

THE NORTH DAKOTA Soybean GROWER MAGAZINE

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INSIDE
Opportunity
in Volatility
PAGE 16



Mustang Seeds Has You Covered



A lot of variables go into raising a good soybean crop. The right seed and favorable weather conditions play major roles in soybean productivity, as does in-season management. However, one of the major factors contributing to good soybean yields is the soil.

Farmers have long recognized the importance of soil health and an increasing number of growers are turning to cover crops to maintain or improve soil health in their fields. Cover crops are planted to keep living plants on the surface and live roots in the soil rather than for the purpose of being harvested like cash crops. Growers use cover crops for a range of reasons, including soil erosion management, increased soil fertility, soil quality improvement and to manage water, weeds, pests, and diseases. Cover crops add to the soil's biodiversity while providing habitat for wildlife. In some cases, cover crops provide late season grazing options for cattle producers.

Mustang Seeds Small Grains Product Manager Jason DeVaney sees more and more farmers giving serious consideration to incorporating cover crops into their operations.

“With the higher prices of the cash crops, there is more interest in getting cover crops into these fields,” DeVaney says. “The decision to incorporate cover crops into your fields is much easier when commodities are higher, along with programs to assist in the cost of the seed and application of the crop itself. Soil health becomes much more of a topic at these times.”

Cover crops serve different purposes. Cereal rye, for example, is often used to prevent wind and erosion, sequester nutrients, and suppress weeds and pests. Other crops, like radishes have a deep tap root that can help break up soil compaction.

The number of crops that can be used as cover crops is vast, as is the number of reasons farmers have for using them. DeVaney says farmers interested in utilizing cover crops have some decisions to make before the plants are seeded.

“Make a plan in the off season,” DeVaney insists. “It all starts with knowing what you plan to do from seed to chemistry to execution of planting the cover crop into the fields.”

Cover crops are typically seeded into standing cash crops during the growing season. Plants germinate and grow slowly since they're covered by the dense crop canopy. Once soybeans drop their leaves or are harvested, the small cover crop plants are exposed to the sunlight and grow until the frost either kills them, or sends them into dormancy for the winter, only to resume growing the following spring.

DeVaney says planting cover crops into standing cash crops can be tough. Getting seed through the crop canopy and onto the ground so the cover crops begin to germinate is one challenge. Moisture availability can also limit how well cover crop seeds germinate. Despite the challenges, an increasing number of farmers across the Midwest are achieving favorable results in both crop yield and soil health as a result of using cover crops.

Mustang Seeds offers a full line of cover crop seeds ranging from ryegrass and triticale to radishes and a range of clovers. Mustang Seeds also has the capability to mix whatever seed blend farmers need and the expertise to help growers choose their best options.

“The Mustang Seeds crew is here to assist our customers in planning of the cover crop species and meet the goals of the producer,” DeVaney says. “We look at what the end goal would be and formulate a mix to make our customers successful.”

To learn more about Mustang Seeds' cover crop options, visit mustangseeds.com.





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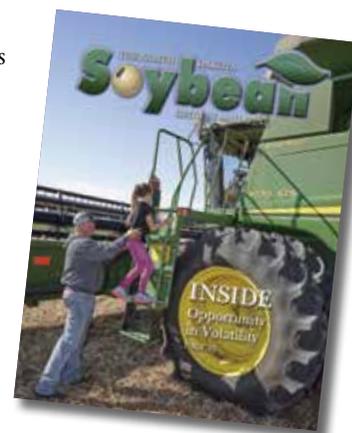
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Combines are getting ready to roll into the 2021 harvest. Each growing season comes with challenges and 2021 was no exception. Many North Dakota growers faced drought conditions and also were presented with wildly fluctuating markets. Both of which are examined in this issue of the North Dakota Soybean Grower Magazine.

—Photo by Wanbaugh Studios



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Interim Begins

While your North Dakota Soybean Growers Association (NDSGA) Executive Director Nancy Johnson is on the job every day in every way, yours truly works, when assigned, at her behest. Because both the legislators and the lobbyists have the need to get away from each other for a break after the legislative session's intensity, my schedule is pretty spotty this time of year. Other than a couple of committees that decide what legislators are going to do for the next 20 months until the next session, not much happens until July when the interim committees begin to meet. This year, there are 28 interim committees, which I consider a high number. Some of the committees are quite specialized and new, such as the Acute Psychiatric Treatment and the Water Drainage groups, as opposed to the 11 standing committees that we are used to seeing during a session, including Agriculture, Transportation, etc. The committees which I will be looking in on appear, at this time, to be Agriculture and Natural Resources, Water Drainage, Water Topics, Energy Development and Transmission (EDT), and a standalone Natural Resources committee.

Let us take a quick look at each committee, starting with Natural Resources. This committee is solely a continuation of the last interim study to work on refining the electronic posting project. It has been made law, and any producer who owns land can go to the page located on the North Dakota Game and Fish website at <http://bit.ly/NDElectronicallyPost>. If you have purchased a fishing license or any hunting or gratis lately, you have an account. Otherwise, create an account; then, scroll down past Licenses, Registrations, Watercraft, etc. until you get to Land Parcels. There, you can enter whatever is needed. Senator Robert Erbele of Lehr continues to chair this committee.

The Energy Development and Transmission committee is not being chaired by Majority Leader Rich Wardner for the first time in over a decade. Instead, it is run by Senator Jessica Bell,

an employee of the coal industry who is from Beulah. The committee's studies include propane usage in the state as well as the reclamation of coal-conversion facilities.

Water Topics continues to be chaired by Representative Jim Schmidt who ranches in the Huff area south of Mandan. He had a career in the water world with the U.S. Department of Agriculture. Atop the committee's studies is one on the Red River Water Supply Project and another on the Northwest Water Supply Project. Let's hope this committee is good at finding water to supply.

Besides attending state water meetings, water tours and field days, I expect to spend more time on the newly formed Water Drainage committee and whatever time is needed to capture the essence of the two main issues that the Agriculture and Natural Resources committees will be studying. Chaired by Senator Randy Lemm of Hillsboro, this committee will study the Beef Commission concerning its operations and the selection of commission members while the other major topic is a study of U.S. Fish and Wildlife easements concerning influences on the Departments of Transportation and Agriculture as well as counties.

Water Drainage is chaired by Senator Larry Luick of the Fairmount area, and it has an interesting genesis. As are many interim studies, it is, like the Beef Commission study, the product of a failed bill that some people thought needed further examination. In this case and to the best of my knowledge, this committee is the result of a consistent complaint which stems from someone aggrieved by the assessment drain process. Not getting what they wanted when their bill was turned into a study at the end of the session, the study's form, which approved by the legislature, was changed by legislative management this summer. It appears that one of the two recommended agriculture group representatives was removed along with a water-resource district representative. Perhaps as important, the study's scope was significantly reduced to four topics:



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

1. Merge two conflicting sections of the Century Code in relation to drainage;
2. Study the revising procedures for appealing Water Resource District (WRD) judgements/decisions;
3. Senator Wardner expressed that WRDs are accountable to no one in the real world, so they are studying the relationship between WRDs and the State Water Commission; and
4. Study how WRDs decide the cost benefits for their projects.

We all recognize that water issues are often/always contentious. It is the NDSGA's stance that the established WRD structure and protocols provide for a democratic vote on projects and that a simple majority on assessment drains allows for critical drainage essential to farming, especially in the Red River Valley. WRDs need to have authority to find the sweet spot for each project, holding votes and scaling projects to the size necessary for drainage while casting a wide enough assessment net to make the process affordable and effective, and back and forth it goes until some balance or equilibrium is reached in that area by the local WRDs.

**Follow what's happening
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Phil Murphy, NDSGA's liason
between legislators and farmers,
writes the "Murphy's Law" blog.

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The Future is Now

With this column being my first introduction to many of you as the president of the North Dakota Soybean Growers Association (NDSGA), I'd like to provide some background information about me and my hope for the future. First, however, I would like to thank my fellow NDSGA directors for having the confidence to elect me to this new role. I'm honored and committed to helping the organization work on behalf of North Dakota soybean farmers.

I farm with my family near LaMoure, raising soybeans, corn, hard red spring wheat and field peas. We also raise cattle and sheep.

I first became connected with the NDSGA when I was selected to participate in the American Soybean Association's Young Leader Program in 2017. The program provided me with an opportunity to hone my leadership skills while building connections with other soybean farmers around the country. The Young Leader Program also gave me an up-close view of the soybean industry.

As North Dakota's Young Leader, I was invited to participate in NDSGA board meetings, which helped me gain a firmer understanding about the issues that the organization was following and addressing. Each farmer leader represents a

different part of the state, so some of our issues are different; at the same time, we all have the same mission of advocating for North Dakota's soybean farmers.

Early in my career, I learned that we, as farmers, need to be involved. My parents have both been involved with cooperative and organizational boards. I have had the opportunity to participate in the National Farmers Union's Beginning Farmer Institute. I'm also a graduate of the Rural Leadership North Dakota program and currently serve as a board member for the advisory council in addition to my role with the NDSGA.

