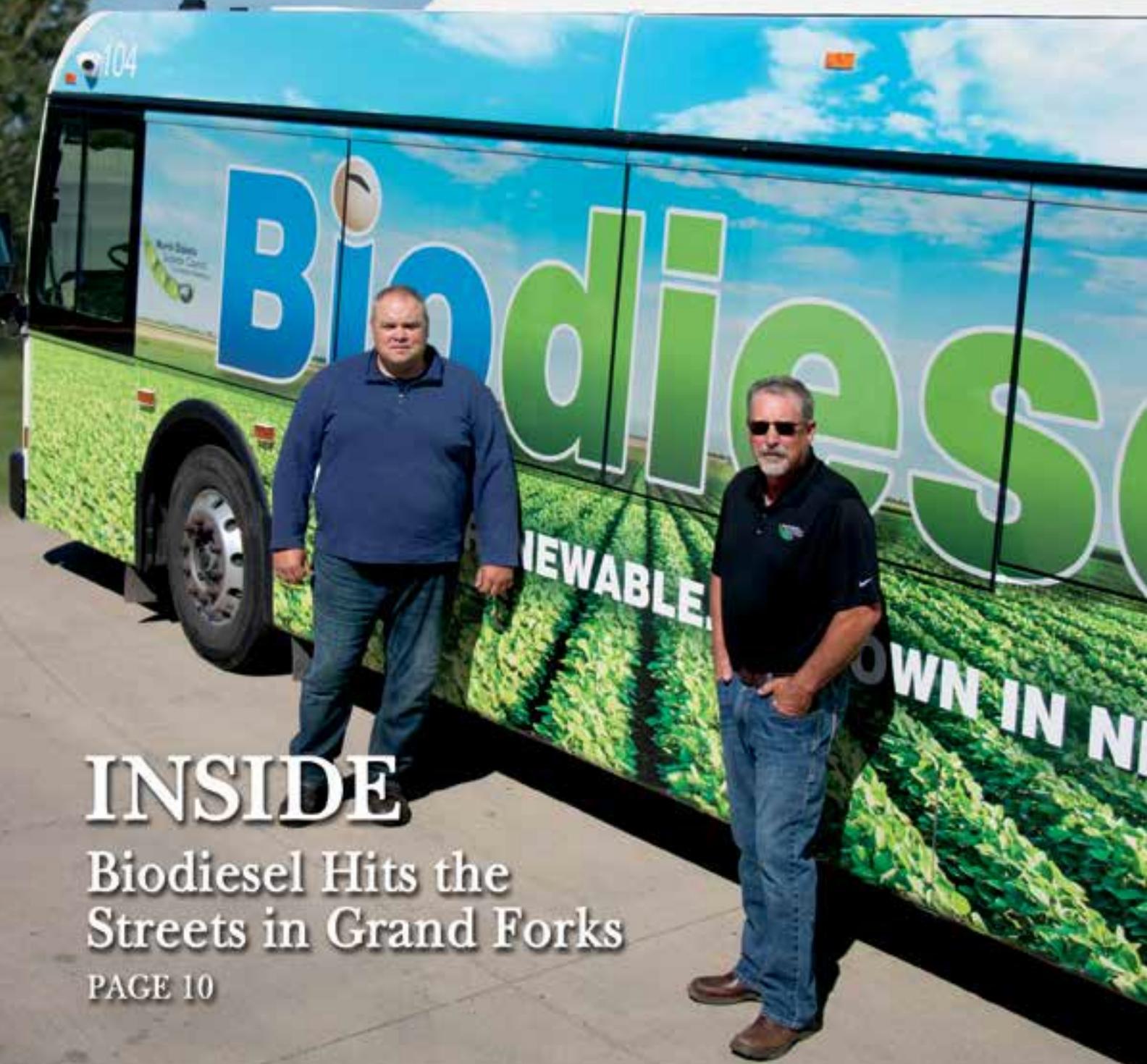


# THE NORTH DAKOTA Soybean GROWER MAGAZINE

VOLUME 9 • ISSUE 4  
AUGUST 2020



## INSIDE

Biodiesel Hits the  
Streets in Grand Forks

PAGE 10



## EVAN TWEDET

DEKALB® ASGROW® BRAND TECHNICAL AGRONOMIST

McHenry, North Dakota

*Seeds and agronomy. They're the one-two punch for improving performance in any field. That's why farmers in central and western North Dakota rely on DEKALB® Asgrow® Technical Agronomist Evan Twedt for management advice. He's been working in his current region for five years and is a great source for local knowledge. Here he addresses some of this year's pressing management questions.*

# ASK AN AGRONOMIST

## HOW IS YOUR GROWING SEASON GOING?

Hindsight is always 20/20, and I'm glad that 2020 is almost in our hindsight. With harvest season fast approaching, now is a great time to look back at the growing season and start to evaluate how it went. There are a lot of things that we won't be able to determine until after the combines roll and the yield results are in, but there are a few things that are better determined now rather than after the combines have hit the fields.

How does the crop look? Farming isn't always about having the best-looking fields, but there are a lot of factors that you can visually see that may play into the crop's performance. How was spacing and emergence in your corn crop? Was it uniform? Did your one-pass herbicide system hold? Or should you have come back and hit your corn crop once more with a pass of Roundup PowerMAX® herbicide with the addition of Harness® herbicide to give you some residual control to carry you longer into the season?

Or, maybe Warrant® herbicide on your second herbicide pass over your soybeans could have given you the residual control to help with season-long weed suppression as well. How do your soybeans look? Could they have used a fungicide? An application of Statego® YLD Fungicide or Delaro® 325 SC Fungicide on soybeans at R1 can help during the growing season.

Maybe your 2020 crop looks phenomenal, or maybe a lack of moisture has your crop looking tough. Even though it might not be fun to walk your fields this time of year,

there are a lot of things you can learn from doing so.

Not all differences can be noticed by looking at fields during the growing season. For those non-visual differences, such as yield differences between two

**“ AN APPLICATION OF STATEGO® YLD OR DELARO® ON SOYBEANS AT R1 HAS SHOWN AN INCREASE IN PLANT HEALTH DURING THE GROWING SEASON. ”**

different products, Climate FieldView™ is an excellent platform for visualizing the differences in data that you are probably already collecting on your farm. Call your local DEKALB Asgrow seed dealer to see how you can get set up with the Climate FieldView platform prior to this harvest season.

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# O

## n the cover

An invitation to the National Biodiesel Conference helped fuel a commitment to biodiesel in Grand Forks. Nathan Viergutz (left) with Cities Area Transit and North Dakota Soybean Council Director Rob Rose connected at the event and helped bring about a North Dakota first.

—Photo by Daniel Lemke



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# Legislating During Uncertain Times

All Interim committees for the North Dakota Legislature have gone from in-person gatherings to meeting via phone or over the internet. Many committees have begun to convene after having not met for several months, which is understandable given the complexity and newness of the challenges bestowed upon us by the novel coronavirus.

While the Budget Section has met to vote on (mostly) allowing state agencies to spend money sent to North Dakota by the federal government, monies directly given to agriculture by the Coronavirus Aid, Relief, and Economic Security (CARES) Act which were recently dispersed by the Budget Section went to help meat processing for our smaller butchers and locker plants. I have heard from several sources that these businesses are booked out for many months. It is my understanding that CARES Act dollars may go towards equipment such as grinders, slicers, coolers and other supplies.

The Agriculture and Transportation Interim Committee, which handles changes for grain inspection, has not met in the past couple of months. The committee was scheduled to meet in late July.

I listened to the Natural Resources Committee while it discussed how the three-county (Ramsey, Richland and Slope) pilot project about posting for hunting, which we've reported on in the past, has moved on to where it can be put into motion. COVID-19 wreaked havoc and caused disruptions to many state functions; the state's information technology department had to pivot away, to some degree, from the pilot program in order to help almost every state agency operate. Fortunately, the Game and Fish Department was generous in helping this effort, allowing the new

online posting effort to be tested by the three counties using the Game and Fish licensing platform. If you have ever applied for or purchased hunting, fishing or boat licenses; or sought other information using the Game and Fish website, you are somewhat familiar with this system. Landowners in Ramsey, Richland and Slope Counties can access the licensing system by going to "My Account" and searching for "Land Parcel" information which comes from the counties. People who control land access can then designate whether their land parcel will be open for hunting or closed during the coming year. Because this initiative is a pilot program and state law has not been changed, physical posting will still rule. This situation also means that, as in the past, land not posted is presumed to be open for hunting. If the landowners find that this system is usable, it is possible that the procedure could be adapted throughout the state if the law is changed.

The Commerce Committee will soon discuss three different topics that affect many farmers: statewide changes to make the way we handle sewage systems more uniform, the unmanned aircraft systems study as well as the study about food distribution in rural communities. Also coming soon, the Taxation Committee will meet to take a report on property taxes. With North Dakota looking at a state budget which could be two-thirds the size of its last biennial budget (I have heard some people with experience in this matter speak of that fraction as one-half), we can expect a lot of widespread pain.

What kind of session we will have? Will advocates, such as the North Dakota Soybean Growers or any others, be allowed in hearings, or will we be relegated to watching everything on our computers? Only time will tell.



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

## Going to Bat for Farmers

Summer and baseball just go together. Many people enjoy the crack of the bat on a warm summer evening while enjoying the sights and sounds of a ballgame. Those images deliver good memories for a lot of folks.

Whether you prefer to attend games in person, watch them on TV, listen on the radio or really aren't a fan, most people still know that the object of the game is to go to bat for your team and to drive runs home. Sometimes, there's a hit; sometimes, there's not.

The past months brought plenty of challenges to farmers across North Dakota. Looking back at the start of the trade war with China which crippled North Dakota soybean exports and, more recently, dealing with the repercussions of the COVID-19 pandemic, there's been no shortage of disruptions to the business of farming. Farmers had no control over these events, but we were left to deal with the ramifications.

Through these and other events, the North Dakota Soybean Growers Association (NDSGA) and our national organization, the American Soybean Association (ASA), have gone to bat for the interests of North Dakota soybean farmers.

Soybean farmers were among the hardest hit by the trade war with China. China's retaliatory tariffs on U.S. soybeans severely reduced export shipments. The ASA and NDSGA farmer-leaders supported the development of the current Phase 1 trade agreement with China because China is an enormous market for U.S. soybeans. China is a market that was built, over decades, by soybean farmers.

Soybean industry leaders supported the Market Facilitation Program (MFP) which provided some relief to farmers for the lost China market. While the ASA and NDSGA supported the MFP, we were also quick to point out that farmers want trade, not aid.

The NDSGA and ASA also supported the Coronavirus Food Assistance Program (CFAP) which provides direct relief to producers who faced price declines and additional marketing costs due to COVID-19. As is the case with the MFP program, we, as farmers, prefer operating in an environment where the free market is allowed to operate. In the cases of the MFP and CFAP, some support was necessary to ensure that the nation's food supply wouldn't be compromised.

We know that not everything for which we advo-



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cate will go our way. As in baseball, even the best hitters don't get on base every time. You can be assured that, no matter the circumstances, the NDSGA will be at the plate, swinging on your behalf.



## 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: \_\_\_\_\_  
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County: \_\_\_\_\_  
Phone: \_\_\_\_\_  
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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)

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# Committed to Innovate

**D**erik Pulvermacher may not live in the heart of soybean country, but soybeans are an increasingly important crop in his part of North Dakota. Farming in Burke and Divide Counties in far north-

western North Dakota, diverse crop rotations are the norm. This year, Pulvermacher planted soybeans, canola, flax, sunflowers, spring wheat and durum.

“A couple more crops were on the list, but the way things worked out

this year, they didn’t get put in because of timing,” Pulvermacher says.

Pulvermacher is licensed to plant industrial hemp, but he didn’t like the contracts that were available. There are still crop insurance issues with the crop and high seed costs, so he declined to plant hemp this year.

“I put pencil to paper and hemp wasn’t quite as enticing as it first looked, so it went by the wayside,” Pulvermacher added.

Pulvermacher says that rainfall and the growing season’s length are the two most limiting factors for crop production in his area. His area tends to get a later start and an earlier frost. For soybeans, the challenge is getting timely rains.

“We’ve had years with really great yields, and then we’ve had years where we’ve gotten our butts kicked,” Pulvermacher admits. “It’s a crap shoot if we get that August rain.”

## A Place for Soy

Pulvermacher explains that many farmers in his area plant a diverse mix of crops, but he admits that he may take a few more risks than others. He returned to the farm

near Noonan in 2011, after earning a degree from North Dakota State University (NDSU) and working in the seed and agronomy industry in eastern North Dakota and northwestern Minnesota.

“I was thinking when I came home after working for the seed company: why can’t we do it here? I wasn’t the first guy in the area to try soybeans, but I was one of the first guys to go big into them. The good market price was a big driver in those years. You didn’t need to get big yields to get a return,” Pulvermacher states.

Soybeans make a nice addition to Pulvermacher’s no-till rotation. The diversity helps spread out the harvest window, and the no-till practice helps to improve soil health.

