

THE NORTH DAKOTA **Soybean** GROWER MAGAZINE

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Decision Time for
Soybean Markets
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Slippery Slope for Crop Protection Products

Farmers got some favorable news in mid-January when the Environmental Protection Agency (EPA) announced it had extended the label for Enlist™ herbicide through 2029. However, some troubling news came at the same time as the EPA placed restrictions on Enlist™ One and Enlist Duo® herbicide applications in some Minnesota, South Dakota and Nebraska counties.

Farmers in six Minnesota counties are restricted from spraying Enlist Duo® herbicide on their crops. Growers in parts of south-central South Dakota and a large portion of central Nebraska can no longer apply either Enlist™ One or Enlist Duo®.

“The issue that growers are facing is that they may have already bought herbicides for their Enlist™ soybeans,” says Mustang Seeds CEO Terry Schultz. “They are going to be challenged this year, or they may not be able to use Enlist™ herbicide at all because of some restrictions put on by the EPA.”

Schultz says the EPA decision, based on efforts to protect endangered species, delivers some immediate difficulties to farmers who have already made plans and purchases for the 2022 growing season.

“Minnesota has label restrictions that does not allow growers to spray Enlist Duo®, but it does allow them to spray Enlist One™,” Schultz says. “South Dakota has counties in the south that all Enlist applications are banned. If they are a grower in



southern South Dakota or Nebraska and they’ve got Enlist™ soybeans, and have herbicide already bought, it’s now illegal to spray that product. That’s a problem.”

Larger Concerns

Schultz says that Mustang Seeds does have a variety of different trait platforms that farmers can access. Farmers who need to make a switch in their seed and herbicide platforms for 2022 can still do so. However, global supply chain issues may limit availability of some crop protection products.

“As a company, we definitely would like to see this restriction go away. But if growers need to adhere to the new EPA regulations, if they end up going to a different herbicide platform, we do have that ability,” Schultz explains.



Losing the use of some Enlist™ products is problematic for some growers, but the concern among many people in the agriculture industry is that these restrictions may be just the beginning of tighter regulation on crop protection products.

“Restricting this technology, even in those counties, is going to allow further government regulation on more of our crop protection products,” Schultz contends. “Our concern and the industry’s concern is that we’re going to continue to have these issues as we try to raise enough crops to feed a growing world.”

Schultz says Mustang Seeds fully supports the use of all traits and tools for their customers. He also encourages farmers to not sit on the sidelines and watch more products be taken away.

“We encourage people to talk to their legislators and urge them to allow growers to have all the necessary tools available to produce their crops,” Schultz says. “This is not going to bode well for even the competitive platforms of products, and farmers need these tools to farm. We do have the options right now, but the concern is that if something else gets banned on the other side of the herbicide spectrum, we’re going to be up against serious problems.”

To learn more about the products and trait platforms available from Mustang Seeds, visit www.mustangseeds.com.



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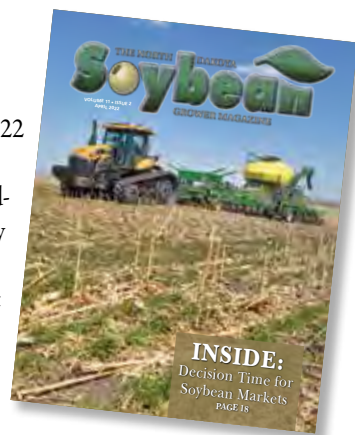
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On the cover

As North Dakota farmers prepare to seed the 2022 crop, global geopolitical events, supply chain issues and even fertilizer and crop protection product availability are affecting markets and possibly planting intentions. This period of volatility is providing farmers with opportunities. If the first few months are any indication, 2022 promises to be an interesting year for agriculture.

—Photo by Wanbaugh Studios



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Interim Committee Actions Taken by the Legislature

After a regular four-month session, a special session for redistricting due to the census and weeks of planning to figure out how to spend extra pandemic-related federal money, our legislators have largely taken a well-deserved break. Mother Nature helped slow things down with one of the nastiest winters for travel since 1996/1997. Thankfully, the ability to attend interim meetings via computer, which was established last year due to Covid, has helped interested people to stay in touch. There have been three meetings which I will briefly touch upon. Remember that you can go to the legislative website, www.ndlegis.gov/assembly/67-2021/ regular, click on “Video” on the top banner and then “Recordings,” and watch any parts and/or all of them if you wish.

The first group to meet since I last wrote you was the newly formed Water Drainage Committee. It was created to reconfigure parts of the Century Code that deal with drainage that had become tangled to the point of being contradictory. Legal counsel looked over the language with the committee, so that a draft bill could be submitted for the new session come January. But, water is complicated, and the Water and Drainage Committee has other matters to reconcile such as how much power the Water Resource Districts will be allowed as opposed to what the Department of Water Resources will assume. The various parties disagree on this and other points, which will affect assessment drains in the future.

The next committee to meet was the Agriculture and Natural Resources. This committee met for the first time in October and for the second time in February. The group has completed most of what it was assigned to do, this time receiving a report from the Advisory Committee on Sustainable Agriculture. Year after year, nothing is done with this topic; therefore, the Agriculture and Natural Resources Committee is submitting

a draft bill to do away with the annual reporting. The issue is that no one can adequately define sustainability to the point where action can be taken. Of the 20 members, only one person voted against ditching the reporting.

The Agriculture and Natural Resources Committee also heard from the State Board of Agricultural Research and Education (SBARE) about what is happening with the number-one priority to replace Waldron Hall. The building houses the old and undersized plant pathology and diagnostic lab and the North Dakota Agricultural Weather Network (NDAWN). No one needs tell producers the value of research for crop production, let alone studies directed to fighting diseases and their never-ending mutations. Hopefully, you and your North Dakota Soybean Growers Association (NDSGA) can help the legislators agree to modernize this facility. When you see newly elected or re-elected legislators, please remind them how important science is to agronomy.

There were three different reports from the Department of Transportation (DOT), with one version focusing on what the DOT has done to prepare for road trains should they become real in North Dakota. Director Bill Panos explained the planning and advertising NDDOT had done to find pilot-project participants for what was termed long combination vehicles (LCVs). There were no applications. It seems that the hang up is that NDDOT cannot get the federal government’s blessing to travel on the interstate system, which is key to get freight or commodities anywhere.

The Agriculture and Natural Resources Committee also has two studies to attend to, with the North Dakota Beef Commission taking center stage. The issue seems to be about how the Commission chooses its board. It is a checkoff entity, and the board members are appointed. Some people would like to see elections and, perhaps, a different refund policy. After various sides



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

were heard and much the same was said as had been mentioned during the last session and at the previous committee hearings, no action was taken. This meeting’s capstone was the U.S. Fish and Wildlife easement policy, and many sides were, again, represented. No one had a solution, but there was talk about asking attorneys what, if anything, North Dakota could do to help aggrieved landowners.

Finally, the Interim Tax Committee meeting was held in February. The NDSGA’s interest was in two areas because tax incentives were being reviewed for the Ag Commodity Processing Facility Investment Credit as well as the Soybean and Canola Crushing Facility Construction Credit. NDSGA testified in favor of keeping both credits because we are, finally, seeing crush plants being built. With the additional meal which will be produced, we need all the tools available to encourage animal feeding facilities. The committee appeared to be in favor of retaining the tax credits, so we give our thanks to the committee members and all legislators who are working on your behalf.

**Follow what’s happening
in the North Dakota
Legislature with agriculture
policies and issues**

Phil Murphy, NDSGA’s liaison
between legislators and farmers,
writes the “Murphy’s Law” blog.

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“Murphy’s Law” blog today!



Use It or Lose It

As farmers, we're inundated with information. Our email inboxes fill up, mailboxes overflow and the list of articles we intend to read keeps growing. We generate some information on our own through farm data, including yield history and nutrient maps. Other information is provided through publications, conversations and presentations at events such as the recent Northern Corn and Soybean Expo.

We may have access to mountains of information, but it's of little value unless we do something useful with it.

If we have soil-fertility maps that show areas in our fields that are lacking nutrients but don't do anything to address the need, what have we gained? Market trends may indicate that it's time to sell some grain, but if we don't take advantage of that knowledge, it is likely a missed opportunity.

Farming has always been about continuous improvement. We strive to do more with less while increasing our environmental and economic sustainability. Sometimes, the changes

we make are dramatic; other shifts are more subtle. I encourage you to take some of the information that you've gathered over the winter to make improvements for your operation. Those changes could come in the form of a different weed-control program or a shift in tillage practices to improve soil health. The results just might surprise you.

The North Dakota Soybean Growers Association (NDSGA) works on behalf of all North Dakota soybean farmers, representing you on policy and other issues that affect us as farmers. Staff and farmer leaders monitor activity in Bismarck and Washington, D.C., to make sure that our voices are heard regarding important issues such as trade, biofuels, transportation, taxes, water use and more.

Knowing that the NDSGA is working on your behalf is only the beginning. We need you to do something about it. Let us know what's on your mind. Fill us in on the issues you're facing. Become a member. Join us in our efforts to advocate for North Dakota agriculture.



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Membership Application

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

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Do you currently grow soybeans?

- ☐ Yes ☐ No

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Berthold Farmer Building From *THE GROUND UP*



North Dakota farmers, especially growers in regions of the state where moisture is often limited, are no strangers to crop diversity. Mark Birdsall of Berthold has taken diversification to the next level.

Birdsall grew up farming, west of Minot in the Berthold North Dakota area, with his father and grandfather.

"I was able to farm alongside both of them, which was very important and was a great opportunity for me," Birdsall says. "They were both very good farmers and patient men, so it really made it easier for a young guy to learn."

In 1981, Birdsall married his wife, Colleen, and raised his first crop of spring wheat seed on his own land. By 1991, he made the leap to get into the seed conditioning and processing business.

"We decided it was time to get our own processing plant and condition our own product," Birdsall recalls. "So, we went together with a neighbor and built the seed plant, and ran that one together, conditioning and selling seed."

In 2008, Birdsall expanded the business and built a new seed plant on the family farm west of Berthold. The operation became Birdsall Grain and Seed, LLC.

The operation evolved again

when Blake Inman, who married Birdsall's daughter Danae, joined the operation. Birdsall explains how Inman became a partner for the farming operation and seed business. He was very interested in expanding into agronomy sales and service.

The agronomy portion of Birdsall Grain and Seed grew to include an anhydrous ammonia plant as well as custom application for crop-protection products, followed by expansion into dry fertilizer blending, dry fertilizer application and custom seed treating.

"Two years ago, we started another large expansion project at the plant, so we built a new conditioning facility, which includes color sorting and includes a robotic packaging plant. The plant itself has been running for a little over a year. The packaging facility is just coming online right now. So yeah, it's been quite an adventure, quite a lot of expansion," Birdsall asserts.

In addition to operating the seed business, Birdsall continues to farm in Ward and Mountrail Counties.

"We try to raise a lot of our own seed, but we also use a lot of area farmers as contract growers for us to help us produce for our seed demand," Birdsall continues.

Birdsall Grain and Seed offers a diverse seed mix, including barley, durum, fabas, flax, hard red spring wheat, lentils, oats, peas and soybeans. Limited moisture and limited seed options can affect what the farmers in western North Dakota plant.

"Quite honestly, sometimes those minor crops are the difference between making some money out here or not," Birdsall contends. "We put a lot of importance on public breeding and university breeding because that is where much of the minor crop genetics come from since a lot of these private companies really wouldn't invest into because there isn't enough volume in a lot of those crops for them to be profitable."

Soybean Surge

Birdsall didn't expect soybeans to be in the mix for many acres in



Mark Birdsall, who farms and has a seed and agronomy business near Berthold, credits public seed varieties developed at NDSU with helping grow soybean acres in western North Dakota.

western North Dakota. Years ago, he was a member of the North Dakota State University (NDSU) Roughrider genetics program, so he dabbled in soybeans, but without much success. In recent years, however, soybean acres have increased in the region.

“We have now seen such a resurgence of soybeans, and this is based on a couple of different things. One being the NDSU variety soybeans that are available that are glyphosate tolerant. It allows their producers out here to produce soybeans with a lower seed cost, which, in our area, is because of limited moisture potential from here west. It can make them profitable,” Birdsall says.

Birdsall tells how farmers were also able to receive decent coverage for their soybeans with their crop insurance. Growers are able to seed the crop without a huge amount of up-front inputs.

While conditions remain dry in western North Dakota, Birdsall describes how a lot of farmers are still likely to plant soybeans in 2022.