Among the things that I've learned from my experiences is that agriculture needs people of all ages to be involved. As we continue to promote and to advocate for opportunities for young farmers, we also need young farmers to step into leadership roles. Agriculture is a constantly changing industry, and we need farmers who are willing to step forward and to help guide those changes.

Farming tends to be a multi-generational way of life. Most of us got into farming because of our parents, grandparents or other family members. We've likely watched them navigate the changes and challenges that come with agriculture. They've set good examples of why it's important



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for farmers to get involved with farm or community organizations in order to help shape the future. We, as young farmers, shouldn't shy away from taking on leadership opportunities that will help to shape our future.

My recommendation to all farmers, but especially to young farmers, is to be actively involved to help shape the future we want for North Dakota agriculture. There's no time like the present.



Membership Application

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

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 City, State, Zip: _____
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Occupation (Please check all that apply)

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Do you raise:
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Do you currently grow soybeans?
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Soybean Acres: _____ Total Acres Farmed: _____

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

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An Advocate for North Dakota Agriculture



Jim Bahm's farm in rural New Salem, North Dakota, doesn't get a lot of rain each year, but that situation hasn't stopped him from adding soybeans to his crop rotation for the past handful of years.

"We have markets around here locally that we can sell to, so soybeans seem like a good alternative," Bahm says. "My alternatives from wheat are flax, soybeans and sunflowers. I'm trying to get out of sunflowers because I don't like that late crop, so I split my rotation with flax and soybeans."

Bahm raises about 350 acres of soybeans. Last year was one of his best years producing soybeans. Bahm estimates that his soybeans averaged 35 bushels per acre, despite raising them in an area of North Dakota that receives limited rainfall. Annual precipitation during the growing season is about 5 to 6 inches. Drought conditions have reduced that amount even more in 2021. Bahm describes how rain remains the most-limiting factor for soybean yields: "Especially moisture at the right time for soybeans compared to moisture at the right time for wheat."

Bahm and his wife, Labeth, farm with the help of their three sons. In addition to wheat, flax and soybeans, they also produce corn silage as feed for their cow-calf operation.

Agriculture Involvement

Before returning to full-time farming more than 20 years ago, Bahm was a crop consultant in western North Dakota. That experience helped grow his interest in agricultural research.

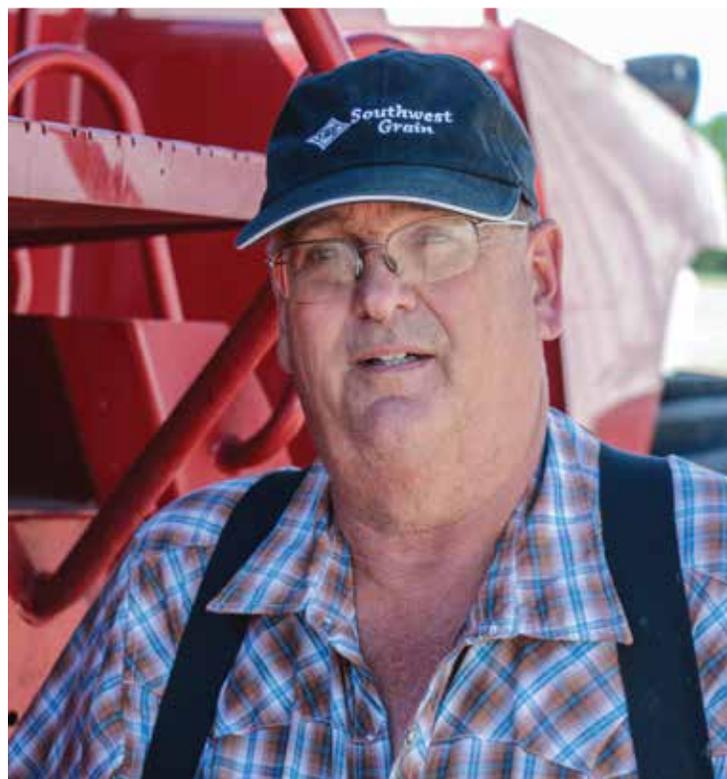
"We did research for chemical companies, seed companies and private companies up in the Minot area," Bahm states, "and I really enjoyed doing that."

Once he returned to the farm, Bahm wasted little time getting involved with agriculture advocacy and leadership. For about a decade, he's served on the North Dakota Wheat Commission.

"We do a lot there. There's a lot of money invested towards research at NDSU (North Dakota State University) into wheat breeding, diseases and quality. The quality for our hard red spring wheat is above the bar. Our customers say they like the hard red spring wheat we grow in North Dakota. Southeast Asia has some of our biggest markets."

Through the North Dakota Wheat Commission, Bahm got involved with the North Dakota Ag Coalition, a nonpartisan federation of more than 40 organizations with a direct interest in agriculture. The coalition works to address issues that affect North Dakota agriculture.

"Agriculture is of key importance, from oil crops, small grains and cattle in North Dakota. It's a big industry, but it seems like we are getting to be a smaller in the number of farmers and ranchers every year. So, we need to have a unified voice," Bahm contends.



New Salem farmer Jim Bahm serves as chair of the North Dakota Ag Coalition, a group that works to support agriculture in the state.



Bahm's diversified farm includes a cow-calf operation.

Bahm, who is vice chair of the North Dakota Ag Coalition, says that the coalition and other ag groups were active during the recent legislative session. Bahm explains how those advocacy efforts in Bismarck yielded some positive results for agriculture.

One key agriculture victory was funding for the Agricultural Prod-

ucts Development Center (APDC) at North Dakota State University. Governor Doug Burgum signed the bonding bill in April, which included \$50 million to replace Harris Hall at NDSU with the APDC. The APDC will incorporate the NDSU Meats Lab and the Northern Crops Institute (NCI).

"It (the APDC) is going to cover

all the crops, cattle, everything in this building," Bahm states. "It's going to be great for the future of agriculture in North Dakota."

Dedication to the Future

In July, Bahm was elected to chair the NCI board. In addition, Bahm was appointed by the North Dakota Ag Coalition to serve on the State Board of Agricultural Research and Education (SBARE), which is responsible for budgeting and policymaking associated with the North Dakota Agricultural Experiment Station and NDSU Extension.

"SBARE is a very unique organization. Not many or any other states have something like this

where there's a group of farmers and NDSU working together to prioritize and go forward with a list of what Extension needs and providing input on how to invest research dollars," Bahm contends. "That's why I jumped in and threw my hat in the ring for SBARE because I really enjoy the research. Listening to researchers talk about new innovations, what they're working on and what's coming up next is exciting."

Bahm says that the investments being made in agriculture, the innovative ideas for research and product development that are coming forward are very positive for agriculture. Involving the next generation of farmers is also an encouraging factor for the future of agriculture in North Dakota.

"I'm concerned that our farmers and ranchers are getting older, and we need the next generation of leaders. I'm 60 years old, so I'm an older farmer now. When I started, I was 40. When I was a consultant, I was working for farmers all over western North Dakota. Now, their kids are farming," Bahm explains. "As long as the young farmers are stepping up into the leadership roles and also taking notice of our industry, I'd say we have a bright future."

—Story and photos by Daniel Lemke

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In a normal year, Bahm's farm gets about 5 to 6 inches of rain during the growing season. Even by those standards, 2021 has been a dry year.



Real Results from Soybean Checkoff

North Dakota farmers have numerous connections to transportation. Most of the soybeans we grow will be well traveled by the time they reach their final destination. However, we're not only concerned with having the highly functional transportation system needed to get crops to market, but North Dakota soybean-checkoff funds are also helping to influence the transportation sector.

The North Dakota Soybean Council (NDSC), through the Soy Transportation Coalition (STC), has invested in the identification of innovative approaches that counties and other municipalities can employ to maintain and to repair bridges in economical ways. From repurposing railroad flat cars as bridges to novel ways to repair bridge supports, the effort to find affordable solutions can help keep important rural bridges open and available to help farmers and others move products up and down the agriculture supply chain. As vice chairman of the STC, I am proud of how the STC continues to help promote a transportation system that will allow farmers to remain profitable. See pages 10 and 11 to learn more.

The NDSC supports the advancement of biodiesel in North Dakota, including working with Cities Area Transportation (CAT) in Grand

Forks. CAT buses run on biodiesel year-round. The city has achieved tremendous results since it started using biodiesel, including increased fuel mileage, reduced fuel filter plugging, and less wear and tear on bus engines.

BioBlend's EPIC EL soybean-based dust suppressant is another success story that connects soybeans to transportation. The NDSC supported the product's development during its early stages at North Dakota State University. Now that the product is on the market, there's an even better story to tell.

The NDSC conducted a Soy Innovations in Transportation webinar earlier this summer to highlight these and other transportation innovations. The webinar can be viewed by visiting NDSC's website at ndsoybean.org/innovations.

During Big Iron September 14-16, the NDSC will be promoting soy-based products and resources. Be sure to stop by and visit with us at Big Iron to learn more about the innovative products being developed with soybeans thanks to your soybean checkoff.