“I got into soybeans a lot because we hit a wet cycle up here, and we needed something to use up some of that soil moisture that we weren’t used to. We were seeing our pulse crops that we were used to raising rapidly getting worse. Our peas and lentil yields were just suffering because they couldn’t handle getting their feet wet,” Pulvermacher recalls. “So in 2012, rather than go for prevent plant on some of these acres, we put soybeans in, and it really worked out for us. We had some really good yields to start with because we were really wet. Since then, yields have leveled off, but soybeans have found a place in a lot of guy’s rotations up here. There are still some farmers that haven’t planted them, but I think soybeans are going to eventually become a staple on every farm.”

## Making it Happen

Pulvermacher says that, when farmers in northwest North Dakota started planting soybeans, there were challenges getting the right varieties. Growers in the region didn’t have many seed options.

“With any new trade areas, seed companies weren’t making varieties for out here, and they sure weren’t testing them out here, so we had to take varieties that were being grown



**This plot at the Williston Research Education Center will help determining the suitable planting date and soil temperature for enhanced growth and yield of soybeans under no-till semi-arid conditions.**

out east and find out which ones worked out here and which ones didn't," Pulvermacher explains.

Getting soybeans bred by NDSU for the region and getting soybeans covered by crop insurance were two factors that helped pave the way for increased soybean acres in northwest North Dakota.

Crop insurance and research funding were two important issues that Pulvermacher pressed for while serving on the North Dakota Soybean Council. He saw the need and the opportunity for an expanded soybean presence in what had been unlikely territory.

"When I got on the council, I was on the research committee and started pushing for soybean research out in western North Dakota because we saw the need growing out here, not just in my area but in all of western North Dakota," Pulvermacher says. "I wasn't the only one that had the

idea that soybeans could work, so we got some research funded up here. There's still a lot of research that needs to be tried."

### Pushing a Vision

Pulvermacher isn't content to let progress come to him. He has made a presentation to the State Board of Agricultural Research and Education (SBARE) about forming a state-wide, on-farm research program. Pulvermacher states that NDSU Extension does valuable work, but its resources are limited. Tapping into farmers across North Dakota would increase the amount of information that could be gathered and shared.

"With the technology on farms today, we can be doing some of this research. With a little bit of guidance, we can do some of this plot work on our own farms," Pulvermacher contends. "I'm doing it every year, trying different things. With a little oversight, this information



**Pulvermacher examines soybeans on his western North Dakota farm. Pulvermacher is pushing for coordinated on-farm research to help farmers grow better soybeans.**



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could be shared among growers."

Pulvermacher explains that the idea is gaining a lot of traction. SBARE was supportive, but the board suggested that he gather more commodity group support. Pulvermacher took the advice and has been meeting with agriculture groups to build support for the on-farm research program.

"That's been my pet project," Pulvermacher says, "that's how passionate I am about research. I think it would be a good fit in the state of North Dakota. It's been successful in other states."

Pulvermacher sees on-farm research fitting well for crops such as soybeans that are being planted in new areas, including northwestern North Dakota. Other crops, such as durum, with smaller statewide acreage could also benefit from the added research because fewer resources are currently put toward

those crops.

"Those crops are just as important to my area as soybeans are to the Red River Valley," Pulvermacher explains.

Because relevant research has been lacking in his region, Pulvermacher says that a lot of farmers have been forced to be more adventurous and to try different crops and farming practices themselves. He states that growers are open to trying new and different things in order to make their crops as productive and profitable as possible.

"On-farm research is a way to get third-party involvement to say, yes, this was done right instead of just taking this guy's word for it at the coffee shop," Pulvermacher says. "I'm pretty passionate about it, and I'm confident it will happen. It's a matter of when."

—Story by Daniel Lemke, photos by Wanbaugh Studios and staff

# Supporting Soybean Growth

Checkoff  
Investment



**N**orth Dakota is an amazing soybean success story. In a relatively short period of time, soybeans went from being a niche crop to one of the state's most important commodities. In 1995, North Dakota farmers planted about 660,000 acres of soybeans, according to the National Agricultural Statistics Service. By 2005, soybean acreage jumped to 2.95 million acres. Even with a very difficult 2019 harvest and a forgettable 2020 planting season in many regions of the state, North Dakota soybean acreage is still estimated at 6 million acres for 2020.

Not all of those 6 million soybean acres are in the Red River Valley. While eastern North Dakota may have been the first region to see widespread soybean seeding, production has spread into the northern and western parts of the state. In fact, western North Dakota is one of the biggest areas of soybean expansion that we have.

The agronomic needs of eastern North Dakota are much different than the needs for the western part of the state, and acreage expansion doesn't happen without a bit of a learning curve. Western North Dakota tends to be drier than the eastern part of the state, meaning that farmer needs are different in the west than the east. The North Dakota Soybean Council (NDSC) and the soybean checkoff are working hard to meet those needs by supporting research and market development activities to help farmers statewide be successful.

As soybean acreage has moved westward, the NDSC has purposely supported projects to meet

the needs of that region's growers. Efforts include funding research at North Dakota State University's (NDSU's) research education centers on important topics such as fertility and variety testing. A lot of western North Dakota areas don't have a very long history with soybean production, so growers are uncertain about what they need for nutrients or what kinds of weed-control options they have. The NDSC is using checkoff resources to help answer those important questions.

The NDSC also funds NDSU soybean breeders to develop public seed varieties. Unlike with private varieties, farmers can save public seed to plant next year, keeping seed costs down. If farmers can save seed, it may make soybean production more attractive.

Beyond research funding, the NDSC partners with NDSU Extension to put on Getting it Right in Soybean Production meetings for growers around the state as well as holding marketing and risk-management seminars for farmers in Bismarck and Fargo.

The NDSC is committed to sharing information with farmers and consumers alike through numerous channels, including social media. I recommend that farmers follow the NDSC on Facebook, Twitter, Instagram, YouTube and even Pinterest.

The NDSC features representatives from across North Dakota because all areas of the state are important. Soybeans are a staple crop for the eastern third of the state and they're becoming increasingly valuable in the west. As NDSC directors, we are there to help support that development and to



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answer farmers' questions. Research and market development are always high on our list as we work to meet the needs of all soybean growers across the state.

## Stay Up to Date on NDSC News

To be added to the North Dakota Soybean Council's email list and to be the first to learn about Soy Checkoff sponsored producer-education opportunities, please send your email address to [swolf@ndsoybean.org](mailto:swolf@ndsoybean.org).

### Follow us on Social Media:





# U.S. Soy Shoes Donated To Frontline Workers

**Soy checkoff commends footwear company's pledge to donate 10,000 pairs of soy-based sandals to healthcare workers amid COVID-19**

U.S. soy is helping bring comfort to healthcare professionals who are working tirelessly on the frontlines during COVID-19. Okabashi, an American company that counts on U.S. soy for all its sandals, pledged to donate up to 10,000 pairs of soy-based sandals to healthcare workers for every order placed through its website or Zappos.

"We've already donated over 5,000 pairs so far and still counting!" said Okabashi President Kim Falkenhayn. "We are sending them all over the country. Now more than ever, we're all in this together."

Only 2 percent of shoe companies operate in the U.S., and Okabashi is proud to source American materials, including U.S.-grown soybean oil. Okabashi committed to producing its footwear with sustainable and renewable materials by using soybean oil to displace petroleum. The company's shoes are approximately 45 percent U.S. soy by weight. U.S. soy meets Okabashi's high standards for performance, offering both strength and softness, as well as qualifying the shoes to be recognized as a U.S. Department of Agriculture (USDA) Certified Biobased Product in the

USDA's BioPreferred Program.

With large-scale soybean production in the United States—U.S. soybean farmers produced more than 11 million metric tons of soybean oil in 2018 alone—Okabashi has a reliable supply of materials that it needs for this large-scale donation.

Customers can purchase a pair of soy sandals for themselves and write a note of encouragement to a healthcare worker who will receive a pair directly from Okabashi with the personal message. The soy checkoff is proud to recognize a U.S. soy customer that is donating soy-based products to the healthcare sector. The healthcare and agriculture industries share a commitment to the safety and security of our communities while bolstering our economy during these difficult times.

"It's pretty cool to see the soybeans I grow not only being used in a unique way that supports demand for our product, but also to support frontline workers during this crisis," said United Soybean Board (USB) Director Matt Gast of Valley City. "It's one of the reasons I'm proud to grow soybeans. It shows the importance of continuing to look for new ways that U.S. soy and our partners



**American shoe company Okabashi is committed to producing footwear with sustainable and renewable materials including soybean oil.**

can give back to communities across the country."

This donation is one of the many for which U.S. soy is proud to be a part. With other partners, soybean farmers have helped provide meals of U.S. pork to food-insecure families through the Drive to Feed Kids program and have given bottles of soy-based hand sanitizer to the New York City Fire Department, a gift which was facilitated by the National Biodiesel Board (NBB). The New York Corn and Soybean Growers and SYNlawn, a company that uses U.S. soy in its artificial grass, also joined the NBB and the New York Fire Department Incident Management Team to provide hundreds of meals from New York restaurants to firefighters, dispatchers, mechanics and other essential employees.

"These donations showcase not only the versatility and growing industrial uses the soybean checkoff is working to secure for our farmers, but also the sense of community U.S. soy has with these

partners," said USB Vice President of Communications and Marketing Strategy Mace Thornton. "We've made it a priority to leverage these partnerships and collaborations to expand the use soybean oil and step up in times of need."

The USB regularly collaborates with companies such as Goodyear for research to learn how to incorporate soy into new technology. Today, there are more than 1,000 different soy-based products available, including everything from turf grass to machinery lubricants to asphalt. The USB is committed to continuing its work to research, develop, and expand new uses; to build the demand for U.S. soybean farmers; and to improve infrastructure to outlast times of crisis.

To learn more about these innovations and soy-based products, visit [soynewuses.org](http://soynewuses.org) or [unitedsoybean.org](http://unitedsoybean.org).

To learn more about Okabashi shoes, visit [www.okabashi.com](http://www.okabashi.com).

—Story courtesy of the United Soybean Board, photo courtesy of Okabashi



**Okabashi pledged to deliver 10,000 pairs of shoes to healthcare workers.**



## Biodiesel Hits the Streets in Grand Forks

**T**he Route 7 bus traversing Grand Forks streets may sport a vibrant green and blue wrap on the outside, but its what's coursing through the fuel system inside the bus that is most noteworthy.

Cities Area Transit (CAT), which provides public transportation for Grand Forks and East Grand Forks, recently switched their fleet of diesel vehicles to B20, a blend of 20 percent

biodiesel and 80 percent petroleum diesel. The fleet includes the wrapped Route 7 bus, but biodiesel messaging can also be seen on the backs of three other bus routes throughout the city.

"We are running biodiesel in all of our diesel vehicles, which is about 10 vehicles," says Nathan Viergutz, public transportation supervisor for CAT. "The plan was to run B20 April through September, but in dealing with my fuel suppliers, I feel we can

run B20 even longer. We may not use a B20 after October, but we're going to experiment with a B10 mixture through December. After December, if things are going well, we plan to run B10 all winter."

### Sealing the Deal

Viergutz was one of several North Dakota fuel, trucking, and fleet officials invited to attend the National Biodiesel Conference in Tampa, Florida. The North Dakota Soybean Council (NDSC) brought industry representatives to the event to help them learn more about the biodiesel industry. Viergutz was joined at the conference by Wimbledon farmer and NDSC director Rob Rose, who is a NDSC representative to the National Biodiesel Board (NBB). Representatives from MEG Corp, which works with the NDSC on biodiesel-related issues, helped conference attendees from North Dakota gain a more robust understanding of biodiesel's performance and potential.

"After we had a meeting with Rob Rose from NDSC and the folks from MEG Corp, we were very confident that they had a good product, and we were really excited that biodiesel was something we could do to run renewable fuels and it wasn't going to

cost us a lot up front to invest in it," Viergutz says.

MEG Corp Operations Manager Lisa Pedderson says the NDSC has had a fuel supplier incentive program for several years, offering rebates to fuel suppliers who brought in biodiesel and made it available to customers. Once biodiesel supply was secured, the next goal was to get a fleet to begin using biodiesel. Pedderson says conversations with CAT began last year, but information gleaned from the National Biodiesel Conference likely tipped the scales.

"CAT was already interested in biodiesel, but when they saw how others were using biodiesel and having success, that really won them over," Pedderson says. "They committed to using B20 during warmer months."

Getting a nearby fleet to commit to running biodiesel in their vehicles was good news to soybean farmers like Rose.

"Every gallon of biodiesel adds 63 cents to the value of a bushel of soybeans, so that's why we promote it," Rose says. "I'm all for developing more domestic uses for our soybeans."

### Performance-Based

Pedderson says B20 cuts vehicle



In addition to one fully wrapped bus, several other CAT buses will have biodiesel messaging on the tail.



lifecycle greenhouse gas emissions by 15 percent, which is an important environmental benefit. Running vehicles on renewable fuels that reduce emissions is important, but fleet managers need a fuel that works.

“It comes down to performance,” says NBB Technical Director Scott Fenwick. The first decision for a fleet manager is performance. If the fuel doesn’t work in the engines, it wouldn’t be suitable for an alternative choice.”