“With the input costs of fertilizer doubling and tripling in some cases, and then, unlike the eastern half of North Dakota, the western half is still dry, so that crop insurance coverage and those input costs are going to have a different feel to them,” Birdsall explains. “We expect soybean acres, actually, to be strong again this next year in the western part of the state.”

Public Options

Birdsall credits the NDSU breeding program and the availability of public varieties for making soybean production profitable in the region.

“If that seed wasn’t available for these producers to have seed costs in the \$35 an acre range or less, that probably wouldn’t be happening as much out here,” Birdsall asserts. “It’s been a real positive to have that public breeding program and to have those genetics out

here and available.”

Birdsall serves on the NDSU Research Foundation, which works to commercialize NDSU’s intellectual property, including seed genetics. He credits the licensing agreement that NDSU has with the North Dakota Crop Improvement Association to help get public soybean varieties into the hands of farmers in western North Dakota as well as parts of Canada and Montana.

“When you have a lower seed cost with these NDSU varieties, soybeans are going to be a competitive crop out here. There will be good years and bad,” Birdsall

states, “but we are seeing more and more interest.”

Birdsall is also a member of the State Board of Agricultural Research and Education (SBARE). SBARE is responsible for the budgeting and policy-making associated with the North Dakota Agricultural Experiment Station and NDSU Extension. Birdsall says that SBARE has heard testimony about several proposals that would provide additional resources for soybean research and education in western North Dakota.

In addition to serving on the SBARE board and the NDSU Research Foundation, Birdsall

most recently was appointed to the North Dakota Wheat Commission.

While operating a farm, running a business and serving on several important boards, Birdsall’s time is often in demand, but he feels that it’s important for him to not stand on the sidelines.

“I’d have to say I’ve probably learned more than I contribute,” Birdsall claims, “but it takes people to be involved in these organizations, and what better people to be involved than the ones who are most affected.”

—Story by Dan Lemke,
photos by Kinsey Schepp



Birdsall Grain and Seed has undergone several expansions since it was formed in 1991.



Peterson Joins FAS Delegation to the Middle East

Valley City, North Dakota, farmer and U.S. Soybean Export Council Chair Monte

Peterson was part of the U.S. Department of Agriculture's first trade mission in more than two years. Peterson was among the delegation that traveled to Dubai, United Arab Emirates, and included U.S. Secretary of Agriculture Tom Vilsack and Foreign Agricultural Service (FAS) Administrator Daniel Whitley. The group was comprised of agribusinesses, farm organizations and state departments of agriculture that are interested in exploring export opportunities across the Middle East.

The agricultural trade mission was the first one for FAS since November 2019.

"The trip was tremendous," Peterson says. "It was the first time that I've had the opportunity to travel to that region of the world. The United Arab Emirates (UAE) themselves may not be a large market

per se, but the area around it is. For example, we've seen dramatic export growth in Egypt and Pakistan."

Peterson states that Dubai is a hub for that region of the world.

"The whole purpose is to connect with customers and to determine market opportunity for, in our case, soybean exports," Peterson explains.

"With annual agricultural exports averaging more than \$1.2

billion during the last five years, the United States is the UAE's fourth-largest supplier of food and farm products, and is poised for further export growth," Whitley asserts.

Peterson describes how the delegation also had the chance to meet with many of the FAS staff members who work to service customers in the region.

"We have a good story to tell

in how well U.S. soy works hand in hand with the FAS in market discovery around this region of the world," Peterson adds.

Building new markets is vital to the U.S. soybean industry. The U.S. set an all-time soybean marketing record for exports during the 2020/2021 marketing year. The feat was accomplished even though China didn't exceed its previous level of soybean purchases.

"We accomplished that status of having the highest U.S. soybean exports during the last marketing year because of our diversity of markets all around the world," Peterson explains. "It was other markets that brought that level up to reach that new record."

Peterson states that he was able to learn a great deal about the Middle East region. Highlights of the trade mission included visiting a camel dairy where 350 camels are milked every day.



U.S. Soybean Export Council President and Valley City farmer Monte Peterson visited a camel dairy in the United Arab Emirates while promoting U.S. soy.

—Story by Dan Lemke, photos courtesy of USSEC

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You Make Biodiesel, Consider Using it

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I recently attended the National Biodiesel Conference and Expo, and the excitement surrounding biodiesel was incredible. This high-quality, high-performance fuel is available now, and fleet managers and farmers are discovering that their vehicles run better with biodiesel. There are many great reasons to use biodiesel in your equipment during the planting season this spring. Biodiesel blends up to B20 have the same power and performance as petroleum diesel. Biodiesel improves ultra-low sulfur diesel by providing excellent lubricity, preventing wear and prolonging engine life. Biodiesel keeps the fuel system and injectors clean, and is naturally high in cetane and low in sulfur.

Big things are happening in North Dakota. We have one of the largest biodiesel plants in the U.S., the second-largest renewable diesel plant in the U.S., and new crush plants anticipated to come online. North Dakota farmers will continue to contribute to the renewable-fuel industry in a big way. Twenty-five percent of the state's beans will be processed at Spiritwood, translating to 78 million gallons of oil to feed renewable diesel production in North Dakota.

This is a major marketing shift for North Dakota soybean farmers who have largely exported their whole bean crop in the past.

Fueling our farms with biodiesel provides an opportunity to create demand for the crops we grow. Spring and summer are the perfect time to begin using B20, a blend of 20% biodiesel and 80% petroleum diesel.

Biodiesel is our fuel, and we should be proud to use it. The biodiesel industry, established by soybean farmers, has seen tremendous growth in the last 25 years, creating a strong market for soybean oil, which helps support the soybeans' demand and price.

To encourage farmers to use this farmer-owned fuel, the North Dakota Soybean Council (NDSC) is offering a rebate to farmers who use B10 and B20. You can receive a rebate of 5 cents per gallon for B10 or 10 cents per gallon for B20. NDSC will pay you to try a premium fuel that will benefit your equipment by boosting performance and will enhance your finances by boosting demand for your product. Visit bit.ly/NDSCbiodieseldiscount22 to sign up for the biodiesel rebate.



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If you have any questions about using biodiesel, fuel handling and storage, or if you ever need help troubleshooting a fuel-related problem, contact our partners at the Diesel Helpline at (800) 929-3437, or email the organization at info@megcorpnmn.com.

To learn more about biodiesel and renewable diesel, visit Clean Fuels Alliance America at cleanfuels.org.

Visit bit.ly/NDSCbiodieseldiscount22
or scan the QR code to the right
to sign up for the biodiesel rebate.



Research: The Field is Our Laboratory

The North Dakota Soybean Council produced several short, new, informative videos that feature checkoff-funded soybean-production research. Visit our YouTube channel to watch these new videos, and be sure to subscribe to the channel to stay up to date on our latest videos.

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“We see that the trend is toward alternative fuels, and we wanted to take advantage of the benefits of blending biodiesel.”

Many major corporations, as well as state and city governments, are ALL IN on lowering carbon as they “set goals” to be net-zero or carbon neutral by a future date. As interest in sustainability and low-carbon fuels grows, renewable fuel producers will need feedstock providers, such as North Dakota soybean farmers, to be ALL IN on supplying feedstock to produce the biofuels which the marketplace is demanding.

North Dakota factors heavily into the renewable fuels market, currently ranking second in renewable-diesel production capacity. North Dakota ranks 10th in soybean production, with over 70% of those beans shipped whole to foreign markets.

With crush plants anticipated in North Dakota’s near future, Rose is excited that “North Dakota farmers will be able to continue to contribute to the renewable fuels industry in even greater capacities.”

To learn more about biodiesel and renewable diesel, visit Clean Fuels Alliance America at cleanfuels.org.

—Story and photos courtesy of
Lisa Pedderson

The North Dakota Soybean Council (NDSC) sent a group of North Dakotans from various segments of the diesel industry to the National Biodiesel Conference. The group’s goals were to learn about the biodiesel industry, to exchange ideas guided by a strategic goal of increasing the in-state availability and utilization of biodiesel, and to bring those experiences back to North Dakota.

This year’s attendees included NDSC Treasurer Rob Rose from Wimbledon, and NDSC Director of Market Development Jena Bjertness. Rose and Bjertness were joined by Dennis Rheault, maintenance manager at Petro Stopping Center in Fargo, and Michael Redding, program coordinator and an instructor of diesel technology at North Dakota State of College of Science (NDSCS) in Wahpeton.

This year’s conference theme, ALL IN, was a call to action for many of the week’s hot topics. ALL IN signified the transition of the National Biodiesel Board changing its name to Clean Fuels Alliance America in order to reflect a more inclusive name for the trade association that represents biodiesel, renewable

diesel and sustainable aviation fuel (SAF). Biodiesel is a clean-burning fuel that is made from renewable sources such as soybean oil, used cooking oil and animal fat.

Biodiesel is becoming very accessible, especially throughout the Midwest where most of it is produced. Renewable diesel is produced from the same feedstocks as biodiesel, but results in a fuel chemically identical to petroleum diesel. Because of the Low-Carbon Fuel Standard, this fuel’s primary market is California. Sustainable aviation fuel is produced from renewable feedstocks and is very similar in its chemistry to traditional fossil jet fuel. Using biodiesel, renewable diesel and sustainable aviation fuel results in reduced carbon emissions compared with the fuels they replace.

Conference attendees heard success stories and industry forecasts from speakers during main-stage panel discussions and educational breakout sessions that pointed to a period of rapid growth for biofuels. One session featured equipment manufacturers committed to supporting biofuel use.

Redding, a diesel instructor, has observed the acceptance and emergence of biodiesel, noting,

“Over the years, we have seen our manufacturers embracing biodiesel.”

Although many people look at electrification as the enemy of renewable liquid fuels, Bjertness points out, “The electric vehicle craze is actually driving the interest in biodiesel and renewable diesel.”

Electrification is a carbon solution that fleets may be working toward, but it is not available right now as biodiesel and renewable diesel are. Fleets are discovering that these biofuels can start having a significant influence on performance.

Rheault revealed that Petro Stopping Center has included biodiesel-blending infrastructure as a part of its station upgrade:



Rob Rose attended the National Biodiesel Conference and Expo in January along with ND diesel industry representatives.



North Dakota Soybeans Provide Goodyear What It Needs



On his farm in northeastern North Dakota, Darren Kadlec has weathered his fair share of ice storms and can tell you that the type of tires you have on your vehicle is pretty important. With the soy checkoff's support, farmers can now use a top-of-the-line tire that supports their bottom line.

In an effort to maintain quality and to increase sustainability, the pros at Goodyear Tire and Rubber Company began collaborating with the soy checkoff nearly a decade ago, working to develop a soybean-based rubber to replace petroleum-based rubber.

The results were exciting; soybean oil helped create a high-performing, weather-ready, more durable product than the original tire. Goodyear's soy-based tire lines stand up to changing temperatures and various terrains with ease, proving that it's possible to make a sustainable tire without sacrificing performance, which North Dakotans can't afford to sacrifice in the winters.

Kadlec has spent many seasons growing soybeans, corn, dry edible beans and wheat in the Peace

Garden State, so he's no stranger to soybeans or snow.

"North Dakota's climate is rath-

er unique. We have four distinct seasons that can be very amiable or very rough," says Kadlec. "Our soybean oil provides qualities for tires to have success in our environment."

With improved tire flexibility across temperatures and enhanced grip on road surfaces, soybean oil was an ideal choice for Goodyear's all-weather tire line. In 2017, Goodyear commercialized this innovation in its Assurance WeatherReady consumer tire line. Since then, the company has rolled out multiple lines featuring its soy-based technology, including the Eagle Enforcer All Weather in 2018; Eagle Exhilarate in 2019; and Assurance ComfortDrive, announced in 2020.

"The fact that [soybean oil] brought a performance benefit that we couldn't get without it, that's what got it into its first product. Each year over the last four years, there's been a new product containing soybean oil, and I expect that to continue into the future," states Bob Woloszynek, Goodyear's chief engineer.



Pisek soybean farmer, Darren Kadlec, serves as a director on the United Soybean Board.

For Kadlec, seeing his soybeans come full circle, from small seeds to gallons of oil to a set of tires, is something farmers couldn't do alone.

"The national soy checkoff was our voice in the collaboration with Goodyear," explains Kadlec. "We fit their mission as an ingredient that not only performed well, but brought increased durability and sustainability."

Building upon that success, Goodyear has also announced a new policy that reflects its strong commitment to the responsible, sustainable sourcing of raw materials, such as soybean oil.

End users continue to demand more sustainably produced products. North Dakota's soybean producers are unified with farmers across the country in their effort to enhance market opportuni-

ties by providing the best raw materials to support partners such as Goodyear. North Dakota farmers are leaders when it comes to using leading-edge technologies and best-management practices to increase economic and environmental sustainability.