The soy-based innovations for the transportation area are all very practical solutions to address problems by using products that are renewable and better for the environment. When we're investing soy-checkoff dollars for these projects,



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it's great to know that we're getting something of value in return.

Retiring Plant Pathologist Recognized for His Soybean Contributions



During its June 16 board meeting in Fargo, the North Dakota Soybean Council (NDSC) recognized Dr. Berlin Nelson for his recent retirement from North Dakota State University as a professor and researcher in the department of plant pathology. For more than 40 years, Dr. Nelson devoted his career to battling diseases that affected North Dakota soybeans. Pictured above is NDSC Executive Director Stephanie Sinner (left) and NDSC Chairman Austin Langley (right) congratulating Dr. Nelson (center) with an appreciation plaque for his distinguished and successful career.



Southeast Asia Trade Team Visits North Dakota: Virtually!

On July 13, soybean buyers from Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam met with North Dakota Soybean Council (NDSC) staff and board members during a virtual trade team visit.

In these strange times, continuing to connect all members of the soy supply chain helps to build, strengthen and maintain relationships. With these trade missions, the U.S. Soybean Export Council (USSEC) is continuing its work to create further demand and preference for U.S. soy by directly connecting producers and consumers. This virtual trade mission was unique in creating a direct connection between buyers and sellers, working to help all parties involved to better understand the other's sector. More than 50 purchasers from

southeast Asia attended the virtual trade-team visit.

Rob Rose, NDSC treasurer, provided an update from his Wimbledon, North Dakota, farm. Rose spoke about his operation, the weather and crop status, and he answered live questions from the attendees.

Justin Friesz, global trade coordinator at CHS, spoke to the trade team about the U.S. soy supply chain, providing attendees with an opportunity to learn, firsthand, about how they can continue to be assured of a reliable supply of sustainable U.S. soybeans.

Mac Marshall, who serves as the vice president of market intelligence for both the USSEC and the United Soybean Board (USB), provided a market overview and outlook. Marshall said that the southeast Asia region represents a critical and growing region for U.S.

soybeans and soybean meal. The Philippines is the top export destination for U.S. soybean meal. Three of U.S. soy's top 10 markets, in both absolute volume and growth terms, are in the southeast Asia region: Indonesia, Thailand and Vietnam. Collectively, the region accounts for roughly one-fourth of the total U.S. soybean-meal exports, valued at almost \$1 billion for this marketing year through May. Southeast Asia accounts for about 8% of the total value of U.S. soybean exports; when considering markets outside of China, southeast Asia accounts for about 20% of the soybean exports, valued at nearly \$5 billion.

"But it's not just about where the southeast Asia market stands today," explains Marshall. "It's about setting up growth for the future. Per capita animal protein consumption for the region as a whole trails the world average, but as incomes

rise and the large populations of Indonesia (approximately 275 million people), the Philippines (approximately 110 million people) and Vietnam (approximately 100 million people) experience increased economic prosperity and an associated increased propensity for animal protein consumption, U.S. soy remains poised to continue to be a critical supplier to the burgeoning animal agriculture sector in the region."

"Relationship building has always been key to connecting all links of the soy value chain, and (the) USSEC has worked creatively over the past year to make sure that's still happening," says Timothy Loh, regional director for southeast Asia. "Virtual trade missions such as this have helped play a big role in keeping buyers and consumers connected."

To learn more about the USSEC, visit ussec.org.

—*Story courtesy of USSEC,
photo by staff*



NDSC Treasurer Rob Rose addresses the trade team virtually and provides an overview of his operation, soybean crop status in his area, and answers questions from his farm in Wimbledon.



Money-Saving Innovations Help Rural Transportation

Ritch Gimbel knows all about improvising. As the road superintendent for Bottineau County, Gimbel has to keep roads open and safe while holding budgets in check. That task is not easy.

Gimbel says Bottineau County has close to 200 bridges. Keeping those bridges safe and passable for cars and equipment can be a challenge. Still, maintenance and repairs to extend the life of structures are important practices for many rural counties because replacing a bridge can easily cost hundreds of thousands of dollars.

“If we can fix a bridge and keep it open a few more years, it helps the budget, especially for a county like ours,” Gimbel states. “You can’t replace a big pile of bridges in one year because of the cost. If we can keep a few of these bridges open longer, it’s a benefit.”

Gimbel describes how his department has repaired bad pilings on abutment walls with steel-galvanized culverts that were then filled with rebar and cement. Bottineau

County has also replaced pilings with an I-beam inside a steel pipe. Other repairs include filling cracked wooden pilings with adhesives and sealants, then clamping the beam back together.

One bridge in Bottineau County, that needed replacement, was essentially welded together in the county shop during the winter, then pieced together in the spring once the old structure could be removed.

“We’re always trying to think outside the box, and sometimes, that means you have to get creative with what you have available,” Gimbel explains. “You live and learn. Some things work. Some things don’t.”

Bottineau County is hardly alone with its conundrum. There are usually more bridges to repair or to replace than there are dollars to pay for the work. That scenario is especially common in rural areas.

“The unfortunate reality is the area of the country where bridges are in the most dilapidated condition also happens to be the area of the country where resources are the most scarce and are on the decline,

and that’s rural America,” says Mike Steenhoek, the Soy Transportation Coalition’s (STC) executive director.

The vast majority of North Dakota soybeans are exported. Farmers and agriculture leaders are justifiably concerned with having highly functioning railways and ports in order to get crops to export markets. In many cases, the most-limiting transportation factor is much closer to home.

“For farmers, the impact of rural bridges can be quite profound because, if you can’t make that initial delivery effectively, then it frankly doesn’t really matter what the condition of our freight rail system or inland waterways system or our ports are because the delivery will never occur,” Steenhoek states.

Innovative Approaches

To promote more cost-effective approaches for replacing and repairing rural bridges without compromising safety, the STC released a report detailing 20 innovations for rural bridge repair and replacement. The STC is an organization that

is comprised of 13 state soybean boards, including the North Dakota Soybean Council, the American Soybean Association and the United Soybean Board. The STC sought innovations from people in the transportation industry to share with others in order to help stretch rural transportation budgets.

Some of the bridge-replacement innovations highlighted in the report include repurposing railroad flat cars as bridges, encasing bridge pilings in steel culverts and using all-steel piers. Bridge-repair innovations include driving bridge pilings through existing bridge decks, using encased pilings and incorporating epoxy deck injections.

Gimbel reviewed STC’s Top 20 Innovations for Rural Bridge Replacement and Repair report, which was released in February 2021. Gimbel reports some of the recommendations in STC’s report have already been implemented by Bottineau County, and he plans to continue to use the report as a resource in the future.

Steenhoek explains that, to make



it onto the list, the innovations had to demonstrate significant cost savings and that the approach had to be viable from an engineering perspective. The concept had to be widely accessible throughout rural America.

Kelly Bengtson with the Upper Great Plains Transportation Institute at North Dakota State University was one of three principal investigators for the STC project. Ten other engineers or transportation officials, from the 13 states that make up the STC, were on an advisory group that put forward and vetted innovative ideas.

Bengtson says that the condition of rural bridges is a real concern for North Dakota. Federal highway rankings indicate each state's bridge conditions.

"North Dakota is in 10th place for highest percentage of poor bridges according to the 2021 American Road & Transportation Builders Association report, so bridges are not in very good shape and need some

work primarily at the local level, including county roads, township roads and tribal roads," Bengtson states. "About 634 bridges are posted for load, meaning you need to be aware of what your vehicle's loaded weight is, and if that exceeds the posted weight on the signs, crossing that bridge may result in permanent damage or collapse of the structure."

Several years ago, near Northwood, a truck hauling beans went over a restricted bridge. The bridge collapsed under the weight. Bridge replacement was estimated to cost around \$800,000. Most local governments can ill afford to spend that kind of money on one structure, plus one unpassable bridge can force farmers to travel many miles out of their way in order to get products to market or to move equipment from one field to another.

"The intent of the report is to find ways where local governments can save money, and repair or rehabilitate bridges. Getting additional

dollars or throwing money at the problem is not going to fix it because the money is just not available," Bengtson explains, "so you have to come up with new innovations to do things faster, reduce down time and detours on the road, and do all those things at less cost."

"When you're confronted with having to replace a rural short-span bridge for half a million dollars, that can overwhelm a high percentage of your annual budget if you're a very rural county," Steenhoek says. "What we're offering are some concepts that can do the same thing for \$100,000 dollars or even less than that. I don't know of too many counties that wouldn't benefit from that kind of cost savings."

Steenhoek states that response to the STC report has been good, but he expects it may take some time and some educating to convince decisionmakers that the innovations make sense for them.

"Because some of these concepts

don't fall within the normal routine of doing business, there can often be a reluctance to employ them," Steenhoek asserts. "I think it's helpful for farmers to really encourage their counties to look at these new, innovative approaches and to employ them. My hypothesis all along is that this is going to be something that's going to take a while to see momentum, but we look forward to working on that."