Fenwick says biodiesel performs very well in fleets and other heavy-duty vehicles. The fuel provides added lubricity, which saves wear and tear on engines. Biodiesel has a higher cetane number than petroleum diesel and better combustion, which leads to reduced emissions. The renewable fuel helps reduce greenhouse gas emissions by 80 percent.

In addition to the Grand Forks CAT fleet, other huge fleets across the United States are using biodiesel. The National Parks system and the city of New York are among other

biodiesel users. Harvard University in Cambridge, Massachusetts also uses biodiesel in their snowplows: further evidence that biodiesel works in cold climates.

“Fleets are a growth area for biodiesel,” Fenwick says. “Less than 20 years ago, biodiesel production volumes were just a few million gallons per year. Today, we’re nearly 3 billion gallons annually. Total on-road diesel consumption is 60 billion gallons a year, so 5 percent of all diesel used on-road in the U.S. is biodiesel.”

Fenwick says as more biodiesel is consumed and used, the fuel’s benefits look even better. Some of NBB’s latest economic research shows that the biodiesel industry contributes about 15 percent of current cash soybean price.

“Biodiesel is a strong return on investment for soybean farmers,” Fenwick says.

### Complimentary Industries

In addition to a strong agriculture sector, North Dakota has a large

petroleum industry. The opportunity to support both of the state’s major economies isn’t lost on Viergutz.

“The environmental benefit is number one,” Viergutz says. “It’s what we thought would be beneficial because we do cover a lot of miles in our local community. The fact that we could run a cleaner fuel and support our local economies was another reason to use biodiesel.”

“The petroleum industry is recognizing more and more that we need to work together because liquid fuels are in a fight with electrification,” Pedderson says. “The more they can team up and be cleaner, more renewable and reduce those lifecycle greenhouse gas emissions that everyone is concerned about, the better.”

### Early Adopters

The wrapped buses are a partnership among CAT, the NDSC, and the NBB. The fully wrapped bus will be in place for a year while several other buses will have biodiesel messages on the tail during warm

weather months.

Being one of the first biodiesel adopters in North Dakota, Pedderson expects Grand Forks and CAT will garner a lot of attention. Having a successful example of fleets using biodiesel in North Dakota should make other municipalities take notice.

“The goal is to help create a market for biodiesel,” Pedderson explains. “Many fleets are encouraged to use alternative fuels. One benefit with biodiesel is that fleet operators don’t have to buy different vehicles or install different fueling infrastructure like they would with natural gas or electric. It’s a drop-in fuel that works with existing infrastructure.”

The added visibility of biodiesel’s performance will also hopefully equate to added soybean profitability.

“I think especially in Grand Forks, one of our largest cities, the buses and biodiesel will be highly visible,” Rose contends. “That’s a good place to start.”

—Story and photos by Daniel Lemke



NDSC director and Wimbledon farmer Rob Rose (left); NDSC Chairman Austin Langley, Warwick (middle); and National Biodiesel Board Director Ryan Pederson, Rolette (right); showcase the Route 7 bus wrapped in biodiesel messaging that will service Grand Forks.

# Business as Un-Usual



In a normal August, trade teams from around the world would be trekking across North Dakota, visiting farms and talking with farmers while evaluating the size and quality of the current soybean crop. Thanks to COVID-19, business as usual has been anything but usual, but the state's farmer leaders are still hard at work, building relationships and developing markets for North Dakota soybeans.

Technology is allowing the North Dakota Soybean Council (NDSC) to make the best of the new reality. Director of Market Development Jena Bjertness says that NDSC board of directors' meetings and committee meetings are still happening with participants frequently utilizing online meeting platforms to conduct their work.

It's not just internal meetings that have been affected by coronavirus limitations. The NDSC sponsors risk-management seminars that are typically held at North Dakota State University's Barry Hall commodity trading room. This year's event evolved into an online webinar which

was spread over three days.

"The downside is, when you're not in person, you lose that ability to socialize with other farmers, and asking questions isn't as easy," Bjertness says. "The upside is we could offer it to an unlimited number of people. As with just about everything, there are upsides and downsides."

## Online Market Development

While trade teams are unable to personally visit North Dakota farms, market development and relationship building activities haven't taken a break. North Dakota farmers and NDSC directors are participating in small-group video conferences with current and potential customers from around the world.

"Customers want to know what's going on in the U.S. They want to know how the crop is progressing. They want to be assured that we are still farming and they will have a reliable soybean supply come fall," Bjertness explains.

Bjertness states that video conference calls are connecting farmers with contacts throughout southeast Asia,

including China. The calls help to ensure that there is ongoing communication and support for important connections between farmers and customers in those countries.

In addition to small-group video calls, the NDSC has participated in online trade shows which were conducted by the U.S. Soybean Export Council (USSEC). The fully online trade shows drew as many as 800 participants to the Soyfoods Summit and the Asia Trade Exchange. The NDSC had a booth at each event and was actively talking with prospective customers.

"We hear over and over that there's no replacement for a handshake," Bjertness admits. "It is harder when you're dealing with customers from overseas to do it online because the personal touch is lost a bit, which is unfortunate. But the volume you're able to reach is increased. USSEC is likely to keep doing virtual trade shows."

Bjertness says that the NDSC is following up with the trade teams who visited North Dakota last year by sending them videos. NDSC staff

went to the farms the trade teams visited previously. Those growers relayed the message that soybean production is happening as usual, that North Dakota is still a reliable supplier and that growers in the state will be able to meet customer needs.

"Our reliability and quality messages are still the hallmark of what we're trying to promote," Bjertness states. "Customers want to know they can keep their company running on the quality of soybeans that they're accustomed to. So, to hear anyone tell you it's going to be fine, that you're going to have what you need, I think that's huge right now."

Bjertness expects the virtual contacts to be tools that are used to build and to cement relationships in the future. The world has changed, and there's no telling when or if business practices will return to what has been more familiar. Regardless, the NDSC plans to do what is necessary to keep North Dakota soybeans flowing to other countries.

"We want to be smart about the work that we do, and we still want our checkoff dollars to be spent in a way that's going to get work done," Bjertness says.

—Story by Daniel Lemke,  
photo by staff



Despite a restriction on travel, North Dakota Soybean Council leaders and staff are finding creative ways to connect with customers and partners around the globe.



## Research Aims to Take Back Soy Oil Markets

Soybean oil usage took a major hit in 2018 when the U.S. Food and Drug Administration banned the use of partially hydrogenated oils (PHOs) in foods. For many cooking applications, including ones requiring the oil to be in solid form, the soybean oil required hydrogenation. The process also created trans-fats which have been linked to heart disease. The ban took a big bite from the soybean oil market and reduced the overall soybean value.

Research at North Dakota State University (NDSU), which is funded by the soybean checkoff, is identifying and perfecting a process that could help soybean oil get some of that market back.

NDSU scientists are developing semisolid soybean oleogels using

expeller pressed soybean oil and minimal amounts of gelators. Successfully developing the process to produce soybean oleogels could be a substitute for PHOs and might allow more unsaturated soybean oil to be used in the food and bakery industry, thus making the foods healthier and stabilizing soybean's place in the food industry.

"The goal of this project is to develop the technique to structure minimally processed soybean oil into semisolid fat, generally known as oleogels," says Dr. Bingcan Chen, an assistant professor of food and cereal chemistry at NDSU.

Dr. Chen and his research team successfully used the soybean oleogel to fully replace commercial shortenings. The oleogels were used to prepare and to test cookies.

"Oleogels can be widely utilized in the food industry, particularly the bakery industry, to replace hydrogenated oil or high saturated fat products," Dr. Chen states. "In addition, oleogel also has the unique characteristics similar to margarine and fat-based food products."

Dr. Chen explains that the soybean oleogels can be used for applications where shortenings are applied. The oleogels can also be applied to fat-based products.

"Minimally processed soybean oleogels maintain the high unsaturated fatty acid profile, which is benefi-

cial to the consumer," Dr. Chen says. "The application of such oleogels complies with the recommendation from Dietary Guidelines for Americans and the new Scientific Report of the Dietary Guidelines committee to increase consumption of polyunsaturated fats and decrease consumption of saturated fats to decrease risk for coronary heart disease."

While the soy oleogels have been identified and successfully developed, Dr. Chen states that research now focuses on understanding the shelf-life of products made using the oleogels. That information is valuable because there are many possible uses for the oleogels with baked and prepared foods.

"Under the continued support from the North Dakota Soybean Council, we are trying to understand the shelf-life of baking products made using soybean oleogels," Dr. Chen explains. "Additionally, we are seeking techniques to minimize the amount of gelling agent."

Dr. Chen says that refining the oleogels could help soybean oil regain some of the market that it lost as a result of the trans-fat ban. Because the oleogels don't produce trans fats, they could help put more soybean oil into prepared food and bakery products.

—Story by Daniel Lemke,  
photos courtesy of Dr. Bingcan Chen



Soy-based oleogels could supplant other shortening products used in baked products.



Oleogels could help soybean oil regain valuable market share in cooking and baking applications.



**NO SHORTCUTS  
WITH GRAIN BIN SAFETY**

yield potential. If weather conditions don't allow farmers to wait to harvest the grain when it has matured, factors stack up against growers, leading to potentially dangerous situations.

"Wet grain is more likely to cause issues," Schock says. "Multiple farmers we've talked to have had bridging and death-trap grain situations in their bins. The recipe for disaster is set up. It's almost scary. Whatever the situation is, don't go in there."

"Most people understand some of the dangers, but when you're the safety officer as well as the owner, when your bottom line is dependent on you getting the grain out of the bin, sometimes people make poor choices," echoes North Dakota State University Extension Engineer and Professor Dr. Kenneth Hellevang.

**Deadly Scenarios**

Dr. Hellevang says that there are several common scenarios that can lead to unfortunate events. Moisture can cause grain to crust at the top. If no grain has been removed from the bin, Dr. Hellevang states that farmers can consider removing the crusted grain.

If grain is crusted on the top and some grain has been removed, an inverted funnel can form under the crusted grain, leaving a void that can be deadly if someone attempts to walk

**A**s the captain of the Sheyenne Valley Technical Rescue Team and a Kindred, North Dakota, firefighter, Richard Schock is trained for grain bin rescue efforts, though he'd rather not have to use those skills.

Grain bin entrapments are an ongoing issue in farm country despite concerted efforts to educate people about proper grain handling and grain bin safety. In June, two North Dakota farmers were killed in separate instances after becoming trapped in grain.

Schock is passionate about grain-bin safety because he knows that entrapment deaths are avoidable. He also understands that grain prices are low; that farmers are working at a fast pace; and that, sometimes, grain management isn't what it should be.

That combination of factors can lead to tragedy.

"It rests heavy on my heart because, deep down in my mind, these deaths are preventable," Schock says. "I think with some personal protective equip-

ment, a spotter or just not entering that grain bin, a lot of these fatalities could be prevented."

Schock explains that he sees farmers putting in longer-maturing crop varieties in order to maximize

**SAFETY REMINDERS**

- Children should never work or play in an area where there is flowing grain.
- Stay out of flowing grain.
- Warning decals should be placed at all bin entrances.
- Never enter a grain bin without stopping the auger and using "lock-out/tag-out" procedures.
- Never enter a grain bin alone.
- Use proper protection equipment and harnesses.
- Install a permanent lifeline that hangs from the center of the bin.



**Sheyenne Valley Technical Rescue Team of Kindred conducted grain engulfment training July 6.**

on the crust. The best practice is to break up the crust from outside the bin.

“Certainly, don’t go into the bin once you’re unloading. That is a temptation once we’ve gotten it broken loose, and there are chunks blocking the flow; the temptation is to go in and bust them up,” Dr. Hellevang states.

Another deadly scenario involves columns of grain forming along the

bin wall.

“Again, we want to take care of those from outside the bin. If done from inside, that column can collapse and cover anyone inside,” Dr. Hellevang explains.

Dr. Hellevang says that a key to staying safe when working in grain bins is to never go in alone, never go in with the system unloading or with the possibility of the system

automatically starting. Anyone in the bin must have proper personal protection equipment, including a properly attached harness.

“A farm safety program is something I think farmers need to take a serious look at as well as obtaining some personal protection equipment,” Schock states.

Schock says that growers can reach out to their local fire depart-

ments or to other safety experts in order to learn about proper planning and equipment.

“To me, the trickle-down effect is that a safety plan is going to protect their farm,” Schock explains. “No one wants to lose anyone on a farm whether it’s a hired man or a family member. Developing a safety program or protocol can protect the asset of their family farm.”

“What’s frustrating is that none of this information is new,” Dr. Hellevang says. “Unfortunately, most victims are people who have been farming a long time. The unfortunate thing with today’s ag safety is there’s no forgiveness.”