For Goodyear, soy's sustainability is an added benefit when using soybean oil in tire rubber. Many consumers are looking for eco-friendly, sustainable options, and soy helps Goodyear deliver. Woloszynek says that the company has seen an uptick in sales for its bio-friendly tires, proving how there is demand for similar products. This successful partnership with the checkoff could lead to other brands looking for innovative ways to use soy with similar technology and could build more demand for soy.

"Now as time has gone on, we have a huge sustainability initiative," states Woloszynek. "We're being very aggressive within the industry by promoting our sustainable technologies and trying to increase the use of sustainable technologies."

Goodyear's sustainable soybean-oil procurement policy reflects its strong commitment to the responsible sourcing of raw materials. The company has plans to phase out petroleum-derived oils from its products by 2040.

"Sustainability has three

**Checkoff
Investment**



prongs: economic, environmental and social. That's completely where U.S. soybeans and North Dakota soybeans fit, right into that three-pronged outline that provides our end users, our farms and our environment what they need," explains Kadlec.

—Story courtesy of United Soybean Board, photos courtesy of Minnesota Soybean Research and Promotion Council and Wanbaugh Studios

**For more information
about Goodyear's
soy-based tires, visit
bit.ly/SoyBasedTires**



Goodyear Thanks Soybean Growers with a 15% Discount

GOODYEAR

A Special Thanks for Planting the Seeds of Something Good

U.S. SOYBEAN FARMERS

GET 15% OFF[†]

Tires at Goodyear.com

FIND TIRES

†Must purchase on Goodyear.com with applicable promotional code to get this offer. Discount applied to regular price on Goodyear.com at time of purchase. Discount does not apply to installation, taxes, or fees where applicable. May be used in combination with Goodyear tire rebate offer. May not be combined with other promotional codes. Limit one redemption per transaction. Cannot be applied to previous purchases. Limited quantities, no rainchecks. All other standard terms and conditions apply. Offer may be modified or cancelled at any time without prior notice. Not valid for government employees. Not for commercial use; void if altered, copied, transferred, auctioned or sold. Cash Value 1/100.

The Goodyear Tire and Rubber Company is showing appreciation to U.S. soybean growers by offering a 15% discount on all its tire lines. An online coupon is now available for U.S. soybean farmers to redeem on all Good-

year tires. Farmers must use this internet-based coupon with its dedicated "Find Tires" link that will match vehicles to the appropriate Goodyear tires as well as local installation options.

**To redeem the Goodyear
coupon, please visit
bit.ly/SoyGoodyearFarmerCoupon**





5th Annual Expo Features the U.S. Farm Report

Hundreds of North Dakota farmers and agribusinesses joined together to get the latest updates on important and timely topics such as markets, carbon sequestration, supply chain challenges, biofuels and corn and soybean processing during the 2022 Northern Corn and Soybean Expo at the Fargodome in Fargo. Despite weather conditions, more than 370 participants from across the state braved snowy conditions to take part in the fifth annual event which was held February 21 and was organized jointly by the North Dakota Soybean Council (NDSC), the North Dakota Soybean Growers Association (NDSGA), the

North Dakota Corn Utilization Council (NDCUC) and the North Dakota Corn Growers Association (NDCGA).

The Northern Corn and Soybean Expo was featured prominently during the February 26 taping of U.S. Farm Report. Host Tyne Morgan served as the event emcee, and several show segments were recorded at the expo.

The U.S. Farm Report segments included input from market analysts Kristi Van Ahn of Van Ahn and Company and Tregg Cronin, a South Dakota farmer and a contributing analyst for DTN-Progressive Farmer.

"We're not going to see those acres shift off of corn, but Minneapolis wheat really needs to get up and

going if it wants to make something of itself and find those acres," Van Ahn says. "Otherwise, beans are looking profitable. Not only are they profitable around North Dakota and South Dakota, we're having some phenomenal basis already for harvest delivery beans."

Cronin expects soybean demand to remain high, but there could be a risk of planting too many beans with the expectation of the demand created by growing markets for renewable diesel and sustainable aviation fuel.

"There is a risk we could be over supplied in the short run. Long term, demand looks incredibly attractive, but that could be a risk that we plant more beans, have a good

crop and the demand base isn't quite there yet," Cronin states. "Under 90 million acres, we probably have demand for all those soybeans; over 90 million, and we've probably got excess supply."

Input costs, particularly for fertilizer, were also a topic of interest during the broadcast. Fertilizer costs have risen dramatically in the past year. Josh Linville, StoneX, doesn't expect fertilizer prices to fall much before spring planting begins.

"We need to bring more imports; we've got to increase the supply, and we've got to bring that from overseas," Linville explains. "Unfortunately, if you had a ship ready to roll today from the Middle East with urea, for example, you're

talking a 30-day sail time to get it to the Gulf. Then, you've got to load it into barges, and you've probably got at least another 30-45 days to get that up the river system, into the terminal and out to the farm. By the time you start talking that type of logistics, it's May."

Kelly Krapu, safety director for TrueNorth Compliance Services, was part of the taping because trucking and transportation issues



were featured prominently in the episode. Krapu says that the trucking industry is losing workers to careers that are more conducive to a family life. Regulations, including new CDL license requirements and vaccine mandates, are also affecting the industry.

"We're currently about 80,000 drivers short in the trucking industry," Krapu asserts. "In 10 years,

they're thinking it's closer to 250,000 to 300,000 jobs that we're going to be short in the trucking industry."

Transportation challenges are spread throughout the entire U.S. supply chain. Soy Transportation Coalition Executive Director Mike Steenhoek states that labor shortages are a major culprit of the supply chain challenge. He expects the shipping-container logjam to



Checkoff Investment



continue through most of 2022.

Farmers are encouraged to mark their calendars for next year's 6th Annual Northern Corn and Soybean Expo at the Fargodome. It will be held February 14, 2023.

—Story by Daniel Lemke,
photos by staff

View video presentations from the 2022 Northern Corn and Soybean Expo, including the U.S. Farm Report taping at



bit.ly/NorthernCornSoyExpo

USDA Announces the Appointment of North Dakota Soybean Producer Cindy Pulskamp to the USB

On March 2, 2022, the U.S. Department of Agriculture (USDA) announced the appointment of Cindy Pulskamp, a soybean farmer from Hillsboro, North Dakota, to serve on the United Soybean Board (USB).

"This is an exciting opportunity for me to serve on the United Soybean Board," says Pulskamp. "I have a passion for the growth and development of agriculture, and I am happy to help share the message on the importance of North Dakota farmers and their needs in supplying products to the world."

Pulskamp and her husband, Neal, produce soybeans, wheat and sugarbeets in Traill County. Her background includes extensive experience in business and leadership. Elected as the first woman to serve on the American Crystal Sugar board, Cindy Pulskamp has previous board experience. She was a member of the board for the Red River Valley Sugarbeet Growers Association, Hillsboro District.

She has also served as an officer for North Dakota Agri-Women; currently, she is the state secretary, and she was the state treasurer from 2014-2018. She received a Master of Management degree and Human Resources from the University of Mary and a Bachelor of Science in Business Administration from Mayville State University.

"We congratulate Cindy on her appointment to (the) USB," says Stephanie Sinner, executive director of the North Dakota Soybean Council (NDSC). "As an experienced farmer-leader for North Dakota agriculture, we are confident she will represent North Dakota and U.S. soybean farmers exceptionally well. She is dedicated in her service to fellow farmers and will work hard to enhance and strengthen our industry on a state, national and international level."

Also representing North Dakota on the USB board are Darren Kadlec, Pisek; Matt Gast, Valley

City; and Ryan Richard, Horace.

The soybean checkoff is supported entirely by soybean growers who contribute one-half of 1% of the market price for each bushel of soybeans sold. The NDSC supports the USB by submitting 50% of the collected North Dakota soybean-checkoff revenue to the USB's national checkoff program. The NDSC oversees the investment for the remaining 50% of North Dakota's soybean-checkoff dollars.

The United Soybean Board's 78 volunteer farmer-directors work on behalf of all U.S. soybean farmers in order to achieve maximum value for the soy-checkoff investments. These volunteers invest and leverage checkoff funds in programs and partnerships to drive soybean innovation beyond the bushel and to increase the preference for U.S. soy. That preference is based on U.S. soybean meal and oil quality as well as the sustainability of U.S. soybean farmers. As stipulated in

the federal Soybean Promotion, Research and Consumer Information Act, the USDA's Agricultural Marketing Service has oversight responsibilities for the USB and the soy checkoff.

For more information about the United Soybean Board, visit unitedsoybean.org.

—Story by staff, photo
courtesy of Cindy Pulskamp



Cindy Pulskamp

Managing the LEFTOVERS

Checkoff
Investment



The meals following Thanksgiving dinner often feature food that we couldn't consume the first time. Similarly, North Dakota soils may contain leftover nutrients, such as nitrogen and phosphorous, that weren't used in 2021 because of widespread drought conditions.

North Dakota State University (NDSU) Extension Soil Specialist David Franzen says that he's heard reports from farmers and seen results from NDSU research that there is a greater amount of residual nitrate available this year than is typical.

"It's not something we consider a lot for soybeans because it's not a common occurrence," Franzen states.

Having extra nitrogen available is a plus for corn and wheat, but Franzen explains how some growers are concerned that higher nitrate levels may be a bad thing

for soybean development.

"People are concerned that the soybeans aren't going to support the rhizobium, so they're going to use up the nitrate, and then, the soybeans will be nitrogen deficient later on," Franzen asserts. "That really isn't going to happen."

Franzen says that, if soybean plants don't have to "pay" rhizobium to convert nitrogen from the air and make it available to the plants, they won't. Having access to residual nitrogen early in the season won't set plants back or stop them from behaving normally once the supply is used.

"As soon as that source goes away, then the plants start sending out the signaling molecules, and the bacteria infect the roots, and things go on as normal," Franzen explains. "That process is just going to be delayed, and that's okay."

Franzen states that numerous studies covering multiple years have shown that adding nitrogen

has little positive or negative effect on soybean productivity in the absence of iron deficiency chlorosis (IDC). He says that, for most growers, having residual nitrate in the soil is no issue, but it can cause problems in areas of the state where farmers battle IDC.

Nitrate doesn't prevent iron from getting into the plant, but free nitrate can cause iron oxidation in the plant cell, making the iron a lot less useful for the plant. While not a hard-and-fast rule, Franzen explains that, if 2-foot soil cores show approximately 100 pounds of nitrate-N in the soil or if a 6-inch sample reveals about 50 pounds of residual nitrate-N in the soil, growers may need to more actively manage IDC.

"Then, it's especially important to make sure that you're planting the variety that has really high tolerance to IDC," Franzen asserts.

Franzen suggests that farmers check out the NDSU soybean-va-

riety trial information. Tested varieties are given an IDC score based on plantings around North Dakota.

In areas with a high risk for IDC, Franzen also recommends putting in a companion crop. Some North Dakota growers already plant soybeans into cover crops. Farmers who don't use cover crops can consider planting barley or oats alongside the soybeans to mitigate the IDC threat.

"Companion crops will use up some water, which decreases IDC, and they'll use up some nitrate, which decreases IDC," Franzen says. "There have been some pretty spectacular results in the region using companion crops."

Franzen adds that, with fertilizer costs high this spring, farmers can likely adjust the soil-test trigger level at which phosphorous fertilizer should be added. Typical recommendations are for farmers to consider adding phosphate when soil-test results are less than 7 parts per million using an Olsen test. Farmers can revise that to 6 parts per million because any additional yield gained by adding phosphate to soils with greater values isn't likely to offset the additional cost.

—Story by Daniel Lemke,
photo by staff



NDSU Extension Soil Specialist David Franzen talks with farmers during summer field days. Fields that were in corn last year have potential for high nutrient carryover to this year's soybean crop.

NDSU Soybean-Variety Trial information can be found at



bit.ly/NDSUsoyvariety21

Leaving Fingerprints on an Industry

Checkoff
Investment



Agriculture was always the field to which Kendall Nichols was drawn, and it provided a career that took the Minnesota native from the classroom; to retail; to Extension; and, finally, to the North Dakota Soybean Council (NDSC).

After more than 40 years in the workforce, Nichols will retire from his role as the NDSC's director of research at the end of March.

"Agriculture has been what I know and what I like," Nichols remarks. "I haven't had much desire to go in other directions."