The full report is available on the Soy Transportation Coalition website: soytransportation.org.

The North Dakota Soybean Council will be mailing the full report to key state transportation stakeholders. If you would like a copy of STC's Top 20 Innovations for Rural Bridge Replacement and Repair, please email swolf@ndsoybean.org.

—Story by Daniel Lemke,
photo courtesy of STC

Teachers Learn About Soybean Production



In June, Cindy Pulskamp (left) and her family hosted the Ag in the Classroom Farm Tour for Teachers at their farm near Hillsboro, North Dakota. The group, led by Jeff Beck of the Minot School District, included K-12 teachers from across the state. The teachers had the opportunity to learn more about Red River Valley soybean production from Pulskamp.



A Summer of Livestock Promotion

Among the best places to promote modern animal agriculture is on an actual working farm. Summer weather provided the North Dakota Livestock Alliance (NDLA) with the opportunity to showcase animal care by getting residents and leaders onto farms across the state.

June is National Dairy Month, so the NDLA partnered with the van Bedaf Family Dairy for an open house at the 1,500-cow dairy near Carrington, North Dakota in early June.

“Despite the heat and winds, we had very strong turnout,” says NDLA Executive Director Amber Boeshans. “I couldn’t believe the attendance.”

Hundreds of visitors took farm tours during the LegenDAIRY event, while enjoying food, including Duchessa Gelato and cheese curds, made with milk from the farm.

“I was a tour guide, and as tour guides, we asked every group if they

had ever been to this dairy or any dairy farm before. I would say one-third of the people had never been on a dairy before,” Boeshans states, “so we had valuable dialog with people who don’t have experience with dairy farming at all.”

The open house allowed community members to see the operation while prompting conversations about cow care. Even though it was

very hot during the event, the heat provided a talking point to show how farmers care for their animals during all seasons.

“It was a great opportunity for people to see why we house these animals indoors so that we’re able to control their environment, especially to keep big cows like that cool in such an intense heat. It actually allows for an even better conversation,”

Boeshans explains.

Cattle comfort was also the focus of an open house near Goodrich, North Dakota, but this time, the subjects were beef cows. The event at the Kirby Steichen farm showcased a bedded pack beef finisher barn.

“We hope to see a lot more barns like this across the state because it gives producers a lot more control over their environment, Boeshans



The bedded pack finishing barn near Goodrich was the site of an open house showcasing beef cow comfort and care.



NDLA Executive Director Amber Boeshans attended the World Pork Expo in Des Moines, Iowa, to connect with swine industry leaders.

asserts. “With a drought situation like we’re having now in many areas of North Dakota, we have those animals under a roof instead of having to immediately sell those cows because their pasture is dried up.”

World Pork Expo

In addition to promoting livestock that are already in North Dakota, Boeshans says that the NDLA is also active in promoting the state as a location for livestock. Boeshans took part in the World Pork Expo in Des Moines, Iowa, meeting with integrators and swine companies about locating facilities in North Dakota.

“I talked with a lot of people who are looking at expanding sow herds, getting them out of highly populated areas and getting some space between barns to keep those animals good and healthy,” Boeshans says.

Porcine reproductive and respiratory syndrome (PRRS) is a devastating illness for hogs. Boeshans

describes how PRRS is a problem for some operators because of the close proximity to other herds.

“A lot of discussion with integrators and swine companies is about how we keep these animals healthy. Distance is the best thing for them, and North Dakota is a great place for that,” Boeshans explains.

Boeshans says that integrators are very interested in North Dakota, but issues such as labor, housing, jobs for spouses and even daycare shortages for employees’ children can limit the potential for expanded livestock production. The NDLA and other livestock proponents are working to alleviate some of those barriers.

Feed Availability

A planned soybean crushing facility near Spiritwood is cause for excitement among North Dakota’s livestock industry. A crush plant would make soybean meal more available. Soybean meal is a primary

ingredient in swine, poultry and some cattle rations.

Boeshans states that having a crush facility is good news, but it also leads to the need for biosecure feed manufacturing.

“We will need an elevator willing to diversify or maybe someone looking to do a green site because we’re going to need that feed supply,” Boeshans asserts.

For animal health reasons, feed for many animal species should be manufactured in a biosecure facility in order to reduce the potential for inadvertent disease transmission.

“Right now, a lot of feed is being hauled a long distance. We want to take that expense out of the equation, too,” Boeshans says. “A soybean crusher can be a huge deal for all of our livestock producers.”

The NDLA also held a panel discussion at the North Dakota Economic Development summer



Hundreds of visitors of all ages visited the Van Bedaf Dairy as part of their LegendAIRY event.



The Van Bedaf Dairy open house featured wagon tours of the 1,500-cow facility.

conference, examining the potential and importance of local meat processing, including how to help farmers and ranchers capture the value of the local-food trend.

To learn more about NDLA, visit ndlivestock.org.

—Story by Daniel Lemke,
photos courtesy of NDLA
and Wanbaugh Studios



SERIES

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

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

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

In 2011, the NDSC provided funding to develop the Commodity Trading Lab (CTL) in Barry Hall at NDSU. The CTL is a unique, state-of-the-art resource that is invaluable to train students who are entering the world of agribusiness. Approximately 245 students per year use this lab for their classes. The room is also used for marketing and risk-management seminars that are hosted

by the NDSC and are designed to help farmers and industry leaders increase their knowledge and skills. International trade groups are often introduced to the facility and the resources that it provides when visiting North Dakota.

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

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

Soy Internship: A Fertile Training Ground

Josephine Hudoba did not take a traditional path into the agriculture industry.

She grew up in East Bethel, Minnesota, a northern Twin Cities suburb, and graduated from Forest Lake High School.

Hudoba did not grow up on a farm, but as a kindergartner, she met a family who lived on a farm, became friends with the family and began working there when she was 12.

"I just fell in love with caring for the farm and had a passion for it," Hudoba says.

The family gave Hudoba five chickens when she was a young teenager. Her grandfather helped her build a chicken coop in the backyard, and she started raising chickens.

"We had chickens, ducks, geese and even pigeons; all kinds of poul-

try," Hudoba recalls. "I raised them until I went to college."

Hudoba attended Minnesota State University Moorhead and North Dakota State University. She majored in Spanish and minored in public relations and general agriculture. It was while she was in college that she started looking for an internship. That search led her to the North Dakota Soybean Council (NDSC).

"I had met Lauren, the previous intern, in our Animal Science class and saw on the council's Facebook page that they were looking for a new intern. Lauren was so encouraging, and it seemed, and proved to be a fun and valuable opportunity, so I decided to apply," Hudoba explains.

Hudoba was selected for the



internship. She served as the North Dakota Soybean Council intern during her senior year of 2018-2019.

"I was responsible for the social media accounts: Facebook, Instagram, Twitter. I was also connected to the board members and coordinated events with them," Hudoba says. "One of the events I planned was a visit with members from the surrounding soybean councils, which included organizing everything from their transportation throughout the day to the dinner reservation in the evening--choosing a variety of meal options and creating a menu. That was the first time I had

planned an all-day event and I felt that that was important to learn."

Hudoba put her public relations studies to use during some outreach efforts supported by the NDSC.

"We participated in a lot of fun outreach events where we went to different locations, set up a booth to talk to people about agriculture and provided fun facts about soybeans," Hudoba recalls. "Soybeans are incorporated into a variety of things that can be overlooked, so it was fun to inform the public of their importance in everyday life."

Not all intern roles are glamorous. Hudoba often donned the council's Suzie Soybean costume



Former North Dakota Soybean Council intern Josephine Hudoba is now a Spanish bilingual account manager for Nova-Tech Engineering, serving poultry clients around the world.

to serve as the soybean mascot at events. The full-body costume features an oversized soybean body. The outfit offers little air movement for the person inside. Hudoba used some ingenuity to improvise a solution.

“At one point, I bought some battery-operated plastic fans and attached them inside, so I had two fans blowing. It wasn’t so bad,” Hudoba recalls with a laugh.

Shortly before her college graduation, Hudoba applied for a full-time position at Nova-Tech Engineering in Willmar, Minnesota. Nova-Tech manufactures and engineers robotics systems that serve

the agricultural industry. Hudoba got the job and has been working at Nova-Tech Engineering as a Spanish bilingual account manager.

“Now I work at poultry hatcheries around the world,” Hudoba says. “I have customers in Spain, Italy, Hungary, Slovakia, the Czech Republic, Chile and the United States. My role is caring for our customers, addressing their concerns, visiting the plants and completing evaluations, performing quality control, training the hatchery personnel and taking inventory.”

While Hudoba may no longer work specifically with soybeans, she acknowledges how valuable

it was for her to be immersed in modern agriculture.

“Crops and livestock agriculture are different, but I believe both are connected to everything and equally important,” Hudoba

says. “I learned so much from my internship at the North Dakota Soybean Council, and I have been able to apply what I learned to my current position.”

Hudoba says her experience as a NDSC intern also helped her learn how to represent a company as a professional.