More information about grain bin safety can be found at [www.ag.ndsu.edu/graindrying/safety-page](http://www.ag.ndsu.edu/graindrying/safety-page). To learn more about Sheyenne Valley Technical Rescue Team, visit [www.kindredfiredepartment.com](http://www.kindredfiredepartment.com)

—Story by Daniel Lemke, photos by Betsy Armour and courtesy of Sheyenne Valley Technical Rescue Team



**A rescue demonstration by the Sheyenne Valley Technical Rescue Team at the 2020 Northern Corn and Soybean Expo highlighted the dangers of working in a grain bin.**

# Soy Industry Founding Father Passes Away

One of the North Dakota farmers most responsible for the creation of the North Dakota Soybean Growers Association (NDSGA) and the North Dakota Soybean Council (NDSC) has died. Paul Schroeder, who farmed for years near Davenport, died June 16 at the age of 85.

Schroeder was influential in getting the state's soybean farmers organized. Robert Sinner, who along with Schroeder got the ball rolling to form what would become the NDSGA, remembers the early conversations with Schroeder and the sense of purpose with which he operated.

"People give credit to Paul and me for getting it started, but it was really Paul's ambition that got the ball rolling," Sinner explains. "Paul and I were not only both passionate about getting it done, but it was our friendship that really made a difference and enjoyable to do it right. Paul had a personality that was magnetic. He was witty, a good listener, and we just melded and got after it."

Along with Schroeder and former Cass County Weed Specialist Wayne Colberg, Sinner says that the three men worked together to refine the mechanics of how a soybean association might work. Their efforts included formulating a road map for districts and talking to farmers in order to identify the representatives needed for an association.

"It wasn't difficult to find people willing to make this work," Sinner recalls.

Not long after the NDSGA was formed, industry leaders recognized the need for a checkoff to expand research for the future of the soybean industry. Sinner says that the group developed legislation, found legislators willing to sponsor the bill, and then watched as Robert Sinner's father and sitting Governor George Sinner signed the legislation, creating the NDSC.

"Just that quickly, we developed some legislation and had co-sponsors that sponsored the legislation creating the NDSC. We went to Bismarck and

testified at the committee level. The legislation came out of committee with a 'do pass' recommendation, and it went to the House and Senate floors and easily passed. I don't think we had more than a couple dissenting votes. It was pretty remarkable."

Sinner explains that Schroeder was obviously a visionary because, at the time, North Dakota farmers only produced about 400,000 acres of soybeans. In 2020, the state's farmers are expected to plant an estimated 6 million acres.

Sinner says that Schroeder deserves a great deal of credit for helping the North Dakota soybean industry grow into a vital economic driver by leading the way to create the NDSGA and the NDSC.

"It was not only historical and monumental for what it became for the state, but it was entrepreneurial at the time. Paul was a guy people were instantly attracted to because he was so friendly and always had a smile on his face," Sinner adds. "He just breathed passion for the industry. It

was that type of drive, and the people around him that made a difference. I have always been honored to have gotten to know and work with Paul the years that I did."

Sinner says that Schroeder had a wonderful family supporting him, and he never took a shortcut. Sinner also contends that North Dakota soybean farmers owe Schroeder a debt of gratitude for the work he did to build a future for soybeans in the state.

"When you see the overall picture of what our industry has done in this state, farmers are no doubt grateful for Paul's insight. In addition to the development of new varieties with expanded maturities and disease resistance that can make a difference to the bottom line for farmers, you look at all of the projects our NDSC has funded that are related to marketing, education, new uses and research. It is difficult to put a value on that time in our history," Sinner says. "We've come a long, long way in 37 years."

—Story by Daniel Lemke,  
photo by staff



This is the first NDSGA Board of Directors. Left to right, David Holter, Curt Hagert, Wayne Colberg, Duane Berglund, Gary Friskop, Gary Woodbury, Maynard Burchill, Paul Schroeder, Bruce Fadness, Tom Dolan and Robert Sinner.

# Armour Joins NDSGA Staff

**T**he North Dakota Soybean Growers Association (NDSGA) is adding a seasoned communicator to its staff to increase the organization's presence on digital platforms. Betsy Armour joined the NDSGA to lead the organization's digital marketing, social media and communication efforts.

"I'm very excited to join the staff," Armour says. "I really enjoy working with Nancy Johnson (NDSGA executive director) and the board."

Armour graduated from Minnesota State University-Moorhead in

1999 with a degree in mass communications and a specialization in public relations. Armour has a well-rounded background in private industry, agriculture, business and county government, spanning more than two decades. She previously worked with several agricultural organizations, including Seeds 2000 in Breckenridge as well as the North Dakota Corn Council and the Northern Crops Institute, both in Fargo.

"My primary focus is on digital marketing and communications," Armour explains. "Kind of like the



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Wizard of Oz, I'll be the person behind the curtain talking to farmers, consumers and stakeholders through digital marketing."

As technology has emerged, the way people send and receive information has changed. Armour credits the NDSGA's farmer leaders with recognizing the importance of effective communication using modern technology.

"They know digital communication isn't going away because people want and need information. Farmers are inundated with information, so we have to be able to effectively communicate that the NDSGA board is on the move and handling important issues," Armour states.

In addition to digital marketing, Armour will also contribute to other organizational communication

efforts, including *The North Dakota Soybean Grower Magazine*. Her photos have appeared in numerous magazine issues. Along with her role at the NDSGA, Armour works as a professional photographer.

At many of the stops in her career, Armour has been a trailblazer. She's helped companies develop new marketing strategies to enhance their sales and outreach. Armour will, again, be in a groundbreaking role for the NDSGA.

"It's such a fun role to step into," Armour says. "It feels special to be the first digital marketing manager."

Armour has a 22-year-old daughter, Emma, and 10-year-old son, Nash. Her husband, Christopher, works for the Federal Aviation Administration.

—Story by Daniel Lemke,  
photo by staff

# U.S./China Phase 1 Agreement Still Creating Market Uncertainty

**M**ultiple U.S. government officials have stated that the Phase 1 trade agreement between the U.S. and China is moving forward and that China intends to fulfill its commitments.

However, Chinese purchases of U.S. agricultural products have been smaller than many crop and livestock market traders expected. The COVID-19 outbreak, combined with continuing political tensions between the two countries, has raised concerns about the agreement's implementation.

To fully understand the conflicting signals surrounding the Phase 1 agreement, we need to briefly review the agreement's structure. The signed agreement has six chapters, covering topics which range from agricultural trade to intellectual property rights and technology transfer to financial services, such as banking and investment services.

The agreement's first five chapters define the procedures to remove existing trade barriers that restrict the flow of U.S. goods and services into China. Many comments made by U.S. officials refer to the implementation of the first five chapters. However, Chapter Six, titled Expanding Trade, has been the focus of crop and livestock markets since the agreement's signing on January 15, 2020.

In Chapter Six, China has agreed to purchase an additional \$200 billion of U.S. manufactured goods, agricultural goods, energy products and selected services during the next two years. The additional purchases are above the 2017 baseline values. The agreement states that China will purchase an additional \$32 billion of U.S. agricultural products during the next two calendar years, referring to 2020 and 2021.

After the agreement's signing, farm managers and agricultural market traders became very optimistic about the increased demand base. Like most agreements, the devil is in the details.

The additional \$32 billion of agricultural purchases are spread across two years, but the increase is not divided equally across each year. For calendar year 2020, the increase is \$12.5 billion while the 2021 increase is \$19.5 billion. The increase is above the 2017 baseline which, unfortunately, was not specified.

China is expected to meet two layers of purchasing targets: total value by year, discussed above, and value by commodity category. An appendix to the agreement lists six agricultural

product subcategories that specify the targets for increased purchases by commodity group: soybeans, meat, cereals, cotton, other agricultural commodities and seafood. The specific dollar targets for each subcategory will not be released to the public because the information will distort market behavior and prices.

Historically, soybeans have been the largest U.S. agricultural product imported by China, averaging about 50 percent of the total value. After the agreement was signed, the original assumption was that U.S. soybean exports to China would grow rapidly; however, 217 agricultural products meet the requirements for increased imports under the agreement.

Table 1 gives the value, in U.S. dollars, for the 217 agricultural products listed in the agreement and highlights the top six commodities, ranked by value. The total value for calendar year 2017 is listed as well as the January through April totals for 2017 and 2020, which are the most recent data available.

The total sale value for January through April 2020 is about \$4.2 billion while the January through April 2017 total sales are about \$6.6 billion. The 2020 values are below the comparable 2017 values for many reasons, including the effect of COVID-19 on the Chinese economy, the African swine fever outbreak in China that reduced the hog population, competition from other exporting countries and uncertainty about implementing the new trade regulations which are outlined in the Phase One agreement.

Soybeans remain the largest product by dollar



**Dr. Frayne Olson, Crop Economist/ Marketing Specialist Agribusiness and Applied Economics, NDSU**

value. However, meat products, such as pork, poultry and edible offal, or variety meats, have increased substantially from 2017 to 2020. Cotton and grain sorghum remain the top grain products.

One key concern for the crop and livestock markets is whether China can increase agricultural purchases to reach the total values and subcategory values which are identified in the trade agreement. The soybean market is especially sensitive to this question because 2020 sales, to date, are about one-third of the comparable 2017 value.

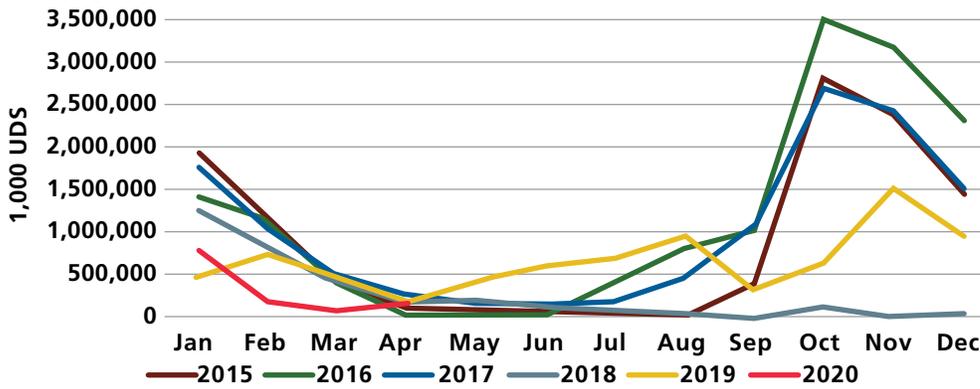
China has the capacity to meet the total purchasing volumes listed in the agreement, but timing is important. The most straightforward way to increase the total value purchased and to reach the added \$12.5 billion target in 2020 is for China to buy more high-valued items such as meats and dairy products. Another strategy is to purchase agricultural commodities in 2020 that had low purchasing levels in 2017. Examples are corn, ranked 17th in 2017; ethanol, ranked 25th

**Table 1. Value of U.S. Exports to China, by Commodity, for Agricultural Products Listed in the Phase 1 Agreement.**

Product	2017		2020	
	Jan-Apr Total (\$1,000)	Annual Total (\$1,000)	Product	Jan-Apr Total (\$1,000)
Soybeans	3,558,724	12,224,802	Soybeans	1,183,705
Cotton	502,623	972,554	Meat of Swine	720,346
Raw hides: bovine	303,485	876,715	Cotton	382,321
Grain sorghum	295,783	839,459	Grain sorghum	256,367
Whole frozen fish	200,795	821,879	Edible offal	155,025
Animal fodder	139,286	388,818	Poultry meat	150,146
<b>Total for all 217 products</b>	<b>6,9594,358</b>	<b>20,836,644</b>	<b>Total for all 217 products</b>	<b>4,198,844</b>

*Data from the U.S. Department of Agriculture Service's Global Agriculture Trade System*

Figure 1. Value of U.S. Soybean Exports to China by Month.



in 2017; or wheat, ranked seventh in 2017. China, as well as most other countries, has very seasonal buying patterns for U.S. soybeans

due to competing exports from Brazil. Brazil's soybean harvest typically begins in late February and ends in late April, so its soybean export bids

are very competitive from harvest into August. The U.S. soybean harvest typically begins in September and ends in November, so U.S. soybean export bids are the most competitive from October through February when the Brazilian soybean harvest begins.

Figure 1 shows the value of U.S. soybean export sales to China, by month, from January 2015 through April 2020. Once again, the pattern for U.S. soybean exports to China is very seasonal.

Even though 2020 U.S. soybean sales to China are below the 2017 and 2019 levels, the major soybean export season has not started. China still has time to reach the 2017 levels, but significant purchases will need to begin soon.

## Intern Helps Share the Soybean Message

Medina, North Dakota, native Cierra Dockter is combining her passion for agriculture with her interest in communications as the North Dakota Soybean Growers Association's (NDSGA) summer intern.

Dockter grew up on a farm near Medina, raising Gelbvieh cattle. The farm also produced hay and other forages. Dockter is a senior at North Dakota State University (NDSU); she is majoring in agriculture communications with a minor in animal science. She began her internship with the

NDSGA in June and will continue through most of August, before returning to finish her degree at NDSU.

"I have one semester left," Dockter says, "so I'll graduate in the fall of 2020. I'm not sure what comes after that, but I'm super excited for the future."

Much of Dockter's duties at the NDSGA involve communication and connecting with customers and stakeholders. Those efforts include connecting with the trade teams that came to visit North Dakota farms last year. Because of COVID-19 related issues, most trade visits aren't happening in person now, so some communication is occurring virtually.