Nichols was raised on a farm by Ulen, Minnesota, and was active in 4-H and Future Farmers of America (FFA). He attended the University of Minnesota-Crookston for two years before earning an ag education degree from North Dakota State University (NDSU). Nichols taught for a year and then managed a fertilizer plant in Enderlin for several years before working as an agronomist. He was encouraged to work for the University of Minnesota Extension, which he did for 11 years in Wheaton, Minnesota. He then joined NDSU Extension, working in Grand Forks County for 10 years before moving to Traill County. In 2012, Nichols joined the NDSC as the organization's first director of research.

"I had been doing Extension work for 26 years and was ready to try something different," Nichols said. "As director of research, I got to work with Extension and with farmers, so those were big draws."

Because the director of research position was new, Nichols was able

to put his mark on the role. The NDSC funds multiple research projects each year; these studies are intended to improve the productivity and profitability of soybean farming in North Dakota.

"I get to work with farmers and also with researchers. NDSU has such a fabulous group of ag researchers that it's a real joy to be working with these people who are so smart and dedicated to agriculture," Nichols explains. "They're really dedicated to doing what's right for farmers and agriculture."

During Nichols' tenure as the director of research, soybean production in North Dakota expanded substantially.

"The biggest change within the soybean industry has been

the expansion to the west. When I started 9 years ago, I went to a county in southwest North Dakota. There was one soybean field in the county," Nichols recalls. "Now, we've expanded to all corners of the state."

Research into a disease such as white mold, a nutrient deficiency such as iron deficiency chlorosis and pests such as the soybean cyst nematode has helped farmers to better manage their soybeans. The development of new soybean varieties, which were bred for North Dakota, has also contributed to the soybean expansion.

"We have better production practices, good seed and the economics are better for soybeans," Nichols says. "Everything has

played into a perfect storm taking soybeans from a minor crop when I started in North Dakota in 1996 to leading the state in acres."

Nichols describes how he gets great satisfaction from watching farmers be successful. He's worked hard to provide North Dakota farmers with information that they can use to make their operations more profitable.

"There's a whole host of direct research that farmers use every day," Nichols explains. "That's who we're here for: the farmers."

Nichols credits farmer leaders on the NDSC for being proactive about many issues, including Palmer amaranth. Before the weed was even discovered in North Dakota, the NDSC took researchers and others to Nebraska in order to get a better idea of what the weed looked like and how it needed to be managed.

"We figured it (Palmer amaranth) would eventually show up in North Dakota, so when it did show up, we wanted to be able to quickly identify it," Nichols states. "We were prepared for it. The council board was proactive and didn't wait for Palmer to come here and then wonder what to do. We were proactive."

As was the case with research needs in the soybean industry, Nichols asserts that there's plenty of work he's hoping to do in retirement. House projects, car restoration, hunting and motorcycle rides are likely in the picture.

"There's no shortage of things to do," Nichols says.

The North Dakota Soybean Council sincerely thanks Kendall Nichols for his years of leadership, dedication, and hard work, and wishes him a long and happy retirement.



After more than 40 years serving agriculture, Kendall Nichols has retired. His tenure include nearly a decade as North Dakota Soybean Council director of research.

—Story by Daniel Lemke,
photo by Wanbaugh Studios



Decision Time for Soybean Markets

Soybean prices began 2022 on a strong note thanks, in part, to strong global demand, active domestic crushing, and weather concerns in Brazil and Argentina. As spring planting fast approaches, now may be the best time to capitalize on those strong prices.

North Dakota State University Extension Crop Economist and Marketing Specialist Frayne Olson says that, if farmers haven't sold all their 2021 soybeans and still have some beans in the bin, they're likely banking on problems elsewhere in the world to support high prices. "They're essentially gambling on some kind of major problems, weather concern or shipping issue out of South America," Olson states.

There have been weather concerns in portions of South America, but the problems aren't universal across Brazil and Argentina. Olson says that Argentina has been dry, but Argentina primarily exports soybean meal and oil, not whole soybeans.

Brazil has also experienced areas of drought, but the soybean production area is huge, and not all areas

have been affected by poor weather.

"Northern Brazil is going to have a really good crop, so early on, the yield reports we're going to get out of Brazil are going to be pretty strong," Olson explains. "The problem has been southern Brazil. Well over 30% of their soybean production comes from southern Brazil."

Uncertainty with the size and quality of the Brazilian crop has given soybean markets some lift, Olson asserts. As the South American harvest progresses, anticipated strong yields in the northern part of the country may offset the lost production that is expected in the south.

"We're seeing some variability, some volatility in soybean prices because there's uncertainty yet about how big that South American crop is going to be," Olson states. "If you've got soybeans in the bin right now, you're gambling that those problems in Brazil will continue to be major problems and (that) you'll end up with higher prices."

Crush Demand

Soybean demand in the United States is driven by domestic crush-

ing needs and export demand.

Olson says that domestic crush volumes have been very strong. In fact, the soybean crushing industry has been running at full capacity for several months.

A driving force behind the crushing demand is the soybean oil's value. Typically, soybean meal, not the oil, has carried the value. The demand for low-carbon fuels has changed that equation. Olson describes how the price of soybean oil has doubled in recent months.

"Over the last eight, 8 to 12 months, there's been a growing capacity to be able to convert soybean oil into renewable diesel. The demand for biodiesel is the same, plus the demand for vegetable oil for cooking and for frying and for all the food uses is still there," Olson explains.

While there is an increased need for soybean oil with biodiesel and renewable diesel, growth in those areas won't have much of a short-term effect because crush plants are already running at full volume. That formula will likely change when more soybean crush capacity comes online.

Export and Acreage Uncertainty

Olson says that the biggest question mark for soybean markets in 2022 is export demand, and no single country has more influence than China. There is uncertainty about how many soybeans China, the world's largest soybean importer, will actually buy.

"China's demand for soybeans is starting to flatten out," Olson states. "For 20-plus years, the volume of soybeans that China bought off the global market increased every year. It was just a matter of how much of an increase we're going to have. That all changed with African Swine Fever."

African Swine Fever decimated China's hog herd, sharply reducing the need for soybean meal. Reduced demand could play a role with how many soybean acres are needed in 2022.

Olson explains how the U.S. Department of Agriculture is forecasting that China will buy about the same number of soybeans in 2022 as the country did in 2021.

—Continued on page 33



Three Reasons To Grow Food-Grade Soybeans

1|IDENTITY PRESERVATION

Most U.S. soybeans grown are delivered to local elevators post-harvest where they are then sent to be crushed into ingredients for oil and meal. Companies like SB&B Foods out of Casselton, N.D., connect their grower partners to global food markets around the world. By focusing on maintaining the volume and quality of the crop with the highest traceability standards.

2|PREMIUM

You already grow soybeans, so why not grow a third of your acres at an increased premium? The premium payments for food-grade soybeans are a direct reflection of the demand for these unique varieties.

"The demand is significant," said Bob Sinner, president of SB&B Foods. "The real issue is having enough supply to meet the demand for food manufacturers. As the economies of Southeast Asia improve, people are wanting to eat better."

3|PRIDE

When it comes to marketing soybeans, there are numerous opportunities available, but none quite like knowing your product is making an actual difference in someone's life - and on their dinner plate.

"Our overseas customers hold U.S. grown identity-preserved soybeans in high regards, in fact, we have soy food shops that place storefront banners saying "SB&B soybeans sold here" - it's quite incredible," said Todd Sinner, SB&B Partner.

Working with an established local processor like SB&B Foods guarantees contracts that work within your current operation, provide proof of strong international market ties, and emphasize identity preservation. With locations in Casselton, N.D., and Wisconsin, SB&B Foods is proud to be a sustainable partner for the future of agriculture. Visit SB-B.com to learn more about joining the food-grade soybean movement.

It's time to join the food-grade movement

What if there was a way to diversify and turn a larger profit while continuing to do what you know and love - planting corn and soybeans? It may be time to consider adding food-grade soybeans into your operation. Food-grade soybeans are specific varieties that are selected for characteristics ideal for the production of tofu, natto, soy milk, and other soy foods.

Lean more at sb-b.com or call 701-347-4900.



North Dakota Leaders Grow from LEADERSHIP ACADEMY

More than 100 farmer leaders and staff members participated in the Soybean Leadership Academy, which was held in January. The two-day training in Bonita Springs, Florida, was created to provide tools and techniques that enable state and national soybean board and association leaders to be more effective, efficient and inspired leaders.

North Dakota farmers Rob Rose, Justin Sherlock and Spencer Endrud were among the participants. Valley City farmer, U.S. Soybean Export Council (USSEC) Chair and American Soybean Association (ASA) Director Monte Peterson was among the presenters.

Throughout the program, participants had the opportunity to engage with speakers and each other.

The Soybean Leadership

Academy features interactive learning opportunities with industry-leading speakers along with soybean growers and staff leaders from across the country.

Featured speakers included Jennifer Coleman, Aimpoint Research; Mary Byers, author, *Race to Relevance*; Jim Meffert, Tecker International; Michael Gallery, Opis; Scott Hutchins, consultant; and Ebony Webber, Minorities in Agriculture, Natural Resources, and Related Sciences. The program also featured a panel about the future of fuel: Alan Weber, Marc IV; Nathan Crum, Valley Pacific Petroleum; and Scott Gerlt, ASA economist. A grower panel, featuring Brad Doyle, ASA president; Ralph Lott, United Soybean Board (USB) chair; and Monte Peterson, USSEC chair/ASA director, capped off the event.

Spencer Endrud, who serves on the North Dakota Soybean

Growers Association's Board of Directors, says that the event provided some valuable information, including insight about the future for soybeans.

"A few states had hired Aimpoint Research to do a study on the future of soybeans," Endrud states. "Factoring in all sorts of current and potential scenarios, including politics and diet preferences, they (Aimpoint Research) conducted a 'war-game' scenario, and it was honestly very relieving to know that animal consumption was the greatest driving force for the soybean industry through their study. Knowing that information, and the fact that North Dakota will finally have a soy crush facility, only strengthens my confidence in the soybean industry for North Dakota. Soy oil is approaching 50% of the value of a soybean, and only 20% of a soybean is oil. Given the benefits and high demand of

biodiesel and renewable diesel, and the markets for the soy meal, I believe the soybean future is bright for farmers in North Dakota."

Participants also heard from industry leaders, including Robbie Upton, director of marketing for BASF, and Ryan Locke, industry relations manager for FMC.

"(The) ASA is grateful to the industry and state partners that made the 2022 Soybean Leadership Academy a resounding success," ASA President Brad Doyle asserts. "We also appreciate those who participated in the program. We are fortunate to have such strong leaders at the state and national level who are committed to the continued success and future of the soybean industry."

*—Story by Daniel Lemke,
photo by staff*



North Dakota farmer took part as participants and presenters at the Soy Leadership Academy. Valley City farmer Monte Peterson (left, on stage) was one of the panelists at the event.

(you)

Who's the No. 1 protein source in chicken feed?
YOU are. That's right. You're winning.

All soybean farmers, including you, are really big in poultry and livestock feed. How? By pooling your resources through your soy checkoff. Learn how your soy checkoff is bringing tangible returns back to you and your operation at unitedsoybean.org/hopper.



Moving Soy Forward.
Moving You Forward.



NDSC Vice Chairman Chris Brossart presents Joel Thorsrud an appreciation plaque for his endowment to the NDSU soybean breeding program.

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Hillsboro Farmer Leaving a Legacy

Even though he's preparing for his 53rd growing season, Hillsboro farmer Joel Thorsrud has never lost his appetite for learning.

"I like to go to the different farm meetings, and that's where I've kept up on the agronomy part of farming," Thorsrud says. "I'm not a certified crop adviser or anything, but I just like keeping up with the agronomy. So, I go to all the different ag meetings, and I see people from North Dakota State University (NDSU) and Extension and keep up that way."

Thorsrud has an agronomy degree from NDSU, which only fed his desire to learn. That curiosity also led him to some leadership roles within North Dakota's soybean industry.

Thorsrud was attending a North Dakota Crop Improvement Association meeting two decades ago when it was announced that the North Dakota Soybean Council (NDSC) needed a representative. Thorsrud was nominated as one of the candidates to fill that role.

"I don't even remember if I voted for myself," Thorsrud quipped.

Enough other farmers did vote

for him, so Thorsrud joined the NDSC in 2003. He wasn't sure what to expect, but he decided that he could handle the commitment and got involved.

"I quickly learned it was a very good opportunity to learn about the soybean industry and to get to know other farmers who are connected with it," Thorsrud explained, "including staff and the customers from in the United States and around the world."

Thorsrud took particular inter-

est in biodiesel, recognizing it as something that had great potential to enhance the demand for soybeans. As a diabetic, Thorsrud said that he's also particularly aware of soy's role in human nutrition.