“I am really grateful for my experience with the soybean council. I had a variety of jobs before this, but working in a field you’re passionate about makes all the difference. This position also helped me transition from small jobs and college to the working world post-graduation. I loved working with the staff, and I hope to visit them soon.”

—Story by Daniel Lemke,
photos by staff and
Josephine Hudoba



Hudoba (front row, center) interned with the North Dakota Soybean Council in 2018-2019.



Although Hudoba now works in the poultry industry, she learned a great deal about agriculture while at the North Dakota Soybean Council.

OPPORTUNITY IN VOLATILITY

Farmers have seen unprecedented grain market volatility in recent months thanks, in part, to strong export demand; tight domestic supplies; production issues in various parts of the world, including North Dakota; and an infusion of government money pumped into the economy before and during the COVID-19 pandemic. Add in the inflationary aspect of the U.S. economy, and the result has been some wild market swings.

“We’ve gone from 8- to 10-year lows to 8- to 10-year highs and levels we hadn’t seen for a long time, and I think it caught a lot of the market off guard,” says Randy Martinson of Martinson Ag Risk Management in Fargo.

Martinson states that price swings have been a good reminder to not underestimate the market. He explains how, normally, soybeans trade in a \$2.50-to-\$3 per bushel trading range from high to low in a year. This year, the range is closer to \$6 to \$8 from low to high.

Sharp movement in grain markets does present profit potential if farmers are prepared to take advantage of the opportunities.

“There’s a lot of confusion about what these markets can do, and they can still surprise you both to the upside and the downside. The overall trend of commodities is up,” says Tommy Grisafi of Advance Trading in Mayville, North Dakota. “Farmers who used futures and options were presented with additional opportunities in 2021 and likely will have them again in the future.”

Grisafi estimates that 85% of farmers are still cash-only sellers who are hoping to catch the market highs.

“They get what they get when they sell it. They’re done. They may feel like a hero; they may feel like a zero. Last year when beans were at \$9, people said, if it went to \$10, you can have them all. Then, it went to \$16,” Grisafi states. “If

farmers are chasing the highs, they’ll never get it. In a bull market, they’ll sell too much, too early, and in a bear market, they never sell enough. I see it happen with farmers all across America.”

“Some farmers have sold a lot of their grain; some sold fairly early at lower prices; some growers did come in to re-own that grain with call options,” Martinson says. “Part of the problem with market volatility, it increases the cost of the margins for the futures contracts as well as the call and put option premiums. The premiums have been inflated dramatically. That’s part of what’s limiting the ability to do anything outside of the cash market because of the high cost of the options and the high cost of margin requirements.”

Grisafi states that the farmers with whom he works prefer to maintain ownership, even after the sale.

“We have a floor under the market with a put option, and we’ll roll those puts up,” Grisafi explains. “If they have a \$4.50 floor on corn and

they want to roll up to a \$5, we can do that. We do have people that made cash sales, but we’re still encouraging them to fight for ownership because, if we have adverse weather in July and August, and continued overseas demand, these markets could still surprise us to the upside.”

Volatility is likely to continue for the foreseeable future.

“It’s a new dynamic,” Grisafi contends.

“Volatility brings opportunity, and that’s one of the things we’ve seen handed to us to finish out the 2020 crop year and the start of 2021. I would tell producers that this is a good opportunity to look and do some pricing. They should take advantage of it,” Martinson says. “Be aware of what your production looks like and be willing to make adjustments as needed throughout the growing season.”

—Story and photos by Daniel Lemke



Tommy Grisafi, Advance Trading



Randy Martinson, Martinson Ag Risk Management



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A CARBON EDUCATION



Carbon markets have the potential to provide significant income for farmers, but because the industry is in its infancy, the North Dakota Soybean Growers Association partnered with the North Dakota Soybean Council (NDSC), the American Soybean Association (ASA) and the United Soybean Board (USB) for a Carbon Opportunities in Ag webinar to help farmers learn more about carbon-market development.

Giving farmers the ability to sell carbon offsets to individual companies or through carbon brokers is among the first steps in establishing a carbon trading market. However, industry leaders see a much larger potential.

“We estimate that the market size for carbon credits is about \$14 billion with carbon and water/nitrogen trading combined,” says Erin Fitzgerald, CEO of U.S. Farmers and Ranchers in Action. “But I will say, there’s a long way to

go on that.”

“Right now, a lot of conversation is around carbon markets and soil health, carbon sequestration, but that’s really just the beginning,” contends Ariel Wiegard, ASA policy director. “We’re really looking forward to ecosystem service markets more broadly, and we’re going to start seeing water quality trading, water quantity credits and also biodiversity credits.”

Carbon-market opportunities are still evolving, but there’s no doubt that agriculture will be affected and can play a significant role in helping to form market opportunities.

“Our farmer(s) can help lead the way to even higher levels of agricultural sustainability given the right projects, the right tools, the right programs to put in place,” Fitzgerald states. “Now is more critical than ever that we work across all of agriculture; we like to say every farmer, every acre, every voice matters to create a sustainable food system.”

The ASA has ramped up its efforts on climate with the new administration. The Biden administration wants net-zero emissions economy-wide by 2050 and to remove carbon emissions from the electric sector by 2030.

Wiegard explains that Congress has submitted close to 30 bills which are specific to agriculture and climate, plus there are attempts to build ag climate provisions into other legislation.

One key piece of legislation is the Growing Climate Solutions Act that was recently passed by the U.S. Senate. (See the sidebar.) The act created a certification program at the U.S. Department of Agriculture (USDA) that would reduce the technical barriers to entry for farmers who are looking to enter private-sector carbon and ecosystem service markets. Wiegard says that the bill has broad bipartisan support and backing from more than 70 different farm groups, including the ASA, environmental

groups and numerous Fortune 500 companies.

Farm Focused

Dr. David Ripplinger is an associate professor in the Department of Agribusiness and Applied Economics at North Dakota State University (NDSU). He’s also a bioproducts/bioenergy economics specialist with NDSU Extension. Dr. Ripplinger describes how it’s important that any carbon-market



Alexa Combelic, ASA Director of Government Affairs

Editor’s Note: This article is the second in a series of stories to appear in *The North Dakota Soybean Grower Magazine*; the series addresses the many connections between carbon and agriculture. Through sustainable farming practices, farmers are recognized as having a huge potential influence on carbon sequestration, which reduces carbon dioxide, a greenhouse gas. Carbon markets are emerging as potential opportunities for a farmer to potentially get paid by companies that are looking to improve their carbon footprint. In the coming issues, we’ll take a closer look at the potential for farmers.



Ariel Wiegard, ASA Director of Government Affairs

system is built with the farmers' needs in mind.

"I think it's really important for organizations to give a lot of attention to this to determine how this is affecting their particular members, as well as for those farmers to understand the situation as it exists today and as it evolves over

the coming years," Dr. Ripplinger says. "As an economist who deals with risk, I think there's a lot of opportunity in this situation. I'm optimistic about this carbon-market evolution. I'm also really concerned. Done poorly, there could be a lot of threats to agriculture, and those are things we definitely want to identify and avoid."

Dr. Ripplinger states that farmers and landowners are deciding whether they should participate in a carbon trading program. That decision comes down to the context of each operation. Dr. Ripplinger explains that, because sustainability is not easily measured financially, organizations such as NDSU are trying to understand the economic implications of farmers signing up for carbon offsets or otherwise participating in these carbon markets.

"There isn't a lot of material out there, so farmers are flying blind," Dr. Ripplinger adds.

While much of the initial attention for carbon-market development is focused on agriculture, there are concerns with how the industry could affect lenders, agriculture input providers, processors and marketers.

"We look and we see the climate markets and the climate-change issue really being the rainmaker for the entire conversation around the bigger sustainability issue, and that cuts across a lot of the different areas where you have a direct

impact to really make a difference in your fields," says Mace Thornton, USB vice president for communications and marketing strategy. "We are working on projects in the sustainability space at USB and the soy checkoff to make sure that those investments bring back a tangible value to you at the farm level."

The recording of the Carbon Opportunities in Ag webinar is available to view at <http://bit.ly/CarbonOpportunitiesinAg>.

—Story by Daniel Lemke, photos courtesy of ASA

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U.S. SENATE PASSES GROWING CLIMATE SOLUTIONS ACT

The bill that puts the U.S. Department of Agriculture (USDA) in charge of certifying farm advisers and credit verifiers won easy Senate approval. The Growing Climate Solutions Act (GCSA) has been hailed as a landmark step toward using agriculture and forestry to reduce greenhouse-gas emissions. The bipartisan bill, which is designed to better manage and support carbon markets, would make it easier for farmers and others to navigate the carbon-market industry.

The GCSA establishes a USDA program to certify technical assistance providers and third-party verifiers for the environmental credit markets and also allocates funding for the next four years. The bill includes protections to ensure that farmers participating in the carbon markets benefit from reducing their greenhouse-gas emissions and supporting climate-friendly practices.

