 2024.

The designation does not change the mission of Farmers for Monarchs, an initiative of the Keystone Policy Center, of which the American Soybean Association is a member along with other groups that represent agriculture, businesses, researchers, academia, and federal and state entities.

—Story by staff

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