Next Step

Thorsrud served his first three-year term on the NDSC; then, he was elected a second time. While serving his second term, Thorsrud was appointed to the United Soybean Board (USB), which oversees

the investment of soybean-checkoff dollars on a national level. Thorsrud served on the USB for nine years.

"I have an awful lot of time invested in the soybean industry, but for the most part, it was very enjoyable, and I learned a lot about soybeans. I found out there's still a lot more to learn," Thorsrud admitted, "but I enjoyed it very much, and I enjoyed visiting with all the different people from the staff in North Dakota and on the national board, and the customers from around the world."

As part of both the NDSC and USB, Thorsrud participated in numerous trade missions, both as a host and as a visitor. These opportunities presented more chances to learn.

"It's pretty fascinating when you grow up on a farm here in North Dakota. You never dream that you're going to have a trade team from China or southeast Asia come to your farm, ride in your combine and look at your soybeans. It's pretty fascinating when that happens," Thorsrud stated. "People are pretty much all alike. They just want to see their families grow up healthy and have a chance for a better life."

Options Needed

Thorsrud has operated his own farm since he was 19 years old, so he's had a front-row seat for the growth of soybean production in North Dakota. Some of the industry's growth came from necessity.

"In the early 1990s when we started getting above-normal rainfall, wheat turned scabby; barley turned scabby; durum was scabby was poor quality; and it was not yielding very well. Farmers were trying to figure out what to grow. A lot of people quit growing wheat and also quit growing sunflowers. We were trying to find something we could grow. We



Joel Thorsrud (right) hosted numerous trade teams at his Hillsboro farm while serving on the North Dakota Soybean Council and the United Soybean Board.



Dr. Ted Helms, retired NDSU soybean breeder (left), Thorsrud (center) and NDSU Vice President for Agricultural Affairs Dr. Greg Lardy took part in a recognition of Thorsrud's gift at the Northern Corn and Soybean Expo in February.

had to turn to soybeans and corn," Thorsrud recalled.

Soybean varieties bred for North Dakota conditions were few and far between. There weren't enough soybean acres planted in North Dakota for seed companies to put a lot of effort and resources into developing varieties that worked for the region. North Dakota State University (NDSU) and the NDSC recognized a need. Ted Helms was hired as a soybean

breeder at NDSU to give North Dakota farmers more options.

"Fortunately, those good varieties of soybeans came out at just the right time, and we started getting better yields," Thorsrud said. "At first, 15 to 20 bushels was a common yield. Pretty soon, the common yield was 30, then 40 and then up to 50 bushels."

Gift of Gratitude

The contributions that Helms and NDSU's soybean-breeding

program have made to the soybean industry and to his own farm haven't been lost on Thorsrud. Instead, these efforts inspired him to leave an endowment to the NDSU soybean-breeding program in honor of Helms, who recently retired.

"I go to all these farm meetings, and NDSU and the Extension program was there at every one of them, helping me with crop decisions. Variety selection, weed control, disease control, insect control, marketing. It's been soil nutrition for quite a while, and lately, I've been trying to work with improving soil health," Thorsrud explains. "It's always good to have the NDSU and Extension people to work with and help me every step of the way. I feel that giving back helps the farming community. I've often heard it said, if the farmers do well, the whole community does well. So, I feel like I'm helping NDSU help the

farming community and also help the entire community."

Thorsrud's donation to NDSU was announced at the Northern Corn and Soybean Expo in February, but the endowment was a lifetime in the making.

In addition to trade missions, Thorsrud has traveled to poorer countries through the World Initiative for Soy in Human Health (WISSH). WISSH works to use the nutritional benefits of soy to improve the lives of people around the world. Experiences with less-fortunate populations reinforced Thorsrud's desire to give back.

"We're taught as Christians to feed the hungry and help one another," Thorsrud explained. "When we're helping one another in one way, we find out that our lives are enriched even more."

—Story by Dan Lemke,
photos by staff



In January, February, March and April, the North Dakota Soybean Council educated thousands of fourth graders in Minot, Bismarck, Fargo and Lisbon. Students learned about soybeans' importance to the state, including how soybeans are grown and the array of products made from this "miracle bean." The Living Ag Classroom events are collaborative efforts by many North Dakota agriculture and commodity groups. These events educate fourth graders on the diversity of agriculture in the state, and its role in feeding the nation and the rest of the world.



Poised for GROWTH

Multiple factors are converging to set the stage for increased animal agriculture in North Dakota. North Dakota Livestock Alliance (NDLA) Executive Director Amber Boeshans says that a lot of conversations about the potential for the expansion and development of livestock enterprises are happening.

One reason for growing enthusiasm is the construction of the soybean crushing plant near Spiritwood and the prospects of a second plant near Casselton. Increased demand for low-carbon fuels, such as biodiesel and renewable diesel, made from soybean oil is a major factor behind the need for more crushing capacity. Soybeans are about 18% oil, and the rest is soybean meal, a high-quality protein source for livestock.

"North Dakota is really at the top of the list for livestock diversification because of the soybean crushing plant in Spiritwood and the proposed facility by Casselton," Boeshans states. "That's a huge resource of major importance to all livestock feeding, but especially to poultry and pigs."

Just because ingredients will be available from North Dakota soybean processors doesn't guarantee more livestock production, but having a consistent, local feed source is a major plus.

"You have to have enough livestock to justify the feed, but you also

have to have enough feed to justify the livestock," Boeshans explains.

Boeshans asserts that there is definite enthusiasm for animal agriculture. She describes how a lot of farmers who have never raised livestock or may not have raised them for years are taking another look at the animal ag option. Beyond the promise of a reliable, abundant feed source, livestock operations can be a good way to incorporate more family members into a farming enterprise.

Having access to abundant soybean meal is a positive factor for increasing livestock production, but other pieces need to be put in place. Boeshans says that need includes having biosecure

pig-feed production in the state. There's also a lack of some needed expertise and infrastructure.

"We need people who can fix machinery in barns, experts who can work on specialized equipment, including on the feed side," Boeshans explains. "That infrastructure will come with the livestock growth."

Growing the animal ag sector in North Dakota would not only affect the farmers who are involved with the operations, but it could also provide the opportunity for new enterprises.

"We're training all these animal science students at our colleges and universities. We're training them in hog barns, in cattle barns,

and we want to provide jobs for these students here," Boeshans says.

Given the expected growth with soybean-meal availability, increased hog production may be the most likely opportunity in North Dakota. Not only would pigs consume the locally produced meal, but manure from hog operations can also be a reliable source of fertilizer, which is an important economic consideration for many crop farmers given the recent, sharp spikes with fertilizer prices.

"Having a reliable source for manure in your area can be a game changer for farm inputs and soil health. Adding livestock allows farmers to be more independent and self sufficient, producing their own fertilizer and feeding their own crops," Boeshans asserts.

Boeshans explains how the annual NDLA Livestock Summit, held at the Nome Schoolhouse in February, was a tremendous success, drawing farmers, industry leaders, North Dakota county and township zoning authorities, and experts involved with animal agriculture. One purpose for the summit is to make farmers aware of the resources that are available if they're looking to diversify their operations or to start new ones. Boeshans stresses that any growth needs to be done properly.

"The whole point is to ensure that we're doing this responsibly," Boeshans states. "We are going to be totally open and transparent with communities about proposed projects, and we are going to emphasize environmental and animal health standards to ensure North Dakota continues to be a great place to grow healthy and successful animals."

To learn more about the North Dakota Livestock Alliance, visit ndlivestock.org.

—Story by Daniel Lemke,
photos by staff



Fueling Your Farm

Workshops Series Hits the Road in ND

This winter, the North Dakota Soybean Council (NDSC) partnered with MEG Corp Fuel Consulting to conduct “Fueling Your Farm” workshops throughout the state in order to help farmers better understand diesel, biodiesel and renewable diesel as well as how they affect the farming operation. To provide greater accessibility to the workshops, they were held in 12 locations across the state. Hoon Ge, a chemical engineer with more than 35 years of experience in the petroleum and renewable fuel industries, was the presenter.

One of the workshops’ primary goals was to inform farmers about the changes with diesel fuel that have occurred, over the years, to help attendees better manage their fuel. The introduction of ultra-low sulfur diesel (ULSD) in 2006 presented some challenges for diesel users and required attention to tank maintenance and to the use of best practices. Attendees learned about common diesel-fuel issues and how to prevent occurrences. Other changes included the emergence of biodiesel and renewable diesel (RD). Biodiesel and RD have become popular

topics in North Dakota because the state is one of the top producers for both fuels. The workshops provided a better understanding about both fuels and how farmers can support their own industry.

After completing nine workshops, follow-up surveys indicated that half of the attendees had tried biodiesel in the past. As with many new products, biodiesel had inconsistent performance for farmers who tried it 10-15 years ago. Addressing the concerns of people who had tried biodiesel and had problems as well as individuals who had heard the negative stories was another goal for the workshops. Attendees learned how the biodiesel quality has improved since its early days: by improving the biodiesel fuel specification, and by implementing the BQ-9000 quality program. Follow-up surveys indicated that 99% of attendees were considering use of or would be utilizing biodiesel in the future.

Other key take aways were biodiesel’s superior lubricating properties, how renewable diesel is identical to petroleum diesel, and the importance of following best practices and tank maintenance.

Biodiesel is a clean, renewable

alternative to diesel fuel and is typically blended into diesel fuel in varying ratios from 5 to 20%. RD is a diesel fuel that is made from the same fats and oil as biodiesel, but RD is refined similar to crude oil, resulting in a product that is indistinguishable from petroleum diesel and is only detected with carbon-date testing.

More than half of the biodiesel produced in the U.S. is sourced from soybean oil. Therefore, biodiesel adds 13% of the value (currently more than \$2.00) to each bushel of soybeans grown, supporting local farmers and businesses in North Dakota. The U.S. produced approximately 3 billion gallons of bio-mass based diesel in 2021 and projects 6 billion gallons to be produced by 2030. This production doubling will increase the need for feedstock. Soybean oil will continue to be in high demand.

NDSC Director Jim Thompson of Page says, “It is important to tell the story of the demand for soybean oil that is being created by biodiesel and renewable diesel.” Thompson attended the Mapleton workshop in February.

After attending the February workshop in Cooperstown, NDSC Director Milo Braaten of Portland believes that the future of biodiesel is bright. “With low carbon standards in place in some

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areas of the country, this industry is not going away any time soon,” say Braaten. “The sooner farmers look at what biodiesel can do for their bottom line, the sooner they can make the best fuel decisions for their farm operations.”

The workshops concluded with a video featuring North Dakota farmers who use B20 on their farms. NDSC Secretary Mike Langseth of Barney explained that he expected to change a lot of filters when he made the switch, but that situation wasn’t the case. He further explained that on his farm operation, he uses all the same tanks and equipment, and that biodiesel requires no new investment.

“It just burns like diesel fuel,” says Langseth. “As farmers that grow soybeans, we should want to use biodiesel ourselves and advocate for it when we can.”

NDSC Director Dan Spiekemeier of Sheldon seconds that thought by saying, “If we can add value to what we produce here, why wouldn’t we want to do that?”

If you have questions about using biodiesel, need help finding a biodiesel fuel supplier, or need help with a fuel-related problem, please call the Diesel Helpline at 1-800-929-3437.

To learn more about biodiesel and renewable diesel, please visit Clean Fuels Alliance America at cleanfuels.org

—Story courtesy of
Lisa Pedderson, photos by staff



North Dakota Soybean Council Treasurer Rob Rose, Wimbledon, welcomes farmers at Valley City’s Fueling Your Farm Workshop in February.

**Learn about NDSC’s
Biodiesel Rebate
Program for farmers at**



bit.ly/NDSCbiodieseldiscount22

Treating for a Fast Start

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Soybean producer Scott Gauslow of Colfax, North Dakota uses seed treatments annually to protect this crops from diseases and insects.

Getting vibrant soybean stands established early in the growing season can go a long way with maximizing yields later in the year. To help get soybeans off to a strong start, many growers turn to seed treatments.

“Seed treatments are effective for the first few weeks after planting, and I would argue that’s the most critical time where you see seed treatments really help with stand establishment,” says North Dakota State University (NDSU) Extension Plant Pathologist Sam Markell.

Markell states that the biggest benefit that seed treatments offer is helping to get plants out of the ground healthy and off to a fast start, which is especially true in areas where root diseases are present.

“An effective seed treatment will fight off a lot of root pathogens while that seed is in the soil and germinating, and that’s particularly important because we often have cool and wet soils after planting that can make emergence slow,” Markell explains. “Seed treatments biggest benefit really is to help soybean plants get out of the ground and get stand establishment.”