The Growing Climate Solutions Act was supported by dozens of agricultural and environmental groups.

Under the bill, the USDA and the Environmental Protection Agency would conduct an assessment of carbon markets before the USDA moves forward with the certification program.

An advisory committee, with extensive authority to shape certification requirements and the responsibility for continually reviewing the program, would be established. The majority of the committee members would have to be farmers, ranchers or private forest owners.

—By staff with information from ASA and Agri-Pulse



Connecting Ag to the Classroom

Sitting inside a science lab on a sunny summer day may sound like torture for junior high or senior high school students, but for nearly two dozen teachers, the attraction of learning how to better connect their students to agriculture overshadowed the allure of the outdoors.

Science and agriculture teachers from across the region participated in the Exploring Biotech and Biofuels workshop sponsored, in part, by the North Dakota Soybean Council and held at North Dakota State University. The professional-development event taught hands-on lessons that teachers could use to connect their students to the expansive world of agriculture.

“Only about 4% of students in the country take ag science classes, but 96% take biology,” says Jane Hunt, director of education for EducationProjects.org. Hunt was one of the educators who led the two-day training. “So, we really focus on biology, chemistry, environmental science teachers to try and get them to think about how food production plays a role in the normal types of science that they’re already teaching. Things

like photosynthesis, respiration, fermentation, all of those things that are in the curriculum, but they don’t always think about teaching through food-production lenses.”

In addition to gaining insights about corn and soybean production in North Dakota and Minnesota, the teachers learned how to make biodiesel from vegetable oil. They later tested the homemade fuel in toy boats. Participants visited the National Agricultural Genotyping Center to learn more about DNA testing. Attendees were also exposed to DNA extraction protocols. They then traveled to an ethanol plant to see how fermentation helps produce fuel.

Application to Education

Jonathan Schiltz teaches 7th through 12th grade science in the North Border School District, which encompasses Nêche, Pembina and Walhalla. Schiltz says that, coming from a rural area where students are surrounded by agriculture, he’s always on the lookout for ways to make agriculture relevant.

“I work in a rural area where agriculture is huge, and I went to college for chemistry, so for me, I would love to be able to connect more of what I do in the classroom

to what a lot of these kids see on a daily basis, which is agriculture,” Schiltz explains. “Especially the bio-based side of the industry ties into the chemistry part. So, I just want to have more of a hands-on, relatable connection with some of the kids, especially the ones in the farming area where I teach.”

Wahpeton agriculture teacher Darin Spelhaug started an ag

processing class last year. Some of the lessons taught at the Exploring Biotech and Biofuels event will have a direct application for his students.

“We’re definitely going to be processing soybean oil into biodiesel, and we might dabble in some ethanol production,” Spelhaug states.

Delivering Inspiration

North Dakota Soybean Council



Greg Endres of the Carrington REC gave attendees an overview of North Dakota corn and soybean production.



As part of the two-day event, participants made biodiesel from cooking oil.

(NDSC) Executive Director Stephanie Sinner says that the NDSC helped bring the teacher training together, in part, because it's important to the future of North Dakota agriculture.

"There's a place for this in North Dakota to reach our youth with the message of ag science; ag biotech; and learning not only about what our farmers do and the science and technology involved in farming today, but also encouraging students to pursue those careers that then support the agriculture and farming industry," Sinner says.

Hunt says that getting students exposed to and excited about agriculture will have a downstream effect.

"I'm hoping students will be inspired by their teachers, and we're

hoping to inspire those teachers through this workshop to begin to solve some of the problems in agriculture," Hunt explains. "How do we increase yield yet keep our water quality safe, and how do we maintain our soil fertility but get the minerals in the water and the fertilizer in the plants that we need them to have?"

"Working in a rural area where agriculture is big, something I try to do in the classroom is to help students see 'how can I relate this,' not just teach something that they'll never use again," Schiltz states. "When I leave here, I hope I can take back a few labs or a few experiments and show those to my different classes and get them interested in maybe something they



North Dakota Soybean Council Executive Director Stephanie Sinner explained the mission of the organization and the role of the soybean checkoff.

didn't know a whole lot about."

Getting students better connected to agriculture is one outcome, but another goal is encouraging the next generation to consider agriculture as a career path.

"Agriculture is high tech and high talent, and we're looking for the best and brightest as well as people who want to work in the field," Hunt says. "The beauty of it is that a lot of these jobs that are available careers have both a technical aspect as well as a hands-on field aspect, so you're not stuck in one place or another depending on what career you're in."

"The North Dakota Soybean Council Board really has a vision for the next generation and even the generation after that," Sinner explains. "So, through all our programs, we want to get in touch

with our youth and get them educated, involved and excited about agriculture and ensure that there is a future and a legacy for the next generation of soybean growers."

Spending two summer days in a classroom may not be for everyone, but the lessons learned will, hopefully, yield positive results.

"It was one of the best professional developments that I've been to," Spelhaug states. "Everything was practical, everything was a lab, everything was backed by science. It was wonderful."

To learn more, visit education-projects.org. North Dakota middle school and high school science teachers interested in participating in future workshops, please email swolf@ndsoybean.org.

—Story and photos by Daniel Lemke



Wahpeton ag teacher Darin Spelhaug expects to incorporate some of what he learned into classes that he teaches.



The hands-on sessions were designed to help teachers incorporate agriculture into classroom lessons.



NCI Hosted an Online Food Grade Soybean Procurement Course

The Northern Crops Institute (NCI) hosted an online Food Grade Soybean Procurement course June 14-18 with support from the North Dakota Soybean Council (NDSC). In total, 37 participants from southeast Asian countries attended, including Indonesia, Singapore, Malaysia, Philippines, Thailand and Vietnam. The participants came from a variety of small to medium soybean-manufacturing businesses that were looking to learn more about the different risk management techniques that go into buying soybeans from the United States.

The course's goal was to educate soybean buyers and key decision makers to understand contracts, purchasing processes, soybean pricing and more. The course primarily focused on promoting identity-preserved (IP) soybeans. NCI wanted to connect with buyers interested in purchasing soybeans for various food uses such as tofu, tempeh, natto, soy sauce, miso, and soymilk.

One of the key speakers, Dr. Frayne Olson, a crop economist and marketing specialist at North Dakota State University (NDSU), led participants through the basics of

risk management, helping individuals understand how to time purchases and to utilize purchasing contracts.

Jena Bjertness, the NDSC's director of market development, provided an overview of North Dakota's soybean industry, including IP and food grade soybeans. Other presenters included representatives from the U.S. Soybean Export Council (USSEC); Specialty Soya and Grains Alliance; SB&B Foods; HC International, Inc.; and independent grain-industry consultants.

The virtual course enables participants to view presentations and demonstrations through pre-recorded and live videos, making it flexible to participate. Participants had the opportunity to ask questions to speakers with live question and answer sessions.

Brian Sorenson, program manager at NCI, shared his overall thoughts about the course: "The Food Grade Soybean Procurement course was a great opportunity to connect with soyfood processors and buyers in southeast Asia. The participants learned about the process of buying identity-preserved (IP) soybeans from initial discussions with suppliers, the specification and contracting steps, and

important information on shipping the soybeans to their facility, and much more. Dr. Frayne Olson from NDSU Extension did an excellent job helping them understand the U.S. commodity futures market and how it is used by IP soybean providers to establish pricing when contracting for future delivery. We received very positive feedback from the participants, and we look forward to future programs with

USSEC on this and other topics."

USSEC builds a preference for U.S. soybeans and soy products, advocates for the use of soy in animal and aquaculture feed and human food, promotes the benefits of soy use through education, and connects industry leaders through a robust membership program. NCI and USSEC collaboratively organize this food grade soybean procurement course, with financial support from the North Dakota Soybean Council.

NCI supports regional agriculture and value-added processing by conducting educational and technical programs that expand and maintain domestic and international markets for northern-grown crops, including soybeans.

For more information about the Northern Crops Institute, visit northern-crops.com.

—Story and photos courtesy of NCI



Brian Sorenson, program manager at NCI.



Keep Safety in Mind During Harvest

NOW IS A GOOD TIME TO THINK ABOUT FARM SAFETY

Since harvest is around the corner, now is a good time to keep general farm safety in mind, according to Katelyn Landeis, North Dakota State University Extension's agriculture and natural resources agent for Grand Forks County.

- Always make sure that workers are trained before they operate equipment they haven't run before and take time to become familiar with equipment you have not operated for a while.
- Take periodic breaks to relieve

the monotony of operating machinery.

- Follow the no-seat, no rider rule. Do not allow people to jump on or off any moving machinery. Wear seat belts in tractors and combines.
- Talk about safety with your family and the others with whom you work. Make sure that everyone knows safety is a priority. Have a safety plan in place in case

an accident occurs. Identifying where the hazards are on your farm allows emergency responders to prepare for the scene and to know the surroundings.

Visit NDSU Extension's Farm Safety web pages for more resources: <http://bit.ly/NDSUfarmsafety>.