"I'm working with teams who came over last year, doing video production to update customers remotely," Dockter explains. "We're showing them the stage of the soybeans, the condition of our crops, basically showing them what's happening here right now."

Dockter states that she's not sure what her future holds after the NDSGA internship; however, she wants to work in agriculture broadcasting or for an agriculture association.

"I'm hoping to gain experience with as many forms of communication as possible," Dockter says.

—Story by Daniel Lemke, photo by Betsy Armour

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Cierra Dockter

# Window of Opportunity to SCOUT

**B**y late August and early September, there's not much farmers can do to add yield or to affect the quality of their soybean stand for that year, but that timeframe is extremely valuable for managing future crops. By this point in the growing season, the effects of many soybean diseases will be evident to farmers who take the time to scout.

North Dakota State University (NDSU) Plant Pathology Professor Dr. Berlin Nelson says that, overall, North Dakota soybeans are generally healthy. However, there are diseases that show up every year, and farmers need to watch for evidence of those diseases in their fields. Some of these diseases have been around for years while others are relatively new.

## Emerging Issues

Among the emerging disease concerns is Sudden Death Syndrome (SDS). The soil-borne disease has been widespread in many areas of Minnesota and Iowa for decades, but has only recently been found in North Dakota.

"We are concerned about SDS, which is caused by soil-borne *Fusarium*," explains Dr. Nelson. "It's a fairly specific *Fusarium*, so it's different than the one that causes wheat scab or other *Fusarium* diseases. We need to identify it. It was only found in a few fields in 2018. We're looking for more this year, especially in the southern Red River Valley. It's important that farmers look out for it, so we can document its distribution."

Dr. Nelson says most visible

SDS symptoms are foliar, including yellowing leaves with a pattern to the chlorosis on the leaves. SDS may show up as yellow patches in the field. SDS also causes a root rot. "SDS is usually associated with wet springs that foster infection," Dr. Nelson says,

Dr. Nelson says that some seed treatments are helpful to manage SDS, but generally, SDS is controlled by planting resistant soybean varieties. Because SDS is new to the state, farmers don't have many variety options for soybean seed which is bred for the North Dakota growing season and has SDS resistance.

Brown stem rot is another disease that may be identified through scouting. Dr. Nelson explains that some brown stem rot symptoms are similar to SDS, so the disease can be

misidentified. Like SDS, brown stem rot is caused by a soil-borne fungus. Dr. Nelson says that browning of the plant's pith area is evidence of brown stem rot.

Dr. Nelson says that, in areas with drought conditions where soybean plants are under stress, researchers are seeing instances of charcoal rot. The disease is more common in southern states, but it is appearing in North Dakota. Charcoal rot symptoms show up as patches of stunted or wilted plants. The disease-causing fungus produces black fungal structures that are scattered throughout the pith and on the surface of the taproots and lower stems, giving the lower stem and taproots a discolored, light gray or charcoal-like appearance.

"If we have fields with drought conditions and stress on the plants, charcoal rot is another disease we have to watch," Dr. Nelson states. "We don't have good management tools for charcoal rot."

Some soybean diseases can be difficult to identify. Dr. Nelson explains that most crop consultants are trained in disease identification and that growers have the NDSU plant diagnostic lab as another option to confirm most diseases. Knowing what farmers are up against helps them to plan for future crops.

"It's a good idea to try to find out



The presence of charcoal rot can be evident in soybean fields by July and August.



Soybean Cyst Nematode infestations remain a major challenge in some North Dakota soybean fields.



**Charcoal rot can show up as patches of dead soybeans in an otherwise healthy field.**

By late in the season, Dr. Markell says soybean leaf analysis is less valuable for disease identification than it might be early in the season. Markell says farmers are looking primarily at stem diseases.

“For root infecting diseases like SCN, SDS, charcoal rot, it’s all about getting into the stem and roots at this point in the season. You will see patches or areas in fields that prematurely die or prematurely senesce. Most of the time the disease caused that infection 2 to 3 months earlier and you’re going to be able to see it in the roots and in the stem,” Dr. Markell says. “For soybeans, the rubber meets the road in the stem and the roots.”

NDSU offers several tools to help farmers and crop advisors with disease identification. Diagnostic card sets feature descriptions and photos of numerous common soybean diseases. Dr. Markell says the NDSU Pest Management app is a good resource for farmers. It includes information on fungicides, insecticides, and herbicides. There is also a photo library to help in disease identification.

Dr. Markell says NDSU Extension specialists share information weekly through the NDSU Crop and Pest Report. The report is available online at [www.ag.ndsu.edu/cpr](http://www.ag.ndsu.edu/cpr).

—Story by Daniel Lemke,  
photos courtesy of NDSU

what these diseases are,” Dr. Nelson emphasizes. “Scouting those fields is useful for making decisions in the future about disease management.”

### A Familiar Foe

Diseases like SDS, charcoal rot and brown stem rot may be emerging in some parts of North Dakota, but soybean cyst nematode (SCN) remains an ever-present threat to soybean health and yield. NDSU Extension Plant Pathologist Dr. Sam Markell says SCN can make other diseases like SDS more impactful because SDS and SCN have a synergistic relationship. SCN is also much more widespread than some of the other soybean diseases that are emerging.

“Soil testing for SCN is important and we’ve been encouraging farmers

to test over time, so they have an idea of the populations they have,” Dr. Markell says. “A lot of growers do not know if they have SCN. Another reason to test is to find out if farm management practices are having an effect on SCN populations.”

SCN is typically managed by planting SCN resistant soybean varieties. If farmers have been seeding soybeans with resistant genes but SCN populations in the soil continue to grow, Dr. Markell says that increase is an indication that resistant variety isn’t working very well and growers may need to consider other options.

SCN can significantly reduce soybean yield without plants showing any outward symptoms. The only way to determine if farmers need to manage SCN is to test for it.

### Optimal Time

Dr. Markell says late summer and early fall before harvest is an important time to scout fields. The effects of soybean diseases should be readily evident.

“You can see the damage at this time of year,” Dr. Markell says. “You can’t do anything about it for this year, but that information is going to help you manage for future cycles of soybeans. It’s pretty important.”

Dr. Markell says disease identification is the first key for managing a disease. As with human illness, soybeans can best be managed once disease issues are identified. Knowing what’s in the field helps farmers plan for future growing seasons.

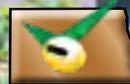
“You can look at seed treatments for the next time you plant soybeans in that field or you can look at different genetics or you can look at changing your rotation,” Dr. Markell says.



**While not yet a widespread problem in North Dakota, Sudden Death Syndrome has been discovered in the state and farmers should be on the lookout.**



**Discoloration of the tap root is evidence of charcoal rot in soybeans.**



# Growing Potential for Soy Plastics



**A**lready in demand because of their versatility as a food and feed source, soybeans also have a myriad industrial uses in everything from paint and car tires to roof-shingle protectants and even asphalt road sealant. Research at North Dakota State University (NDSU) could help soybeans move into another innovative market: helping other plants grow.

Most garden plants, such as flowers and vegetables, purchased from retail outlets come in plastic pots. Most of those pots are made with petroleum-based plastics that will take centuries to decompose.

With support from the North Dakota Soybean Council, researchers at NDSU are working to develop a novel bioplastic formulation that will incorporate soy-based fractions to improve the performance of the containers while remaining cost-competitive. The new containers will not only be fully biobased, degradable and provide inherent fertilizer for the plant's growth, but they will also promote health and fruit yield for plants such as tomatoes and peppers.

"We are looking for a cost-effective pot that can reach the market using soy protein as one of the biomaterials," says Dr. Nita Yodo, an assistant professor for NDSU's Department of Industrial and Manufacturing Engineering.

"What we're hoping to do is replace the pot made from petrochemicals with a new pot that's renewable, degradable and also has the functionality of adding fertilizer from the soy amino acids," adds Dr. David Grewell, department chair of the Industrial and Manufacturing Engineering Department. "This pot self-fertilizes and enhances plant growth."

Researchers have already collected extensive data showing that plant containers produced from soy provide superior performance in terms of plant growth, health and fruit yield.

Several companies are currently manufacturing biodegradable garden pots derived primarily from corn,

but those pots lack the fertilizing benefits of soy.

"They don't have the one magic ingredient of the soy protein which we know really acts as the fertilizer," Dr. Grewell states. "The reason that ingredient isn't added in their design was because it was a cost issue."

Dr. Grewell explains that, once plants growing in the biodegradable pots are ready to be transplanted into the soil, the garden pot can be crushed, and the debris can be placed in the hole where the plant is being transplanted. The pot will continue to fertilize as it breaks down.

Dr. Yodo's work focuses on the engineering economics of developing

a biomaterial blend that performs well and is cost effective.

"We are experimenting with different percentages of the soy into the pot to see how the plant's root ball grows. We will be growing fruit-bearing as well as flowering plants to see how they perform," Dr. Yodo says. "We're doing an optimization because we don't know what is the optimal soybean ingredient that we should incorporate into the pot just yet."

Various blends will be tested in the NDSU greenhouses to evaluate their effectiveness. If a cost-effective blend can be identified, the NDSU researchers estimate that garden pots could utilize as much as 12 million bushels of soybeans annually. The targeted goal is to develop a product that can be commercialized and result in annual sales of \$10 million.

Because NDSU is working with existing companies which currently make biobased pots, developing a formulation that adds the benefits of soy should flow easily into the manufacturing process.

"Manufacturers would be able to do a one-to-one drop in and just replace their current formulation with this new formulation," Dr. Grewell states.

The researchers hope to have the formulation identified and ready for commercialization within the next two years.

—Story and photos by Daniel Lemke



Checkoff funded research at NDSU is working to identify cost-effective ways to manufacture soy-based plastics for garden pots.



# USER-FRIENDLY SITE

## Places Disease Information Close at Hand

*New Checkoff-Funded Network Shares Soybean Research Results and More*

It's that time of year when North Dakota soybean farmers are scouting the field for disease.

This year, they can head out with their smartphones and tablets, and access a new checkoff-funded website that places critical disease information at their fingertips.

North Dakota Soybean Council Director of Research Kendall Nichols recommends producers to bookmark and to reference the website frequently.

"This website is a valuable diagnostic tool for farmers in the field," says Nichols. "The site contains quality pictures and useful information to help identify and manage key pests in soybeans, as well as research information."

To promote checkoff-funded

production research, the United Soybean Board (USB) partnered with the North Central Soybean Research Program (NCSRP) to create the Soybean Research & Information Network (SRIN, [www.soybeanresearchinfo.com](http://www.soybeanresearchinfo.com)). Cate Newberg is the USB/NCSRP program manager who is leading the effort.

"The site is dynamic, easy to consume and offers farmers one place to find current disease and pest information, as well as past and present checkoff-funded research projects," Newberg explains.

"Crop scouting season is an ideal time to reference the website. There are great pictures of the diseases and a lot of good information on each disease. With so many sources on this site, it's just a click away. The insect tab is also quite helpful, and information is clear and concise."

### All in One Place

Newberg states that the SRIN site was developed to be the com-

munication arm of the National Soybean Checkoff Research Database—[www.soybeanresearchdata.com](http://www.soybeanresearchdata.com)—a resource that has been built up during the last several years. The site contains state and national research which is funded by various checkoff programs. The website is accessible to all soybean organization staff members, farmers, university and company researchers, agronomists and others.

"The research database is essentially a warehouse of all the production research nationwide, dating back to 2008," says Newberg. "There is a lot of data for researchers to compare and contrast, see what has been done on various topics and find collaboration. It's highly technical."

Complementing the database with the new SRIN site provides the opportunity to present research in a digestible fashion. Newberg explains that users can mine the site for projects of interest by

entering the state and/or subject area. The research articles on the SRIN site also link to the original research in the database as well as to related research from other states and regions.

Newberg adds that she is also sharing some of the research on social media and other outlets. For example, farmers can follow SRIN on Twitter, @SoyResearchInfo, to get the latest updates.

"We promote articles so we can get real-world management ideas out there that impact farmer production and conservation efforts. It is this research knowledge and information sharing that will help advance the soybean industry," Newberg states.

As the site continues to be populated, Newberg says that farmers can expect additional pest and disease information, production-related resources, and links to publications and annual reports.

"The site will continue to grow, and farmers will be able to see the benefits of their investments," says Newberg. "We also are piloting a project with aquaculture data to gauge interest in that."

Newberg asks that North Dakota soybean farmers contact her with feedback and suggestions after viewing what is available via the site. She can be reached at [cnewberg@iasoybeans.com](mailto:cnewberg@iasoybeans.com).

*—Story and graphic courtesy of North Central Soybean Research Program*

[soybeanresearchinfo.com](http://soybeanresearchinfo.com)

# SOYBEAN MANAGEMENT AT YOUR FINGERTIPS.


@SoyResearchInfo

Farmers can follow SRIN on Twitter, @SoyResearchInfo, to get the latest updates.



# Why COVID-19 Makes WISHH's Work in Cambodia and Beyond so Timely

The Royal Government of Cambodia's Ministry of Agriculture, Forestry and Fisheries (MAFF) partnered with the American Soybean Association's (ASA) World Initiative for Soy in Human Health (WISHH) Program to elevate the importance of aquaculture for COVID-19 economic recovery as well as to promote farm-raised fish as a protein-rich food for the health of Cambodia's growing population.