Markell describes how research shows that root diseases are among the most-limiting factors for soybean yield in North Dakota. Two major categories of root diseases are prevalent in North Dakota. Oomycetes, which Markell says are more similar to algae, require water to thrive. Common pathogens such as *Pythium* and *Phytophthora* are oomycetes. Fungi, such as *Fusarium* and *Rhizoctonia*, can be present and thrive in damp or dry soils. They’re also common pathogens in North Dakota.

Regardless of the season or weather conditions, North Dakota soybean farmers likely have to contend with a root disease potential.

“I tell growers that there’s a root-rot pathogen for all environments,” Markell remarks. “We all know that we tend to get them more in wet soils after planting, but I wouldn’t discount the root pathogens, even in a relatively dry year.”

In the search for profitability, seed treatments add to a farmer’s input costs. Markell says that fungicide treatments tend to be relatively inexpensive while nematicides can be costly. Whether it makes financial sense to add seed treatments

can vary by field and farm.

“The tighter the crop rotation, the more likely treatments will give you a benefit over the long haul,” Markell explains. “Also, the more history of disease you’ve got, the more likely you will see it (treatment) pay off. If you’re growing soybeans for the first or second time and your crop rotation is really good, then there’s much less of a need for a fungicide treatment. Generally, what we see with soybeans is that the longer you grow them, and we’ve got a lot of tight rotations, we expect fungicide seed treatments to pay off.”

Seed treatments offer protection for about two to four weeks, which is usually long enough for soybean seeds to sprout and for plants to emerge, Markell asserts.

“After that, if you’ve got a

healthy root system, it’s going to be really helpful. If you have plant genetics for disease resistance, that will last the whole season,” Markell explains. “Try to get varieties with good genetic resistance, and then, spike them with the fungicide seed treatments.”

Because not every seed treatment is effective against all pathogens, Markell recommends using multiple modes of action to combat the diseases that may be present.

More information about crop diseases and treatments is available from the Crop Protection Network, a collaboration between researchers and Extension pathologists at multiple land-grant universities, including NDSU.

—Story by Daniel Lemke,
photos by staff

**Crop diseases
and treatment
information can be
found at
bit.ly/CropProtectionNetwork**



What Does the Loss of Chlorpyrifos Mean to North Dakota Growers?

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How widespread is the use of chlorpyrifos in North Dakota?

Chlorpyrifos is registered for use with a wide variety of crops grown in North Dakota, including field corn; alfalfa; soybeans; sugarbeets; sunflowers; wheat; and dry, edible beans. Chlorpyrifos is probably best recognized by its original brand name, Lorsban. There are liquid, water-soluble powder (WSP) and granular formulations now available under a number of other names, such as Govern, Warhawk, Yuma and other generics. Chlorpyrifos is also available in premix products, such as Cobalt Advanced, that also contain a pyrethroid insecticide. Registered uses vary by crop. For example, registered uses for soybeans include granular at-plant applications and post-emergence foliar liquid applications. For dry, edible beans, chlorpyrifos can be used as a seed treatment slurry (WSP formulation) or as a pre-plant broadcast application, but cannot be used for post-emergence foliar applications. In summary, chlorpyrifos is widely used to control many insect pests for field crops in North Dakota.

What insects do most North Dakota farmers control with this technology?

Chlorpyrifos is a broad-spectrum insecticide that controls a wide variety of soil and above-ground insect and mite pests. Soil pests include seed corn maggots, corn rootworm larvae, sugarbeet root maggot larvae, white grubs and wireworms. Above-ground pests include alfalfa weevils, aphids, armyworms, cutworms, foliage-feeding caterpillars, grass-

hoppers, leafhoppers, lygus bugs, corn rootworm adults, sugarbeet root maggot adults, banded sunflower moths, sunflower head moths, red sunflower seed weevils, wheat midges and spider mites. Chlorpyrifos is also available as a residual bin spray and a grain-storage protectant against stored grain insect pests, such as red flour beetles. Another characteristic of chlorpyrifos is its short residual activity, usually about 3-5 days. It is also a volatile chemical that is able to penetrate closed canopies and crop floral structures better than other insecticides.

What, if any, other pesticide options are there for growers?

Most crops have several alternatives to control insect and spider-mite pests. Broad-spectrum insecticides include neonicotinoid seed treatments; granular and liquid pyrethroid formulations for at-plant use; and neonicotinoids, pyrethroids, and other organophosphates for foliar use. There are also several newer alternative chemistries that have specific activity against certain insect pests, such as diamides (Prevathon and Exirel) for foliage-feeding caterpillars, such as thistle caterpillars and green cloverworms in soybeans; and pyropenes (Sefina Inscalis), sulfoximines (Transform), and butenolides (Sivanto) to control soybean aphids. There are also specific miticides, such as abamectin (Agri-Mek) and etoxazole (Zeal), that are registered for use with soybeans and corn to control spider mites, but these products are more expensive than chlorpyrifos.

Some crops, such as sunflowers, only have a few chemistries available for use. The red sunflower

seed weevil is best controlled by using straight chlorpyrifos or a chlorpyrifos + pyrethroid premix because chlorpyrifos is better able to penetrate flower bracts and other floral structures where the larvae are hiding. Due to increased growers' complaints about pyrethroid failures to control red sunflower seed weevils in some areas, pyrethroids alone may or may not give adequate protection. Currently, there are no other alternative chemistries to control red sunflower seed weevils. The development of pyrethroid resistance is a major concern with the red sunflower seed weevil.

Pyrethroids are the most widely utilized mode of action for foliar insecticides, and that comes with an increased risk of insecticide resistance. Pyrethroid resistance has occurred in soybean aphids in multiple states, including eastern North Dakota. While we do have other effective chemistries to control pyrethroid-resistant soybean aphids, the loss of chlorpyrifos means that we have one less tool in our insect-control arsenal. This may lead to an overreliance on pyrethroids and pyrethroid resistance developing with other insect pests and field crops.

How does the loss of chlorpyrifos change how farmers manage insects?

The loss of chlorpyrifos forces farmers to use alternative chemistries. In the case of spider mites, where multiple foliar applications may be necessary and rotating products with different modes of action is a must to prevent resistance, the loss of chlorpyrifos may force growers to use a more expensive miticide, which increases the overall monetary

input for the crop. It is vital that farmers practice sound integrated pest-management (IPM) principles regarding insecticide use and adopt non-chemical IPM strategies, such as crop rotation and the conservation of biological control agents. Scouting fields regularly and using established economic thresholds are more important than ever. An important IPM strategy when more than one insecticide application is needed to control a specific pest is to rotate to a new mode of action in order to help prevent the development of insecticide resistance and to keep the current insecticides in the IPM toolbox.

For questions or additional information, contact your local Extension Agent, or email Janet Knodel, NDSU Extension Entomologist at janet.knodel@ndsu.edu.

The Soybean Research and Information Network is the farmers' source for information regarding soybean diseases, pests, diagnostic tools and more. Visit their website at soybeanresearchinfo.com.

—Story by Janet Knodel
and Patrick Beauzay,
NDSU, photo by staff



NDSU Extension Entomologist
Janet Knodel.

SAFETY FOR ALL SEASONS

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Members of the Sheyenne Valley Technical Rescue Team (SVTRT) of Kindred, North Dakota deftly maneuvered through the grain-bin extraction demonstration that drew and held the attention of farmers during the 2022 Northern Corn and Soybean Expo. The exercise highlighted part of the exhaustive process rescuers go through to try to save the life of someone who is trapped in a grain bin.

North Dakota State University Extension Farm & Ranch Safety Coordinator Angie Johnson says that the extraction demonstration is a vivid example of what rescuers do to safely remove someone who is trapped. With many entrapment cases, the victim is buried in grain and isn't visible, so it takes rescuers time to assess a scene before moving forward safely.

"Extraction is something that needs to happen within minutes, and it feels like a lifetime because rescuers have to first figure out

what the scene is like," Johnson states. "Why did this happen? Is the auger still running, or are we still powered up? Are there toxic gases? They have to assess the scene."

Johnson describes how every rescue or recovery scene is different, requiring a careful, but deliberate, approach to a situation that likely could have been avoided.

"I really appreciate the SVTRT team because they're putting themselves at risk to save lives, but they really showcase how it's not a simple task," Johnson explains.

The extraction demonstration may show what's possible, but Johnson says that everyone involved with the exercise would rather focus on prevention than on rescues.

Spring is a good time for farmers to move grain from bins to market because road restrictions may not be in place yet and because the grain is easier to handle when it's cool. Spring is also when farmers will truly know the condition of the grain inside their bins. Out-of-condition grain that has hotspots or

possible bridging can affect the grain's flow, tempting farmers to enter a grain bin and setting up a potentially dangerous scenario.

An Active Season

Spring brings an influx of implement traffic on the roads again as farmers move tillage equipment, planters, seeders and fertilizer applicators from field to field. Johnson states that safety is important for everyone using the roads.

"We all share state highways, county highways and township roads. We all get to travel them together, so for equipment operators, that means having your slow-moving vehicle sign visible and also using your flashers, blinkers and then making sure you've got those lights on," Johnson explains.

Johnson describes how other simple things, such as making sure that equipment is in good working order and that cab windows are clean, can help farmers avoid dangerous situations.

Growers and farm employees

also work with herbicides and seed treatments that require careful application.

"Any time you're handling those insecticide or fungicide seed-treatment products, make sure you've got personal protective equipment, and the same goes if you're putting down a herbicide," Johnson says.

Personal protective equipment, including gloves, masks and safety eyewear, can reduce the risk of exposure. Johnson recommends that farmers go through their sprayer to make sure that everything, including nozzles, is working properly.

If farmers hire seasonal help for spring fieldwork, Johnson recommends training the employees on any piece of equipment they may need to use.

"I think it's so important that we take some time to help work with those people we want to hire and set them up for success," Johnson asserts.

Dry conditions last year meant that few farmers had to deal with the threat of equipment which was stuck in the mud. Depending upon spring conditions, stuck implements could be an issue in 2022. If equipment gets bogged down in mud, Johnson says that it's imperative to be careful when trying to dislodge machinery and to use sturdy tow straps that haven't been stretched out during previous uses.

In cases where children may be present in farmyards, Johnson suggests having a designated play area, away from any farm equipment, for the kids.

Weather and soil conditions may be outside a farmer's control, but Johnson states that farmers and ranchers need to take care of themselves. Rest and good nutrition are important to help farmers operate at their best.



Sheyenne Valley Technical Rescue Team Captain Richard Schock describes the process crew members use to extract people trapped in a grain bin during a demonstration at the Northern Corn and Soybean Expo.



Crew members of the Sheyenne Valley Technical Rescue Team are specially trained to deal with bin extractions.

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“When we’re stressed and tired and not taking care of ourselves the best, that’s when we start to make poor choices, and that’s when accidents can happen,” Johnson explains.

To learn more farm safety tips from NDSU, please visit bit.ly/NDSUFarmSafety.

To learn more about Kindred’s Sheyenne Valley Technical Rescue Team, visit bit.ly/KindredSVTRT.

Grain bin body safety harnesses can be purchased online at bit.ly/GrainBinSafetyHarness22.

—Story by *Daniel Lemke*,
photos by staff

Behind the North Dakota Soybean Scenes

It takes countless people working together to make a business successful. The North Dakota Soybean Council (NDSC) is no exception. In addition to farmer-leaders who oversee the investment of checkoff funds, the NDSC features dedicated staff who work to further the state’s soybean industry and to support the state’s soybean farmers.

In the coming issues of the North Dakota Soybean Grower, we’ll introduce you to the hardworking professionals who are committed to enhancing the productivity and profitability of soybean farming in North Dakota.

Stephanie Sinner Executive Director

Stephanie Sinner didn’t grow up around soybean farming, but she’s fully immersed in the industry as the NDSC’s executive director. A native of Montrose, Colorado, Sinner’s family had a cow-calf operation and produced hay. She earned her bachelor’s degree at Fort Lewis College in Durango, Colorado, before getting her master’s degree in international studies with an emphasis in agricultural trade policy from Oklahoma State University.

In 2005, Sinner was hired by the North Dakota Department of Agriculture as a policy analyst. She

later moved into the international trade and export role with the marketing department, helping to promote North Dakota ag commodities and food products around the world.

“Being in North Dakota gave me opportunities that I would never have had anywhere else,” Sinner stated.

Sinner organized trade missions to Cuba, China, Vietnam, Turkey and a variety of other countries. That international trade experience was a perfect fit for the NDSC. In 2013, Sinner joined the NDSC staff as the director of market development. In 2018, Sinner was hired as the executive director.