—Story and graphic courtesy of NDSU Agriculture Communication

Here are some tips:

- Wear ear protection. For example, grain augers, grain vacs, grain dryers and tractors with no cab are rated at about 82 to 100 decibels. Being exposed to 100 decibels for just 15 minutes can cause damage to your hearing. Eight hours at 85 decibels also can damage hearing. Be even more careful to protect children's ears. Hearing damage is irreversible.
- Shut off equipment when you need to do maintenance. Leaving equipment running is not worth risking your life or a limb.
- Chances are, you are sharing the road with individuals who are not familiar with driving around farm equipment or semitrucks. Be mindful of their safety and your own as you travel on public roads.
- Always have the proper personal protective equipment (PPE). Wear the right mask for the right task.
- If you have youth working on your farm, make sure that they are doing age-appropriate tasks. Keep youth away from chemicals/pesticides and out of grain bins with grain.
- Learn the same language. To enhance communication and promote farm safety, the American Society of Agriculture and Biological Engineers developed 11 universal hand signals. See graphic.

NDSU EXTENSION EXTENDING KNOWLEDGE >> CHANGING LIVES

Hand Signals

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Labels for the hand signals: This far to go, Raise equipment, Move toward me, Stop the engine, Lower equipment, Stop, Increase speed, Come to me, Decreased speed, Start the engine, Move out/take off.

Graphics, used with permission from American Society of Agricultural and Biological Engineers, can be found in ANSI/ASAE S351, Hand Signals for Use in Agriculture.

These hand signals can enhance communication and promote farm safety.



Biodiesel and Renewable Diesel Fuel Soybean Oil Potential

For the past 30 years, soybean farmers have been among the most ardent supporters and promoters of biodiesel. The development of renewable diesel should have soy growers equally optimistic for the future.

Biodiesel has been around for decades while renewable diesel is newer on the scene. National Biodiesel Board (NBB) Director of Outreach and Development Tom Verry says that both renewable diesel and biodiesel can utilize the same feedstocks, including soybean oil, that are used for cooking oil and animal fats. One key difference is how the fuel is made.

“Biodiesel is a pretty simple chemical reaction using a fat, alcohol and a catalyst,” Verry explains. “Renewable diesel uses hydrocracking, where heat and pressure crack the carbon molecule chain, which is then rearranged to mimic diesel fuel or even jet fuel.”

Verry states that renewable diesel has the same cold-weather characteristics as petroleum diesel. Therefore,

pure renewable diesel can be used at very cold temperatures. Biodiesel, meanwhile, is most frequently used as a blend with petroleum diesel.

Marathon is renovating a refinery in Dickinson, North Dakota, that will reportedly produce about 12,000 gallons of renewable diesel per day.

“Farmer(s) should absolutely be excited about both fuels,” Verry says. “Think of renewable diesel as another customer for soybean oil. We have

renewable diesel producers who are buying soybean oil at a premium, sometimes over 30 cents above the basis. They really are becoming a big consumer of soybean oil.”

While renewable diesel is essentially the same as petroleum diesel, renewable diesel is more expensive to produce than biodiesel, and therefore, it costs more. At the same time, Verry describes how most of the renewable diesel goes to west-coast markets in order to meet low-carbon

fuel standards. Renewable diesel is more expensive to produce, so the cost per gallon is higher.

“But if you’re selling into California where they’re paying a premium for it, then you can do it,” Verry explains. “There is a carbon credit in California, and both renewable diesel and biodiesel reduce carbon. Right now, that carbon credit is around \$2 a gallon.”

Verry says that the fuel of choice on the west coast is blend of 20% biodiesel, B20, and 80% renewable diesel called R20. Biodiesel provides more lubricity to the fuel, which saves wear on engine parts. Because it’s cheaper to make, biodiesel also brings the overall fuel cost down. Renewable diesel has emission benefits that biodiesel doesn’t.

“Put them together and you’ve got the most cost-effective, low-carbon fuel that you can have,” Verry states. “You can get an 85% carbon reduction by using a B20, R80 blend.”

Verry explains that the blend is already available on the west coast. He’s been to a large truck stop north



Demand for biodiesel and renewable diesel is growing in the U.S.



Incredible Adventure Tours, a tourism company based in San Francisco, runs its fleet on 20% biodiesel and 80% renewable diesel.

of Sacramento that sells nothing but a B20 R80 blend.

Verry says that most of the country uses biodiesel. Renewable diesel is primarily utilized in California, Washington and Oregon. California and Oregon have low-carbon fuel standards, and Washington state recently passed a standard as well. The three states represent a sizable opportunity for renewable fuels.

“California is a billion-gallon biodiesel, renewable diesel market this year. Add Washington and Oregon, and it’s 1.2 billion,” Verry asserts. “With low-carbon fuel standards in all three states and their trajectory for growth, that will double in five years to roughly 2.4

billion gallons. That’s 2.4 billion gallons in just three states.”

For soybean farmers, the development of renewable diesel and biodiesel presents a substantial opportunity to increase the demand for soybean oil. Verry states that soybean oil is a great low-carbon energy source and that the demand for renewable diesel is greater than the supply.

“We’re probably going to use 9.5 billion pounds of soybean oil for biodiesel and renewable diesel this year according to USDA. Next year, that’s projected to jump to 12 billion pounds. That’s getting close to about half of the soybean oil,” Verry explains.

Soybean oil reached a high of 70 cents a pound, and Verry said that some companies had paid as much as 30 cents a pound more just to get it. Soybean oil prices have recently dropped, but Verry expects that soybean oil, corn oil and animal fats will all have increased demand. Verry states that there are renewable diesel projects coming online, some of which will use fats and white grease from animals that were likely fed a diet including soybeans. Used cooking oil is also a feedstock, and that product, too, could be soybean based.

Verry explains that, while numerous state governments are pushing for the increased use of electric

vehicles, most of the technology is for light-duty vehicles. If entities are trying to decarbonize heavy equipment such as trucks, tractors and locomotives, there is a solution that is already available.

“The only way to decarbonize that segment of transportation is to use a biodiesel-renewable diesel blend,” Verry contends. “Why wait 20 years for technology to come? If carbon reduction is your goal, you can start that today. If you’re using biodiesel as part of that mix, it has less particulate matter, so that provides health benefits right away.”

The NBB is doing an analysis of biodiesel health benefits on conditions such as asthma and cancer as well as the potential to reduce healthcare costs.

The road to getting wide acceptance of biodiesel and renewable diesel hasn’t been easy, but it is rapidly gaining momentum as a result of efforts to reduce carbon.

“Farmers started this industry in the 1990s to get it where it is today,” Verry says. “It’s a 30-year success story.”

To learn more about biodiesel, visit biodiesel.org.

—Story by Daniel Lemke,
photos by staff and courtesy of NBB



National Biodiesel Board’s Tom Verry (center) says both biodiesel and renewable diesel are good for soybean farmers.



California is a huge market for biodiesel and renewable diesel because of carbon fuel standards.

MOST WANTED LIST!

Checkoff
Investment



Be on the lookout for three dangerous fugitives that steal yield in hot weather!

#1: Soybean Cyst Nematode (SCN)



It is becoming the number-one thief of soybean yield in North Dakota.

Last spotted: From its base in southeast North Dakota, this fugitive continues to ransack soybeans as it moves north and west. In some areas, the fugitive is beginning to evade capture (overcoming the PI88788 genetic resistance).

Description: The fugitive operates underground and is difficult to detect. The soybeans generally appear healthy until 30% yield has already been stolen. In severe patches, soybeans may be stunted and appear yellow. The fugitive may be observed as very small, cream-colored, round- to lemon-shaped cysts on roots; a hand lens and flashlight can help to expose cysts. However, beware that the roots must be carefully dug, or the cysts will remain underground.

Commonly known hangouts: Drought stress and high temperatures are favorable to fugitive SCN and result in higher levels of stolen yield. The fugitive often robs more yield in high pH or sandy soils.

Apprehension in 2021: Soil sampling will help growers to identify the fugitive for first time and/ or to understand how well their management tools are working.

#2: Frogeye Leaf Spot



This fugitive was new to North Dakota last year.

Last spotted: The fugitive was found in 10 southeastern North Dakota counties in 2020.

Description: It is first seen as small brown spots on the leaves. As the fugitive ages, the spots become small lesions with a gray center that is surrounded by a reddish-brown to purple ring. A fuzzy gray mold may appear on the underside of leaf lesions. Spots may coalesce, fall out and kill parts of the leaves.

Commonly known hangouts: The fugitive survives in infected plant residue or seed and may have overwintered in 2020-2021. The fugitive commonly shows up after canopy closure, is favored by warm temperatures and high humidity, and is most noticeable in favorable microclimates (such as along a shelterbelt).

Apprehension in 2021: The yield impact in North Dakota is unclear. If the fugitive appears during the early reproductive stages, fungicide

applications at growth stage R3 may mitigate the fugitive's effect on yield.

#3: Charcoal Rot



This fugitive can steal yield in hot and dry weather.

Last spotted: In 2018, it stole significant yield from several growers in Cass and Traill Counties.