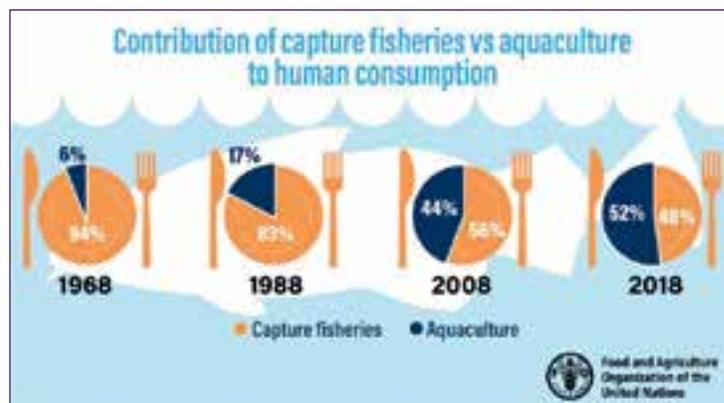
MAFF Secretary of State Has Sareth visited WISHH's U.S. Department of Agriculture (USDA)-funded Commercialization of Aquaculture for Sustainable Trade (CAST) Cambodia project partner, Rathada Farms Hatchery. His Excellency's visit was in conjunction with CAST training on June 11.

Discussions during His Excellency's visit included the role of soy for aquaculture and why U.S. soybean

growers are engaged in trade-building activities through WISHH and the USDA. Sareth also witnessed how fish at Cambodia's first in-pond raceway aquaculture system are growing at more than double the rate of fish produced with traditional Cambodian aquaculture feeding practices.

WISHH leveraged Missouri soybean grower checkoff funds that supported technical assistance to plan and construct the raceway, which is a channel for continuous water flow to grow fish. With WISHH's expert guidance, Rathada Farms Hatchery installed the raceway this spring.

The family owned business is also a demonstration site for WISHH's CAST activities. These fish devour extruded soy-based feeds which are manufactured in Cambodia by a U.S. soy customer who launched the first line of aquaculture feeds in that nation.



## Global Report Underscores Growth Trends Behind WISHH's Aquaculture Work

Citing a 527 percent rise in global aquaculture production from 1990 to 2018, a new report affirms the trends driving WISHH's work in aquaculture, including aqua feeds, for emerging and developing markets. The Food and Agriculture Organization's State of the World's Fisheries and Aquaculture (SOFIA) 2020 report states, "The priority should be to further develop aquaculture in Africa and in other regions where population growth will challenge food systems most."

WISHH has an extensive track record in aquaculture that began in 2011 with the USDA-funded FEEDing Pakistan project. That project was based on WISHH identifying aquaculture as an opportunity to reduce Pakistan's protein gap. WISHH's work within the feed value chain resulted in increased quality for the supply of soy-based aquaculture feed.

In addition to CAST and FEEDing Pakistan, WISHH has led trade teams comprised of African and Asian aquaculture entrepreneurs to visit the United States as well as conducting other work in the sector, including a new market assessment in Central America.

Released on June 8, 2020, the SOFIA report states that global fish production is estimated to have reached about 179 million tons in 2018, with a total first sale value estimated at \$401 billion. Aquaculture products accounted for 52 percent of fish for human consumption.

SOFIA pinpoints the valuable role of feed for the sustainable intensification of aquaculture. Some 34.2 percent of fish stocks are now fished at biologically unsustainable levels, according to SOFIA's benchmark analysis.

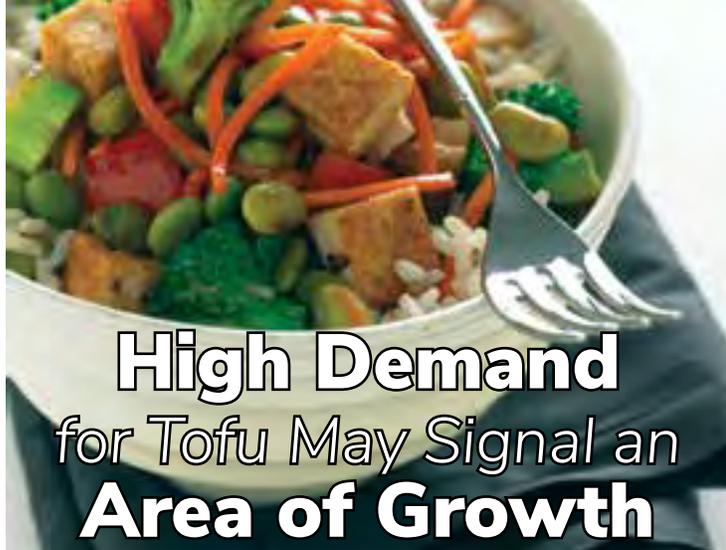
Soybean meal and soy oil for fish and shrimp feeds reduce the pressure on resources and improve the sustainability and affordability of healthy, farm-raised fish. Soy can replace from one-third to one-half of the fish meal in feeds for many farmed species, reducing pressure on wild fish resources.

Trade is also a key trend in the SOFIA report. "It is projected that about 36 percent of total fish production will be exported in 2030. In quantity terms, world trade in fish for human consumption is expected to grow by 9 percent in the project period and to reach more than 54 million tons in live weight equivalent in 2030."

—Story and graphic courtesy of the World Initiative for Soy in Human Health, photo courtesy of PNN News



His Excellency Has Sareth of the Royal Government of Cambodia's Ministry of Agriculture, Forestry and Fisheries joined CAST at Rathada Farms Hatchery to discuss aquaculture for economic, health and trade potential.



## High Demand for Tofu May Signal an Area of Growth

**M**eat shortages and limits on meat purchases at grocery stores have played a large role in the media's coverage of COVID-19. Some stories have even suggested that consumers explore alternative protein sources, such as tofu.

A fine idea, to be sure. Tofu may be hard to find, too.

Tofu has reportedly been flying off the shelves around the United States, with supermarkets having trouble keeping up with the demand.

"Demand in the U.S. is ... shockingly high," said SB&B Foods, Inc.'s Robert Sinner, the Specialty Soya and Grains Alliance (SSGA) vice chair, while speaking to the India Soy Dairy Analog Workshop. "The shelves are empty."

Exact reasons for the high demand are unclear—it could be directly or indirectly related to the coronavirus pandemic—but, according to SSGA Executive Director Eric Wenberg, the demand should signal to soybean growers, processors and buyers, who make the healthy, high-protein soybean food, that the U.S. tofu market may be an unmet area of growth.

Linda Funk, executive director of The Soyfoods Council, has heard about the high demand from a few of her contacts, noting that shelf-stable silken tofu is a popular item which is filling consumers' pantries.

"In general, people are adding more protein to their diet," Funk said. "The relative trend is there.

There's an increase in eating plant protein, but there's an increase in meat, too; I think people want more food healthy protein, whether that's tofu or chicken or a combination—meat and soy can exist on the same plate."

Rob Prather, chief strategic ambassador for Iowa-based Global Processing, explained that shortages due to the increased demand may demonstrate an immature domestic market that, historically, is not used to selling so much tofu. Americans' attitudes toward tofu are shifting, he said, but volume hasn't yet caught up to trends.

"There's a feeling that it's healthy," Prather said.

Funk agreed, and it's especially true now because consumers' eating habits have evolved. They're preparing more meals at home, and they're shopping economically.

"People are looking for alternatives," Funk stated. "Tofu is so versatile. It's a blank slate. You add the flavors. You marinate it; you add spices or herbs. It blends well with things."

Morinaga Nutritional Foods' Mori-Nu Silken Tofu, varieties of which are sold at 10,000 retail stores around the country, has been in high demand since the pandemic started, according to Colleen Sherfey, the senior director of marketing for Morinaga. The company's website reports that its online supply is out of stock and that there are shortages for some varieties in the retail market.

"People have been trying to stock up," Sherfey said. "One of the nice benefits of our tofu is that it's shelf-stable for up to one year. It travels well and doesn't need to be refrigerated."

### Diversifying

Whether people are buying tofu as a more-affordable, healthier protein option; as an alternative to meat they aren't able to purchase due to current disruptions in the food supply chain; or even to cook with it because their favorite vegan restaurants are shuttered during the pandemic, the trend should cause producers in the specialty soya industry to plan for the future, according to Wenberg.

"Farmers interested in diversification of their crops should consider adding the high-premium tofu beans that can be processed and shipped directly to customers," Wenberg stated.

Buyers, including international customers, who are interested in high-quality tofu beans shouldn't wait to place their orders. Soybeans from the 2020 crop should have been ordered last September. Waiting to buy could mean getting lower-quality beans. While identity-preserved (IP) beans may be more expensive, consumers will get what they're ordering.

Nancy Kavazanjian of Wiscon-

sin-based Hammer and Kavazanjian Farms has been growing varieties of IP food-grade soybeans, including tofu beans. The decisions about what to grow get made during the winter months when farmers order seed and chemical for their crops. "I think every year is different," Kavazanjian said in an interview shortly after her soybeans were planted this spring. "We grow for The DeLong Company and have been for 30 years. We order seeds in January, February, March at the latest. We make those decisions in early winter or mid-winter. There's really not that much leeway. We decide how much acreage to devote to corn, to soybeans, to wheat."

"With soybeans, how much will be food beans? ... Food beans have been very good for us for 30-plus years," explained Kavazanjian.

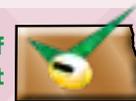
Kavazanjian said that she hadn't seen the tofu shortage firsthand but said that, if demand is indeed growing, that fact might play into her—and other farmers'—growing decisions for next year.

"Anything we can do to add value to our crop, we're willing to look into it," Kavazanjian said. "It can be worth it, especially in this environment."

—Story and photos by  
Shane Frederick, Specialty Soya  
and Grains Alliance



SSGA Executive Director Eric Wenberg visits with Minnesota Governor Tim Walz at the 2020 MN AG EXPO.



## NORTH DAKOTA HERITAGE RECIPES

### *Recipes from the Heart of North Dakota Agriculture*

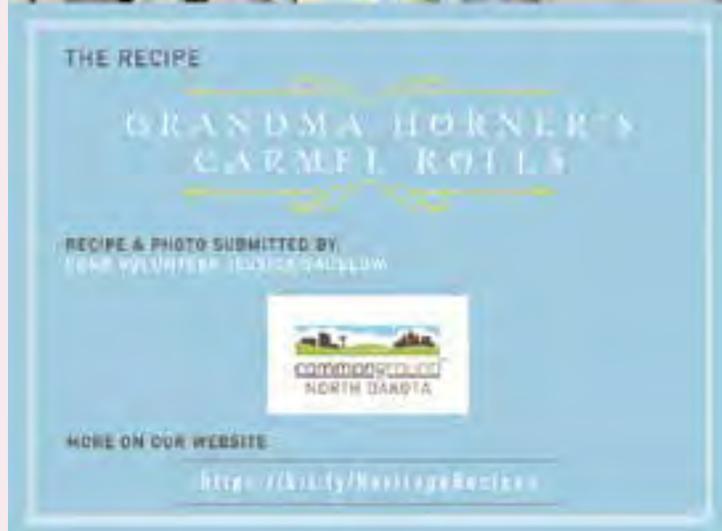
**D**uring the month of May and beyond, CommonGround North Dakota (CGND) created a deliciously fun and successful social media project to connect farm families and consumers. CGND volunteers were asked to share a favorite family recipe that had been passed down for at least one generation. Additionally, they were asked to provide a short story about the recipe, its heritage, a photo of their family and why the recipe was important to them.

Once those key ingredients were provided, the information was placed on the CGND website at <https://bit.ly/HeritageRecipes>. On Fridays, one volunteer's submitted heritage recipe and short story were shared via social media. The unique short stories coupled with tried-and-true generational recipes gave volunteers the opportunity to connect with consumers in a special way.

Due to COVID-19, many consumers are scouring the Internet for recipes that are simple to make, have

uncomplicated ingredients and are classified as a comfort-type food. The CGND Heritage Recipe social media project was developed to do just that: to help fill bellies and to educate minds about farming and food.

Because CGND hasn't been able to take the conversation to the field as it has done with past events, such as Banquet in a Field, Dinner on the Prairie, Banquet in a Field—Western Style, Farmland to Fine Dining and Dinner in the Valley, the program developed this type of social media project to create agricultural awareness while, at the same time, building a solid connection with consumers. This unique project has given volunteers the ability to reach out to consumers when a face-to-face connection isn't possible. The project has been successful because food is central to the lives of both farm families and consumers. By engaging with consumers about food on social media, it brought the farm to consumers instead of consumers to the farm. When food is brought to the table, either in person or virtually, it creates



**CGND Volunteer Jessica Gauslow and others submitted heritage recipes and their short stories which were shared on CGND's blog and social media to connect with consumers about food and farming.**

a universal capability that brings back experiences that were long forgotten and delivers feelings that are craved, such as comfort, satisfaction and excitement.

To learn more about the Com-

monGround North Dakota program and to view the latest CGND Volunteer Heritage Recipes, go to [www.commongroundnd.com](http://www.commongroundnd.com).