Sinner said that she feels fortunate to be using her education in agriculture and trade to serve North Dakota farm families.

“Having grown up in agriculture, my passion is being able to work alongside and for farmers,” Sinner explained. “I’ve been blessed to be able to do that in every job I’ve had. The most rewarding part of what I do is providing service to farmers, ranchers and their families. I love that North Dakota is a state where agriculture is still very important, and that value is recognized.”

Sinner and her husband, Scott, live in Fargo. Scott is a partner in the family farm in Casselton.



Molly Fern (left) and Stephanie Sinner (right) are two of the dedicated staff who work on behalf of ND soybean farmers.

Molly Fern Director of Finance

It may have been a stroke of luck that brought Molly Fern to the North Dakota Soybean Council more than 15 years ago. Fern was hired for a one-day, temporary job, helping the North Dakota Soybean Growers Association with its annual golf tournament. That initial connection paved the way for her to be hired as the NDSC director of finance.

A Fargo native, Fern earned her bachelor’s degree in business management from the University of Mary. Then, she went to work for Target Corporation in Minneapolis. She later transferred to Arizona before returning to Fargo.

As the director of finance, Fern’s responsibilities include administering North Dakota’s soybean checkoff, managing the NDSC’s financial programs and serving as

the procurement officer. She also manages all the state and federal contracts as well as checkoff compliances, which ensures transparency for all soybean checkoff programs.

With the growth in soybean production during her tenure at the NDSC, the scope of her work has increased substantially, but the career continues to provide rewards.

“The best part of my job is working for farmers and with the team here at the North Dakota Soybean Council,” Fern says. “I’ve known the other members of the team for many, many years, and it’s just a great place to work. I enjoy working for farmers because they’re very good, down-to-earth people. It’s been a great experience.”

Fern lives in West Fargo with her 10- and 8-year-old sons.

—Story by *Daniel Lemke*,
photo by staff

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



Connect with WISHH
wishh.org



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

A Novel Approach to Environmental Outcomes

In recent years, carbon payment programs, with a wide range of opportunities and expectations, have proliferated across the country. Farmers in 10 states are participating in a unique partnership that rewards them for achieving water-quality and carbon-sequestration improvements.

The Soil and Water Outcomes Fund provides financial incentives directly to farmers who transition to on-farm conservation practices that yield positive environmental outcomes such as carbon sequestration and water-quality improvement. The fund is co-managed by two entities. One is AgOutcomes, a subsidiary of the Iowa Soybean Association.

"That involvement brings our commodity-group background and farmer-first mentality to this carbon program," AgOutcomes Executive Vice President Adam Kiel says.

The other entity that helps manage the Soil and Water Outcomes Fund is ReHarvest Partners. Kiel states that the organization helps bring impact capital to the program.

"That allows us to make some helpful payments to farmers," Kiel asserts, "which gives them upfront working dollars to buy cover-crop seeds or make planter adjustments or do the things they need to do, rather than having to wait for that payment."

Kiel describes how the Soil and Water Outcomes Fund's goal is to work with farmers to improve their sustainability for water quality and carbon. The water-quality portion works to reduce nitrogen and phosphorus losses. For carbon

sequestration, Kiel explains how the program looks at taking CO₂ from the atmosphere, putting it in the soil and hopefully keeping it there. Another carbon category is nitrous oxide reduction. Kiel says that the Soil and Water Outcomes Fund targets reducing the emissions which result from using fertilizers and the processes that occur in the soil.

Kiel states that nitrous-oxide emissions and CO₂ reductions and removals are quantified by using robust data-collection and modeling process as well as soil and water sampling.

"Farmers are paid based on the amount of those things they reduce or improve," Kiel contends. "If a farmer is able to greatly reduce their nitrogen and phosphorus loss and put a lot of CO₂ in the soil, their payments are going to be higher than someone who is just making minor changes and having minor improvements."

Not Speculative

Kiel says that, unlike many of the carbon programs which are currently being offered to farmers, the Soil and Water Outcomes Fund won't enter into an agreement with a farmer or landowner unless there is an entity already willing to purchase the environmental outcomes.

Kiel explains how that factor is one of the reasons the Soil and Water Outcomes Fund doesn't currently operate in North Dakota.

Kiel continues, "We only enter into agreements with farmers when we have someone who's committed to purchasing the environmental outcomes they pro-



Adam Kiel is Executive Vice President of AgOutcomes, a subsidiary of Iowa Soybean that works with farmers to improve their sustainability for water quality and carbon.

duce. So, it's not speculative. It's a guaranteed payment if a farmer follows through with the terms of their contract."

A vital component when measuring environmental outcomes is data collection. Kiel states that AgOutcomes collect data from each field to establish a historical baseline. That information includes planting records, crop rotation, tillage, fertilizer application rates and more.

"We tell farmers, any time you do anything in that field, that kind of operational data is needed in order to run these advanced models. That operational data for the baseline is combined with what farmers are telling us they're going to do into the future," Kiel explains. "If a farmer tells us, I was doing conventional till, but I'm willing to go to no-till or strip till, and I'm also willing to add cover crops, we'll add that future operational data as well. Then, we push the historical and forward-looking data sets through to USDA-supported models that help us quantify what the benefits are. It's those

benefits that are then monetized, and a payment is presented to the farmer for those benefits."

Kiel says that customers who are looking to buy carbon outcomes are typically agricultural or food-and-beverage companies. Those companies are looking to reduce their greenhouse-gas footprint. On the water side, Kiel describes how customers tend to be mostly government entities that are interested in water-quality outcomes.

Calculated Approach

While there are multiple programs available to pay farmers for reducing carbon, Kiel asserts that the Soil and Water Outcomes Fund is being judicious about how and where it expands.

"We pride ourselves on guaranteeing that farmers can receive a payment if they follow through with the contract. We're not speculating that we'll find a customer for their product—we have one," Kiel says. "Farmers aren't waiting months or sometimes years to receive a payment from us. They're

—Continued on page 33




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—Continued from page 31

receiving that payment every year they participate.”

Unlike some programs that require growers to participate for multiple years, the Soil and Water Outcomes Fund is an annual contract.

Kiel explains that the Soil and

Water Outcomes Fund works with farmers to determine what’s going to be best within their operation.

“We’ve got a team of conservation agronomists that really works with farmers and figures out what’s going to work best and try to build a contract and a program around what those farmers are willing to do. We can take some

baby steps along the way and generate some positive environmental benefits and do that in a fairly farmer friendly contract with a year-to-year revision if we need to,” Kiel states.

Kiel describes how the goal for the Soil and Water Outcomes Fund is to reach about a million acres enrolled by 2023. The

program is currently at about 120,000 acres, a tenfold increase from where it was a year ago. Kiel says that program officials hope to reach additional farmers in more states. He expects the opportunity for farmers to grow because the demand for carbon and environmental outcomes isn’t showing signs of slowing down.

Kiel advises farmers who may want to participate in a carbon-based program to keep good records. Having a good data-management system can help make that collection easier.

“I know farmers can get kind of frustrated and throw their hands up with some of these carbon programs,” Kiel admits, “but I think farmers are in a good position to increase conservation and sustainability on the farm and (to) receive some level of compensation for that work.”

To learn more about the Soil and Water Outcomes Fund, visit www.theoutcomesfund.com.

—Story by Daniel Lemke,
photos courtesy of Adam Kiel
and Daniel Lemke



AgOutcomes Executive Director Adam Kiel says the Soil and Water Outcomes fund has set a goal of 1 million acres enrolled by 2023.

—Continued from page 18

“The U.S. had a record soybean crop, and Brazil is still going to have a very good crop. It’s probably not a record like last year, but they’re still going to have a lot of soybeans,” Olson asserts. “As production continues to grow and our biggest buyer is flattening out in their demand, how many acres do we really need? That’s still an unanswered question.”

Increased costs for inputs, such as herbicides, especially fertilizer, have some market analysts anticipating reduced corn acres for 2022 and a shift to more soybeans. Olson expects the national production numbers to be close to 90 million acres for each crop. There could be more acres shifted in North Dakota because of the

state’s planting diversity.

“We’ve got this long laundry list of crops that we grow. None of them, individually, have a huge acreage base, but collectively, there’s a lot of acres there,” Olson states. “When you compare the profit margins, the profitability of some of these smaller market commodities can hold their own against corn, soybeans and wheat.”

Early Action

Despite record U.S. soybean production in 2021, prices have remained high. The size of the South American crop is still in question, so Olson says that there’s some risk premium in the marketplace right now due to the unknowns. However, he points to strong demand supporting prices. If China’s appetite for soybeans is steady or smaller

in 2022 and the U.S. has an average soybean crop, there is concern that the demand may soften. Many analysts expect that Chinese purchases from the U.S. will probably be less than in 2021.

“My concern and the concern of a lot of others is, if we have a normal year from a production standpoint, I think the highest prices of the year are going to be just before you put seed in the ground,” Olson contends. “I know it’s dry in a lot of places, and I know farmers hate to market or sell a crop that they haven’t even planted yet, but I do think this is one of those years where pricing early, getting some early sales in will pay out big dividends by the time we get to harvest.”

Olson encourages farmers to con-

sider making sales in three chunks. First, make some sales before putting seed in the ground. Then, make sales during the summer when growers have a better idea of how the crop is developing. The final portion can be sold after harvest when farmers know their soybeans’ exact quantity and quality.

“As a marketing guy only, I would like to say contract as much as he can right now because I think these are great prices. But as a farm-management guy, I also recognize, if you do that now, you’ve increased your financial exposure to a poor crop,” Olson says. “There’s a tradeoff about what is the right balance between price risk and production risk.”

—Story and photo by Dan Lemke

Building Global Markets for Soy

Establishing a preference for U.S. soybean products around the world goes far beyond a clever marketing strategy or a favorable price point. Sometimes, it takes very practical information about how to get the most from U.S. soybeans that helps build demand.

Kulm, North Dakota, farmer and American Soybean Association Director Josh Gackle was one of two U.S. soybean farmers to participate in the U.S. Soybean Export Council's (USSEC) Regional Soybean Processing and Refining Conference held in Dubai, United Arab Emirates. The annual event targets customers and potential end users in the Middle East and north Africa.

Gackle says that the bulk of the conference was technical in

nature, focusing on engineering and soybean-refining processes. The USSEC brought in crushing and refining experts to talk to customers about how to best use U.S. soybeans.

"That message fits in with the USSEC mission to build a preference for U.S. beans among this customer group," Gackle states. "Crushers and refiners are price sensitive as well, so they're always looking for options, whether it's U.S. beans or South American beans. The opportunity to bring in companies and buyers from that part of the world gives us a good chance to tell the story of U.S. soybeans and why we continue to produce a high-quality and sustainable product that is advantageous to their business."

Gackle explains how the con-



Kulm, North Dakota farmer Josh Gackle (center) was one of two U.S. farmers to participate in a regional processing and refining conference in Dubai.

ference dedicated a lot of time to the technical aspects of soybean crushing, including the use of deoxidizers, crushing mechanics and heat, "everything you can do to get the best end product out of U.S. soybeans."

The conference included over 130 participants from more than 20 countries; the attendees were very interested in what U.S. farmers are doing. Participants came from the Middle East, northern Africa and Europe.

Gackle describes how much of the region's soybean crushing is for oil, used in cooking or as a food ingredient. The soybean meal is utilized for poultry and aquaculture feed. The Middle East and north Africa have a growing population that is looking for more of a protein-based diet, which makes the area a growing market for U.S. soybeans. Helping end users become more efficient and productive builds the demand for U.S. soybeans, but customers are also interested in learning what U.S. farmers do to produce the crops.

"At the start of the conference, we took a high-level look at soybean production and the U.S. market," Gackle says. "We talked about the past year from the U.S.

soy perspective, including yield and prices, and gave a presentation of the processes we use on our farm to continue to produce a high-quality product. We also talked about our process for selling and how it mixes with buyers and sellers who are looking for an appropriately priced product. Soybean prices vary between U.S. and South American beans, but U.S. farmers have a great story to tell about the kind of soybeans that we're producing and how it can help customers in their business."

Price is important, but Gackle states that quality and sustainability also resonate with buyers.

"In conversations during and after meetings, they're (buyers) really receptive to the ag system that we have here in the U.S. and the way we supply them with beans," Gackle explains. "We have good infrastructure, a good environment for growing beans and sending them out, so they're very receptive to that message. (The) USSEC has put in a lot of work through farmer investments and government investments to tell that story and to continue to grow the market in that part of the world."

—Story by Daniel Lemke,
photos courtesy of USSEC



Gackle (left) says price is a factor for Middle East soybean buyers, but sustainability is increasingly important.

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Getting to Know the Expert



**Jasper Teboh, Research Soil Scientist
North Dakota State University (NDSU) Carrington Research
Extension Center (REC)**

Where did you grow up?

I hail from Cameroon, central Africa.

Tell us about your education.

After completing high school, I was successful in a national, competitive, public entrance exam that granted me admissions to the

School of Agriculture at the University of Dschang, Cameroon, from 1995 to 2000. There, I studied crop production and graduated from the five-year program with a graduate diploma of ingénieur agronome (equivalence of a master's degree in agriculture). With Cameroon being a bilingual country, where French and English are the official languages, my classes were taught in

both French and English.

After graduation, I worked for two years with a non-profit organization before traveling to the U.S. in the summer of 2003. I earned my Ph.D. at NDSU in 2007.

What brought you to NDSU?

I graduated from NDSU and then moved on to work as a post-doctoral candidate at Louisiana State University. I returned to North Dakota in April of 2012 to start a new position as a soil fertility researcher at the NDSU-Carrington Research Extension Center.

What is your role at the REC?

My role has been to conduct research about various aspects of soil health, with a focus on soil fertility. I am expected to provide these research results to the stakeholders through the different available communication channels, including reports and presentations, and to respond to farmers' questions.

What are some of the research projects you are involved with currently?

We are currently conducting research to test the efficacies of slow- and controlled-release nitrogen fertilizers as well as the effectiveness of different fertilizer rates and sources, including conventional fertilizers and industrial byproducts. We evaluate the usefulness of remote sensors with determining nitrogen fertilizer needs. We are also collaborating with other researchers to assess different agronomic practices, including the influence of cover crops and the integration of livestock, on soil health.

What is the most rewarding part of your work?

Seeing how research results affect farmers' soil/soil fertility and crop-management decisions that result in positive outcomes.

What do you like to do away from work?

Spending time with my kids and family. I also really enjoy traveling and playing pickleball.

—Story by Dan Lemke,
photo provided by NDSU

Bean Briefs

North Dakota Soybean Industry Leader Passes

Farmer and ag-industry advocate Gary Woodbury of Fargo passed away in January. Woodbury, who grew up on a farm near Barney, North Dakota, served on both the North Dakota Soybean Growers Association and the North Dakota Soybean Council. He was also a representative on the United Soybean Board. Woodbury was 79.

Ag Groups Suing the EPA Because the Agency is Ignoring Science and Safety Findings

The American Soybean Associ-

ation (ASA) and other ag groups, which represent thousands of farmers and farmer-owned cooperatives that will be harmed by the Environmental Protection Agency's (EPA) decision to revoke all tolerances for chlorpyrifos, are taking legal action against the agency. The ASA and the other groups reiterate that the chlorpyrifos-revocation rule does no good for human health and is harmful to farmers and farm co-ops, and that EPA must be held accountable.

Brad Doyle, a soy farmer from Arkansas and the ASA president, commented, "(The) EPA's proposed interim decision back in December 2020 for the re-registration of

chlorpyrifos found 11 high-benefit, low-risk crop uses that the agency was confident 'will not pose potential risks of concern.' How can they now deny all uses, even when the court gave them options for keeping those found safe?"

The agricultural stakeholders taking legal action are first seeking an injunction of the rule to prevent the first wave of significant, irreparable damage that the chlorpyrifos revocation would cause if it were to take effect on the Feb. 28 implementation date. The groups are, ultimately, seeking vacatur of the rule where it conflicts with well-established, properly developed science:

specifically, the 11 uses that were found to be safe.

ASA Submits RFS Comments

The America Soybean Association (ASA) filed comments with the Environmental Protection Agency (EPA) regarding the proposed rule for the Renewable Fuel Standard (RFS) program for years 2020, 2021 and 2022. The comments outlined support for proposals that encourage a reliable RFS along with room for expansion and concerns about proposals that undercut the program.

The ASA expressed apprecia-

Getting to Know Your NDSC County Representative



**Paul Rice and his fiancé Kaylee
Maddock, North Dakota, Benson County**

Tell us about your farm.

I operate a fourth-generation family farm. I farm alongside my dad and younger brother. We grow soybeans, corn, spring wheat, yellow peas, and edible beans.

What do you like best about farming?

I like that every day is different and has a new challenge that I have to handle. No year is ever the same. Farming is definitely not boring, and I think it's the greatest job in the world.

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

I grew up in a farming family

and knew it was a possibility for me, but I didn't always have my sights set on a farming career. I'm still figuring things out as time goes on. As I have gotten older and have seen what type of opportunities are out there, I've come to realize that it's really hard to beat farming life. Family, faith, and hard work is important as a farmer, and as long as you have a good attitude and good outlook, you're going to do great.

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

I became a county representative because I had a neighbor who

thought I should get involved. He recommended the position to me. I'm looking forward to getting more involved with the North Dakota Soybean Council as a county representative.

Why are soybeans part of your crop mix?

Soybeans are a really fun crop to raise. They do well in a wide variety of soil environments and fit well in crop rotations. We're able to control weeds really well in soybeans.

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

I think one of the biggest issues coming for North Dakota farmers is skyrocketing input costs. I think high costs of chemical, fertilizer and fuel is going to be the biggest challenge in the years to come if commodities prices begin to taper down.

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

I think the technology we are using on our own farm has

changed, including improved variety traits.

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

Technology will change in a big way, even though 5-10 years isn't that far off. Who knows, maybe we will have our first autonomous tractor.

What do you like to do outside farming?

I like to travel. I am a pilot, so I like to fly myself to places.

If you could go anywhere, where would it be?

Somewhere tropical, like Maldives or Tahiti, would be wonderful.

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

I'd have to go with autosteering for sure. We'd be lost without it nowadays.

—Story by staff, photo courtesy of Paul Rice

Paul is one of the North Dakota Soybean Council's county representatives. To learn more about serving on the North Dakota Soybean Council as a county representative or board member, visit ndsoybean.org/council-election

tion for the EPA not intending to retroactively reduce biomass-based diesel volumes in the proposed renewable volume obligation (RVO) for RFS program years 2020 and 2021. However, ASA is concerned with the proposal to retroactively adjust 2020 volumes through the improper use of the reset authority. The ASA comments contend that the proposal is another move that will undermine the integrity of the RFS program and will lead to

additional market uncertainty.

The ASA strongly supports the EPA's proposal to increase the volume for biomass-based diesel during program year 2022 under the RFS. The ASA is also supportive of the EPA proposal to deny all current, pending small refinery exemption (SRE) petitions and to re-evaluate how it considers future SRE petitions by using criteria determined by the Tenth Circuit Court of Appeals in Renewable

Fuels Association vs. EPA. Further, the EPA has proposed several provisions related to increasing and improving the transparency of the SRE petitioners' information disclosures. The ASA has expressed support for this suggested action, saying that it reflects "a commitment to assurances that EPA Administrator Regan made during his confirmation hearings."

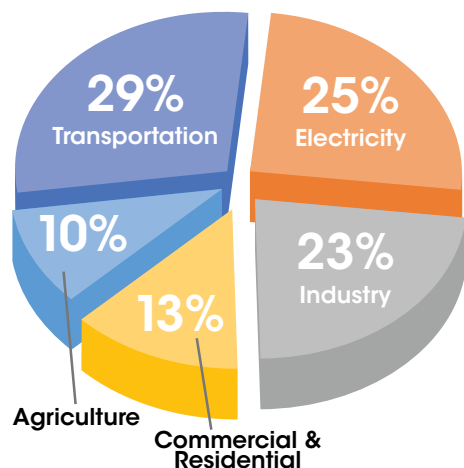
USDA Invests in Climate Smart Program

The U.S. Department of Agriculture (USDA) will invest up to \$1 billion in pilot projects for its Climate Smart program. The department announced its new Partnerships for Climate-Smart Commodities initiative, saying that the plan aims to support "climate-smart" farmers, ranchers, and forest landowners. Practices that can receive grants under the initiative include reforestation and feed management for animals.

Why Selling Carbon Credits from Soil Sequestration is Good for Everyone

Human prosperity for the past 150 years has been fueled largely by fuels stored in the earth. These geologic energy sources have expanded human well-being beyond the imaginations of our grandparents. However, as my grandfather always taught me, “ain’t nothing free.” The cost of this energy gift has been a dramatic increase in carbon moving from the geosphere to the atmosphere. This carbon is one of the most common greenhouse gases (GHG) in our atmosphere and is increasing the risk of irreversible climate change. People contributed more than 52 gigatonnes (billion tonnes) of carbon dioxide-equivalent gases (Gt CO₂-eq) in 2019.

Figure 1. Total U.S. Greenhouse Gas Emissions by Economic Sector in 2019.



To lower the risk of global warming to manageable levels, humanity will need to reduce annual emissions of these gases by half. The estimated total GHG emissions from all sectors in the U.S. in 2019 was 6.6 Gt CO₂-eq., with U.S. agricultural-production activities resulting in 0.67 Gt CO₂-eq (Figure 1). This amount is a bit over 10% of the U.S. GHG footprint[1]. Putting carbon back in the soil through best management practices has the potential to store nearly 0.05 Gt CO₂-eq per year[2]. Over time and with advancements in practices and technologies, soil sequestration could also offset the emissions from agriculture and potentially other sectors (transportation, energy generation, etc.).

The coming years could see the emergence of markets for carbon sequestration in soil

that actually pay for the benefits that farmers provide the world each season. The transaction is pretty straightforward: farmers implement practices that sequester more carbon in soil, and industrial emitters of carbon pay the farmers for those benefits. This type of market-based emission trading helped reduce acid precipitation across the northeastern U.S. 30 years ago. It can work to motivate innovation and to transform behavior that otherwise results in environmental stress from agricultural activities. U.S. soybean producers are particularly well positioned to participate in carbon markets. Modern agricultural practices—especially for soybean production—are increasing carbon sequestration in the soil and decreasing the GHG emissions from crop production overall.

When farmers participate in carbon markets, they will not lose their ability to declare their practices as sustainable. Quite the contrary, by selling carbon credits, farmers are entering agreements to maintain or to increase the best carbon-reduction practices. The carbon market simply provides a mechanism to compensate growers for the costs of implementing these practices. A farmer who chooses to sell his or her carbon credits can not only still say—to lenders, insurers, grain buyers, and consumers—that he or she produced the crop sustainably, but he or she can tout the fact that the farm’s conservation practices helped to offset or to reduce global greenhouse-gas emissions.

Society should not expect farmers to provide this critical ecosystem service without compensation. The atmosphere does not care which sector reduces carbon, only that annual GHG emissions are decreasing year after year. Industries that pay farmers to increase carbon sequestration in the soil are not getting credit for the farmers’ hard work. Carbon markets create an economic incentive for companies to find ways to reduce emissions, making GHG emissions an economic cost of doing business. When industries must pay for GHG emissions, they tend to reduce carbon from all other sources, over time, in order to reduce costs and liabilities.

The new investments and inquiries about carbon markets provide opportunities for farmers to make changes with their operations while



Marty Matlock, Ph.D., P.E., B.C.E.E.
Dr. Matlock is the Executive director for the University of Arkansas’ Resiliency Center and a professor of ecological engineering in the Biological and Agricultural Engineering Department.

being compensated for those changes. I estimate that we have a 20-year window where increasing the soil’s organic carbon will be compensated with carbon trading. That 20-year transition period is critical if we are to reverse the effects of global climate change. Therefore, I disagree with atmospheric scientists who suggest that carbon will have to be sequestered in the soil for 100 years to have an effect. The pace of adopting renewable energy sources for the U.S. power grid and the rate of innovation with electric-vehicle technology are transforming our economy. We need to stay ahead of the current emissions for 20 years while the transition period happens. My grandfather also taught me to “leave the wood stack a little higher” for the next generation. Carbon markets serve as a new opportunity and value proposition for soybean farmers; now is the time to engage, to ask questions and to better understand our responsibilities. My father believed that our best ambition is to be good ancestors. If farmers embrace these opportunities, we will have healthier soil and better technologies to successfully address the challenges that lie ahead for all of us, including our own grandkids. By 2040, people will have better choices as they work to become good ancestors.

[1] USEPA. (2021). Inventory of US Greenhouse Gas Emissions and Sinks, 1990-2019. EPA 430-R-21-005, USEPA, Washington, DC. Accessed at <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

[2] Sperow, M. (2020). Updated potential soil carbon sequestration rates on US agricultural land based on the 2019 IPCC guidelines. Soil and Tillage Research, 204, 104719.

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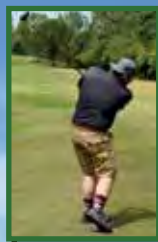
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