—Story by Betsy Armour, recipes and photos courtesy of Jessica Gauslow



Sisters Ina (right) and Elsie (left) Gauslow show consumers how to make their Grandma Horner's heritage Carmel Roll recipe.



Jessica Gauslow (center) and her two daughters Ina (left) and Elsie (right) make Grandma Horner's Carmel Roll recipe Easter morning.



## Carmel Rolls

### Sweet Dough Ingredients

- 3-3½ cups Flour
- 1½ cups Water
- ¼ cup Oil
- 4 Tbsp Sugar
- 1 tsp Salt
- 1 Tbsp Yeast

### Filling Ingredients

- 2 Tbsp melted butter
- ¼ cup White Sugar
- 1 tsp Cinnamon

### Carmel Topping Ingredients

- 1½ cup Whipping Cream
- 1½ cup Brown Sugar
- 2 tsp Instant Vanilla Pudding

### Directions

Combine the sweet dough ingredients and mix in a bread machine on the “dough” setting. Let the mixture rise in a greased, sealed container; place the container in a warm spot to rise for about 2 hours or until the dough doubles in size. Gently punch the dough down. Turn out onto a floured surface and roll into an 8” x 12” rectangle.

Brush 2 tablespoons of melted butter over the dough. Mix white

sugar and cinnamon and sprinkle over the dough, roll into a log and cut the log in half. Cut each half into thirds. Finally, cut each third in half to form a roll.

Lay the 6 cut rolls flat in a greased 9”x13” pan, leaving space between each piece for them to rise. This recipe makes enough for 12 rolls in two 9”x13” pans.

Cover the rolls and let them rise for half an hour.

Prepare the carmel topping mixture by mixing the whipping cream, brown sugar and instant vanilla pudding together. Warm in the microwave.

Pour one-half of the warm carmel mixture over one 9”x13” pan of rolls, and then, pour the remaining mixture over the second pan of rolls.

Bake at 325 degrees for 30 minutes. Serve warm with butter and enjoy!

### Yield

12 large carmel rolls



## North Dakota Dairy Farms, Then & Now

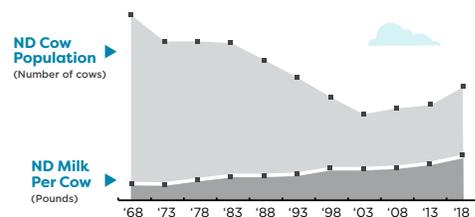
### Innovation, Conservation & Dedication

As part of a stewardship pledge to consumers, the dairy industry is pursuing a voluntary goal to cut GHG emissions for milk by 25% from 2007-2008 levels.<sup>2</sup>



### From the 1960s... to today,

dairy farmers have become more sustainable, with advances in cow care, nutrition, genetics and technology. Milk production in the U.S. has nearly doubled despite fewer cows.<sup>1</sup>



**80%** of dairy cows' diets comes from **plant fibers and feedstuffs that they can digest** but humans can't, and would otherwise go to landfills.<sup>3</sup>



The U.S. dairy industry has **decreased its water use by 65%+** over the past decades<sup>4</sup>



Most dairy farm manure is incorporated into fields as natural fertilizer, **increasing soil's water-holding capacity by 20%**<sup>5</sup>

Made in communities across the country, dairy foods contribute 3% of the U.S. gross domestic product.<sup>6</sup>



**Why is animal agriculture important to soybean farmers?**  
Animal agriculture is U.S. soy's No. 1 customer at home and abroad.



**Dairy totaled \$1.7 billion** in economic impact (direct and indirect) in ND, 2018<sup>6</sup>



**Dairy led to 2,894 jobs** (direct and indirect) in ND, 2018<sup>6</sup>



Infographic courtesy of Midwest Dairy



**95% of dairy farms are family owned and operated**<sup>7</sup>

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# FULL-CIRCLE RETURN

**HERE'S HOW THE SOY CHECKOFF WORKS.** The national soy checkoff was created as part of the 1990 Farm Bill. The Act & Order that created the soy checkoff requires that all soybean farmers pay into the soy checkoff at the first point of purchase. These funds are then used for promotion, research and education at both the state and national level.



\* Led by 73 volunteer soybean farmers, the United Soybean Board (USB) invests and leverages soy checkoff dollars to MAXIMIZE PROFIT OPPORTUNITIES for all U.S. soybean farmers.

[unitedsoybean.org](http://unitedsoybean.org)



# Challenges (and Opportunities) in Store

Ordinarily, stored soybeans are hard to find in North Dakota by mid-summer. By February or March, the bulk of the state's soybeans have been sold and shipped to places such as China, Indonesia or one of dozens of other destinations. Bins are empty, and farmers are preparing to fill those bins again with new crop beans. Unfortunately, North Dakota farmers know all too well that there's nothing ordinary about the current soybean environment.

Every quarter, the U.S. Department of Agriculture (USDA) conducts a major survey of farmers and large grain handlers. North Dakota State University Extension Crops Economist and Marketing Specialist Dr. Frayne Olson says that the surveys serve as a reference point to show how fast grain stocks are being used. The report is split between what's stored on-farm and what's at commercial operations, such as elevators or soybean crushers. The report released on June 30 revealed that about one-fourth of North Dakota's 2019 soybean harvest, more than 50 million bushels, was still being stored.

"The numbers are not record large, that came last year," Dr. Olson states. "The numbers we got in (the) June report were down from last year, but they're still the second largest on record for on-farm storage, third largest for commercial inventories."

Having about 50 million bushels of stored soybeans presents some challenges. Typically, bins around North Dakota are being emptied in preparation for harvest. Dr. Olson explains that there are still a lot of soybeans looking for a home.

"This is going to cause some additional questions on bin space, and storage availability at harvest," Dr. Olson says, "and it may have an impact on farmer's marketing plans. If you don't have the storage capacity on the farm, that means that you're going to have to try and manage around this inventory problem. Farmers may end up trying to sell some for harvest delivery, which is normal, but you may

look at higher amounts. You may end up having to deliver at harvest and take whatever price you get, which is not always the best choice."

Dr. Olson states that soybean buyers and end users are also concerned about quality the longer the grain is stored. Last fall's wet conditions forced many farmers to combine their soybeans at a higher moisture than is preferred. That situation puts the onus on growers to monitor and to manage stored soybeans in order to maintain grain quality.

## What's in the Ground

The USDA's June 30 acreage report is a survey of farmers that serves as a follow up to the March Prospective Plantings report. Dr. Olson says that the USDA surveys over 71,000 farmers to ask what they actually planted compared to their March intentions. The planted acreage survey is also compared to what the private analysts and firms are expecting.

The March planting intentions report estimated 83.5 million acres of soybeans. Dr. Olson states that many private analysts expected soybean acreage to go up because of wet conditions in many parts of the Corn Belt which prevented farmers from planting corn. Trade analysts expected 84.7 million soybean acres. The USDA survey reported that soybeans were planted on 83.8 million acres.

"It went up from (the) March report, but it was a smaller than

expected increase," Dr. Olson says.

North Dakota farmers estimated that they would plant 6.6 million acres of soybeans. The actual number released in June was 6 million acres.

Some of the soybean acreage decrease is attributed to ground that was too wet to plant. Dr. Olson stated that he expected North Dakota's prevented planting acres to be substantially higher this year than normal. Over the past 15 years, North Dakota has averaged about 1.2 million acres of prevented planting. "I expect that number to be higher this year, but not as large as we've seen in the past," Dr. Olson says.

North Dakota has about 25 million acres of land that could be planted to crops. Because much of the state is in the Prairie Pothole Region, some areas don't get seeded because of those potholes. Prevented planting of 1.2 million acres represents about 4.5 percent of the land area that's not getting seeded.

"What's drawing more attention is, typically, those prevent plant acres are up in the two or three rows of counties along the Canadian border. For the last several years, they've been very wet. That typically has a bigger impact on crops like canola or spring wheat or durum," Dr. Olson explains. "This year a lot of our prevented planting acres have been in the east, in the corn and soybean producing regions."

## Fleeting Opportunities

For several months, Dr. Olson says that farmers have faced soybean

market prices which are well below the cost of production, making it difficult for even the most efficient farmers to pencil out a profit. Reduced soybean acreage, both in North Dakota and across the U.S., combined with more soybeans in storage may give farmers some chances to catch price rallies.

Dr. Olson states that weather events which cause a spike or rally often occur in July and August when the markets are worried about how many bushels of soybeans will be produced.

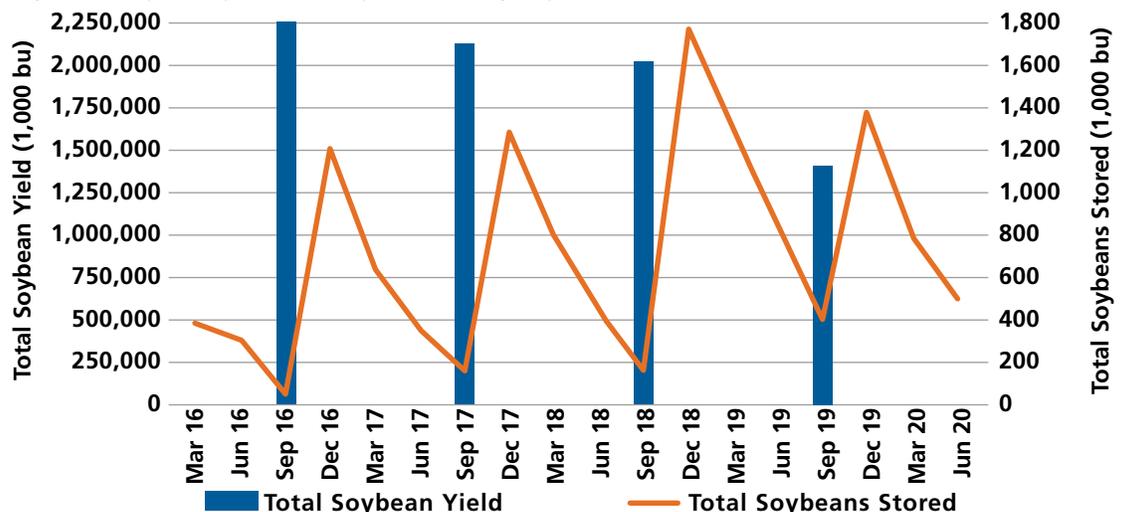
"The challenge is, those spikes don't last very long," Dr. Olson says. "This is where the shrewd marketing becomes pretty important because the market doesn't often give you a second chance. You have to pay attention, in particular this year with all the uncertainty surrounding the coronavirus and all the uncertainty with the U.S.-China trade agreement.

Dr. Olson explains that the larger-than-expected planted acreage cut will be positive. However, he doesn't expect a large market rally because soybean stocks remain high.

"Our grain inventories for corn and soybeans are not necessarily very tight. We've got adequate supplies of both corn and beans. The bigger question and the one that's harder to put our arms around, is what does the demand side look like? For soybeans, it heavily hinges on China buying and the trade agreement. There are still a lot of unknowns."

—Story by Daniel Lemke, graphic by staff

Figure 1. Soybean yield and soybean storage by quarter.



# NDSGA Scholarship Winner Destined to Farm



**F**rom a very young age, it was evident that farming would be in Levi Hofer's future. Hofer is pursuing that seemingly inevitable path as a student at North Dakota State University (NDSU) with plans to return to the family farm after graduation.

"I always wanted to be a farmer," Hofer says. "Even when I was a kid, my twin brother and I farmed the carpet with our Tonka toys. I knew that was what I wanted to do."

Hofer's family farms near Northwood, North Dakota, growing soybeans; wheat; edible beans; and, some years, sunflowers and barley. Hofer is the fourth generation to work the family farm. After graduating from Larimore High School, he enrolled at NDSU and is majoring in agriculture economics with a crop and weed science minor. He's on track to graduate in May 2021.

"My goal has always been to come back to the farm," Hofer says. "I have

an older brother and a twin brother involved in the operation. My goal is to return and farm some more land."

Hofer is the 2020 North Dakota Soybean Growers Association (NDSGA) Scholarship recipient. The scholarship provides \$5,000 to a student in NDSU's College of Agriculture, Food Systems and Natural Resources, and the award is designed to help a student further his/her education.

Hofer states that his training in agriculture economics along with crop and weed science will give him a well-rounded education and will equip him to operate his own farm. He also learned a lot by watching the people with whom he has lived and worked his entire life.

"I'm really learning a lot of things from my dad," Hofer says. "You have to take what you can get, adjust and just take things day by day."

Despite the current challenges in agriculture brought on by weather conditions, markets, trade issues and

a myriad other issues, Hofer remains positive that farming is the right path for him.

"I'm very optimistic about the future. I look forward to farming every day," Hofer explains. "I love it even more as I learn more about marketing and what it takes to grow a good crop. It makes farming even more interesting."

Hofer says that soybeans are an important crop for his family, so being selected to receive the NDSGA scholarship was an honor.

"When I saw that I was selected, everyone in my family was really excited. It will help a great deal to reduce the amount of school loans I will have," Hofer explains. "I'm very excited and super thankful, too. It's really cool to be selected."

The NDSGA scholarship is available to the child or grandchild of an NDSGA member. Applicants must have completed 90 credits at the time of scholarship disbursement.

—Story and photos by Daniel Lemke



**From farming the carpet as a kid to working the land as an adult, NDSGA scholarship winner Levi Hofer knew farming was his future.**

# Putting U.S. Protein First

As the global population continues to grow, so does the need for adequate nutrition. With the world population estimated to reach 9 billion people by 2050, global food supplies will need to keep up.

Many areas of the world are already protein deficient. A United Soybean Board (USB) initiative aims to help meet global needs while providing U.S. farmers and ranchers with more market opportunities.

The USB and other agricultural groups created Choose U.S. Protein First to see how plant and animal protein producers can work together in order to meet the needs of a protein-deficient world. Protein plays a central role in global nutrition.

“When we talk U.S. Protein First, it’s about growing global demand for all U.S.-grown protein,” says USB CEO Polly Ruhland.

Soy is a unique protein source because it is widely used as an ingredient for both human food and animal feed. Exporting U.S. soybeans or soy- and grain-fed livestock would benefit many farmers.

“This is an aggressive collaboration to develop a global U.S. protein strategy,” Ruhland explains. “We would like to see all protein producers work together to develop strategies to promote U.S. protein around the world.”

Ruhland stresses that this effort is not an attempt to replace meat products or to take markets away from livestock producers. Prior to leading the USB, Ruhland served as CEO of the Cattlemen’s Beef Promotion and Research Board. She worked in the beef industry for more than 20 years. She says that the Choose U.S. Protein First effort is a collaborative approach which is intended to understand the global needs and to position U.S.

protein sources to meet those needs.

“Some parts of the world have limited protein options. In those cases, they may start with plant proteins first, then move to animal proteins later,” Ruhland states. “It’s a natural progression that we get together, understand where different regions of the world are in their needs and their ability to purchase, to work to get closer to each customer and understand their needs.

Ruhland calls Choose U.S. Protein First a pre-competitive issue. Pre-competitive collaboration allows a group of competing interests to come together in order to develop a solution for a problem that they all share. Ruhland believes that the USB initiative is important because, in spite of growing global protein needs, there is also increased competition from other countries.

“The risk is significant,” Ruhland

stresses. “Other countries are taking protein markets away from us. We also have to recognize other areas may have some advantages over us.”

Even though Choose U.S. Protein First is a USB initiative, Ruhland says that soybean leaders have reached out to other protein providers, including pork and poultry producers. The goal of a collaborative approach is to better understand the situation and the protein needs for other countries, and then to develop an overall strategy and desired outcomes for moving U.S. protein into those markets.

With growing nutritional needs around the world, Ruhland contends that there is a better opportunity to meet those needs if U.S. plant and animal protein providers approach the issue together.

“It’s a y’all come campaign,” Ruhland says.

More information on the Choose U.S. Protein First initiative is available at [unitedsoybean.org](http://unitedsoybean.org).

—Story by Daniel Lemke

## North Dakota Soybean Growers Association Announces Results of Officer Elections

The North Dakota Soybean Growers Association (NDSGA) is adding a seasoned communicator to its staff to increase the organization’s presence on digital platforms. Betsy Armour joined the NDSGA to lead the organization’s digital marketing, social media and communication efforts.

The North Dakota Soybean Growers Association (NDSGA) held officer elections during a recent Board of Directors meeting. NDSGA officers re-elected included President Joe Ericson of Wimbledon, Vice President Ryan Pederson of Rolette, Secretary Greg Gussiaas of Carrington and Treasurer Kasey Bitz of LaMoure, North Dakota. Monte Peterson of Valley City and Josh Gackle of Kulm will continue to serve as the American Soybean Association representatives to provide a voice for North Dakota soybean producers on national farm policy. Justin Sherlock, Dazey, is the Corteva

Agriscience Young Leader on the board of directors. The North Dakota Soybean Growers Association is a statewide, not-for-profit, member-driven organization.

It conducts legislative activities in Bismarck, N.D., and Washington, D.C., to improve the sustainable prosperity of its members and the entire soybean industry. The North Dakota

organization is one of more than 25 affiliated with the American Soybean Association.

—Story and photo by staff



Following recent elections, the North Dakota Soybean Growers Association officers are Ryan Pederson, vice president, Rolette; Joe Ericson, Wimbledon president; Kasey Bitz, LaMoure, treasurer; Greg Gussiaas, Carrington, secretary.



**Jennifer Meyer**  
Wilton, North Dakota

## Tell us about your farm.

We have about 150 head of cattle along with 2,500 acres of farmland and pasture. We grow pretty much everything you could try to grow in North Dakota.

## What do you like best about farming?

What I like best is being my own boss and not worrying about someone telling me what to do. I'm fortunate that I get to plan my day every day.

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

No, I was a city girl through and through. Getting into farming was this weird little piece of luck that happened to me.

## What's most exciting about the upcoming growing season?

On our farm, the lack of hail has been appreciated. Also, we are glad we are not in a drought this year either. We look forward to harvesting a decent crop this year.

## How and why did you get involved with the North Dakota Soybean Council?

I actually nominated myself because I was introduced to the Council through the Executive Women in Agriculture conference scholarship two years ago. Ever since then, I have taken advantage of their field tours and webinars. Since I was participating in their opportunities, I was interested in being on the Council.

## As the first woman elected to the North Dakota Soybean Council, do you have advice for other farm women who are interested in becoming involved?

It is humbling to be the first female to sit on the Council. But at the end of the day, I am just another farmer working hard for my family and capable and excited to represent my fellow North Dakota soybean farmers in District 12 (SW counties of North Dakota). I highly encour-

age other women farmers to get involved with the Council and other commodity boards, for we bring different perspectives and diverse ideas to the table. Women are taking a more active role in the industry, which is great.

## Why are soybeans part of your crop mix?

Soybeans are a part of our crop mix because we needed a crop to rotate with wheat. Now, soybeans are one of our biggest crops we grow. It's a nice go-to crop that's easy to work with and cleans out the weeds.

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

I would like to see creative new markets and industrial uses for soybeans. I would also like to see more food-grade soybeans in our area, not just the Red River Valley.

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

I've seen more technology with GPS and autosteer. In the past, we used foam markers and Yetter wheels, and now, it's all new electronics.

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

I would like to say we'd expand, but sometimes, that's not in the cards. Upgrading our equipment with better electronics is a priority.

## What do you like to do outside farming?

I do a lot of gardening, crafts, painting, along with chasing and keeping up with my 5-year-old. We do a lot of mother-daughter activities.

## If you could go anywhere, where would it be?

Probably Europe, like Italy, France, England and the Swiss Alps.

## If you could add equipment or technology to your farm, what would it be?

I would like a Central Fill corn planter because we only have an eight row right now.

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

That would be my sprayer because we apply liquid fertilizer, and it's such a money saver.

—*Story and photo by staff*



**Andrew Thostenson**  
North Dakota State University (NDSU) Extension Pesticide Program

## Where did you grow up?

I grew up in north-central Idaho on the Camas Prairie. The area is highly productive, dryland farmland (which is) surrounded by mountains and forests. My family had horses and cows, but it was not a working ranch. I hired out with neighboring farmers and learned to operate tractors and combines. I also worked with cattle and learned, initially, how to work with a manure fork and hay bales. Eventually, I learned how to build fences in the mountains and ran a saw in a logging operation.

## Where did you go to school?

I went to high school in Grangeville, Idaho. I have a B.S. in crop management and an M.S. in plant sciences, both from the University of Idaho. My graduate work was on wood-rotting diseases of fruit trees.

## Why were you interested in that field?

Honestly, I had no great passion for plant pathology, especially working with fruit trees, but as a college senior in crop management, I became acquainted with a quirky, eccentric professor who thought I would be a good graduate student, so I signed on. It was a fantastic experience. He was encouraging and demanding, and he expected his students to work closely with farmers, and that is when I became committed to extension work.

## What led you to your role with NDSU Extension?

After I finished school, I (went) to work for Washington State University as an area extension agent (at) East Central Washington State. Eventually, I became a partner (for) a crop consulting and seed production company, primarily working with canola. In the summer of 1996, I decided I wanted to work in the

Red River Valley and moved to Cavalier and became an Extension Agent for NDSU. In 1998, I accepted my current position in Fargo as a pesticide specialist.

## What is the mission of the NDSU Extension pesticide program, and what is your role with it?

We train and certify pesticide applicators in the safe and efficacious use of pesticides. My philosophy is that I want our certificate holders to know how to protect themselves and others from the adverse effects of pesticides. I want them to be able to come home at night, enjoy their family and friends, and get up the next day and be able to use pesticides to control pests effectively.

## How have pesticide applications and management most changed since you've been with NDSU?

Some things have not changed. It all comes down to educating folks about using the pesticide label to properly apply pesticides. Labels have become complex documents that are hard for even conscientious users to follow. That can lead to confusion and more pesticide incidents that, in turn, does not inspire confidence with the general public. But more than anything else, it has to be the technology, from spray equipment, to PPE (personal protective equipment), to development of the world wide web, to web conferencing systems that allowed me to teach over 2,000 applicators during the height of the COVID-19 pandemic.

## Have things become more complicated in terms of pesticide use and management?

In many ways, during the '70s, '80s and '90s, we had it easy in the pesticide world. We had a constant flow of new molecules coming in the market, and we could achieve astounding pest control. That began to change in the early 2000 when resistance to pesticides became more widespread. At the same time, regulatory and public relations pressure has resulted in a drying up of new active ingredients. The collision between no new tools and existing ones means pesticide are becoming quickly obsolete. No longer do we have as many pesticide bullets to control pests. Right now, it looks pretty dire out there, but I see a renaissance in agriculture in that farmers are adopting innovated cover cropping and rotational systems that are keeping pests off balance. I also see genetic systems on the horizon that will turn the pest against themselves. You have to take the long view, and I believe the challenges we face today will eventually be sorted out.

## What do you like to do away from work?

I am an avid big game hunter and downhill skier. One of my hobbies is to hand reload rifle ammunition for target and game use. One more thing, I am a big fan of Bison Football!

—Story by Dan Lemke, photo by staff



# Fore! the Fun of it



**T**hank you for making the 7th annual Jamestown golf tournaments successful! The tournament is a way for the North Dakota Soybean Growers Association (NDSGA) to say thank you to 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 James-

town tournament winners:

**First Place:** Team Streeter Elevator: Brett Williams, Mural Pollert, Andy Heflin and Josh Grimm.

**Second Place:** Team Ellingson Companies: Corey Haag, Jeff Schroeder, Jordan Kautzman and Don Kautzman.

**Third Place:** Team Innovative Agronomy: Gannon Van Gilder, Dave Barnick, Mike Stoller and Brian Carlson.

Congratulations to the Jamestown contest winners:

**Longest Drive #6:** Mural Pollert.

**Longest Drive #17:** David Blue.

**Closest to Pin #12:** Tom Readel.

**Closest to Pin #4:** Mike Stoller.

**Longest Putt #16:** Dave Barnick.

**Longest Putt #9:** Mike Larson.

Thank you to our Jamestown golf tournament sponsors:

**Hole Sponsors:** Advance Trading, Inc.; AgCountry Farm Credit Services; BASF; Butler Machinery Co.; Central Sales, Inc.; Centrol, Inc.; Crary Industries; Ellingson Companies; Farmers Union Insurance; Garitt Ire Agency; Innovative Agronomy; MEG Corp-Biodiesel; Midwest Seed

Genetics; National Biodiesel Board; North Dakota Soybean Council; Nutrien; Proseed; Visjon Biologics  
**Lunch:** BNSF Railway.  
**Lunch Cooler:** Asgrow.  
**Golf Towels:** Asgrow.  
**Signs:** D-S Beverages.

For more photos of the tournaments, check out [facebook.com/NorthDakotaSoybeanGrowersAssociation](https://facebook.com/NorthDakotaSoybeanGrowersAssociation).

Two NDSGA tournaments are scheduled for 2021. The Jamestown tournament is scheduled for July 27, 2021. The Fargo event will be at Rose Creek August 22, 2021. More information is available at [ndsogrowers.com/events](https://ndsogrowers.com/events).

—Story by staff, photos by Betsy Armour and staff



**Team Streeter Elevator: Left to right, Mural Pollert, Brett Williams, Andy Heflin and Josh Grimm.**



[unitedsoybean.org](http://unitedsoybean.org)

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- Engage in leadership training that will enhance your farming operation, as well as the other organizations in which you serve
- Gain tools to better enable you to tell your story
- Meet and learn from agricultural industry leaders
- Connect with soybean farmers from the U.S. and Canada, creating valuable new agricultural relationships



## Program information:

### PHASE I

Tuesday, December 1 – Friday, December 4, 2020, in Johnston, Iowa

### PHASE II

Tuesday, March 2 – Saturday, March 6, 2021, in San Antonio, Texas, in conjunction with Commodity Classic

For more information about the Young Leader Program and to apply for membership in the class of 2021, go to [soygrowers.com](http://soygrowers.com).