Description: This fugitive is commonly first noticed as premature soybean death. The leaves remain attached to wilted plants. The taproot and lower stem may appear silver/gray. When the epidermis is removed, numerous black specs give the lower stem tissue a charcoal color.

Commonly known hangouts: This fugitive only comes out during hot and dry weather, where it may ransack unsuspecting soybeans. It is known to hang out in southeast North Dakota, but the full range is unclear.

Apprehension in 2021: Pay close attention to areas of soybeans that wilt and die prematurely this August. Accurately identifying this fugitive now may lead to apprehension in the future.

—Story and photos courtesy of Dr. Sam Markell,
North Dakota State University

SCN Sampling Program Q&A



North Dakota
Soybean Council
Our World Is Growing.

Got questions?
We'll help you
dig for answers.

Wondering if you have Soybean Cyst Nematodes (SCN)? Let the North Dakota Soybean Council (NDSC) help.

Q: How does the SCN sampling program work?

A: The NDSC covers the cost of up to 2,000 SCN samples for growers in N.D. NDSU labels, codes and distributes sample bags. Growers bag and mail sample bags to the lab.

Q: When will the sampling program begin?

A: Sample bags will be at County Extension offices in mid-late August.

Q: How do I receive sample bags?

A: Each N.D. grower can get up to three bags at their County Extension office

Q: When is the best time to sample?

A: The number of eggs and cysts in the soil increases throughout the growing season, making SCN detection most likely if you sample at the end of the season; from just before harvest to just before freeze-up is generally recommended.

Q: What do the results tell me?

A: Results indicate if you have SCN or not. If you do, you will want to actively manage it; resistance, rotation and maybe seed treatments. If you don't have it, be happy, and test again in coming years.

www.ndsoybean.org

Contact Sam Markell at NDSU with questions: samuel.markell@ndsu.edu • (701) 231-8362



Spider Mites

Come With Drought

The hot and dry weather this season means that conditions are ideal for two-spotted spider mites to make crops their homes and breeding grounds.

“Typically, when it’s hot, in the 90s, we don’t get the fungal diseases that attack spider mites and keep populations in check,” says Dr. Janet Knodel, a professor and entomologist at North Dakota State University (NDSU) Extension. “Mites have a fast reproduction cycle, so when it’s hot like it has been, they’re able to reproduce very quickly.”

Dr. Knodel added that plants are also stressed, making them more susceptible to infestation.

Two-spotted spider mites, while small and sometimes hard to see, can severely damage crops. The pests extract chlorophyll from the plants’ cells, essentially starving the

plants. This process can be seen as white stippling on leaves, but as the infestation progresses, the leaves turn yellow and bronze until they drop. Spider-like webbing also indicates the mites’ presence on the leaves’ undersides because spider mites gradually work their way up the soybean plant from the bottom.

“It’s a good idea for producers to start scouting, from flowering up through pod stage,” Dr. Knodel states.

Mite eggs begin in the field ditches, but as these areas are mowed and hayed, the mites move into the crops. Therefore, scouting should start by the field edges and then move into the field.

“They are very tiny, at least half the size of a soybean aphid nymph, so when going into the field, you will need a hand lens and a white sheet of paper. This will help you see the mites better,” Dr. Knodel explains.

Knodel recommended walking a “W,” checking at least five sites of the field and 10 plants at each site. First, producers will want to look for symptoms and plant injury.

“Stippling that is concentrated within the lower and middle canopies is considered the economic threshold, and producers should take action to avoid yield loss,” Dr. Knodel says.

To confirm an infestation, growers can place the paper on the ground and shake the plants over the paper to force some mites to drop onto the paper, making them more visible. Look for a tiny, white-to-yellow spider mites with two black spots on the abdomen.

“Spider mites will be a little smaller than their predatory counterparts, which are red, have longer legs and move faster to catch their prey,” Dr. Knodel states.

Management options include organophosphate insecticides, such as chlorpyrifos Lorsban® and generic and dimethoate; and one pyrethroid insecticide, bifenthrin. Growers

should avoid other pyrethroid insecticides because they cause spider mite populations to flare and to increase reproductive rates. It is also important to go back and to re-scout five days after application because insecticides do not control mite eggs. Growers will also want to remember that rotating the mode of action for multiple applications will help prevent insecticide resistance. Miticides, such as Zeal, are another option; this choice is effective for treating both eggs and mites and is safer for beneficial insects.

According to Dr. Knodel, “Areas that have had adequate rain will probably be okay, but for growers in dry areas and already seeing spider mites, it’s unlikely fungal diseases and predatory mites will be able to catch up to the spider mite populations.”

To download the NDSU Extension insect management guide, visit bit.ly/NDcropinsectmngtguide.

—Story courtesy of Agweek, photo courtesy of Dr. Janet Knodel, NDSU



Spider mite measured on corn.



unitedsoybean.org

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From promoting the profitability of using high-quality soybean meal in India to training animal producers on nutrition in Colombia, the soy checkoff is working behind the scenes to develop more market opportunities for U.S. soy. We're looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And it's helping make a valuable impact for soybean farmers like you.

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

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SOYBEANS' WILD RIDE

To say that soybean prices in 2021 have been choppy is an understatement, and the wild ride is likely to continue until combines roll this fall.

The Chicago Board of Trade prices in mid-December 2020 were just over \$12 per bushel. By late January 2021, prices had risen to \$14. February, March and April saw soybeans lingering on both sides of \$14, before a May spike drove values up to a high of \$16.42 per bushel. By late June, soybeans were back down to \$13.

North Dakota State University (NDSU) Crops Economist and Marketing Specialist Dr. Frayne Olson says that among the key factors in the price runup was a reduction in soybean acres in 2020 due to the trade war with China. Many U.S. farmers reduced the amount of planted soybeans because of demand uncertainty. The Phase I agreement with China spurred farmers to increase soybean acres in 2021.

Olson states that there is strong demand from China. African Swine Fever (ASF) decimated China's hog herd, but now, populations are being rebuilt.

"The Chinese hog herd was approximately five times the size of the U.S. hog industry before ASF," Olson explains. "Because of ASF, their herd was reduced by about 40%. That 40% cut is approximately two times the size of the entire U.S. herd. They haven't quite fully rebuilt back to the levels before ASF, but they're getting very close."

Olson says that other protein sectors in China, including poultry and aquaculture, grew to offset the loss of available pork. Even with China's pork production increasing, the other

sectors haven't diminished. When you combine the overall livestock growth with tighter restrictions in China for how hogs are to be fed, the result is a huge appetite for grain, including corn.

"The previous record for corn purchases by China was about 5.2 million metric tons in 2012," Olson states. "China has currently purchased over 23 million metric tons of corn this year. They've absolutely blown that out. That's nearly five times the previous record rate. The surprise was the volumes that they came back and purchased. We were expecting it, but they're much greater than we thought."

Expect Volatility

Due to reduced acres and increased demand, soybean supplies in the United States are low. With tight ending stocks, factors such as weather concerns can have a magnified effect on the markets.

"Normally what happens if we have really small or tight ending stocks, average prices tend to be high, and we tend to get a lot of price variability just because any new news is important," Olson explains. "My expectation is this price variability is going to continue for at least another 12 months. Farmers better get used to it. It provides great opportunities, but it also provides a lot of gut-wrenching drops."

Olson acknowledges that it can be very difficult to put together a marketing plan during volatile times, especially when farmers aren't sure how many bushels they'll be able to produce.

Olson doesn't expect the bottom to fall out of the market because ending stocks are tight and because

the projected use is still very high, even with elevated prices.

Market volatility presents growers with pricing opportunities. However, Olson says that farmers shouldn't chase the top of the market. Rather, they should select some targets where they'd be willing to forward contract their soybeans.

"My recommendation from a strategy standpoint is do the math and try and pick some pricing points. I've said this before, and I'm going to say it again. Pick some pricing points ahead of time; work with your elevator; work with a broker; try and place your orders up front and say, at this price level, I'd be willing to sell some more," Olson states. "Now, the hard part is how much do you sell? The price levels we see, especially for soybeans right now, are high enough that, unless you have a completely disastrous yield, there's profit potential."

Balanced Strategy

Olson contends that the size of the 2021 soybean crop remains an open question, and he doesn't expect to have a good handle on production numbers until the combines are in the field. Despite that uncertainty, Olson explains how there are three times during the year when sales should be made.

"Let's look to try and sell about a third of your crop before you put seed in, which we've already done. The next critical time period we need to watch what's going on is in this July, August timeframe; get another third, or about 30%, of your crop sold of your expected production," Olson says. And then the last third, you wait until after you combine it and figure out exactly how many bushels you have, and then try and market the rest

of it after harvest."

Not all farmers have an appetite for risk, and some people prefer to wait until they know exactly how many soybean bushels they have to sell. While that strategy is safe, those farmers may miss out on some profit potential.

"By that point, we'll know how many bushels we have, and you're not going to have the pricing opportunities. The market will react accordingly," Olson states. "During that critical development, prices tend to swing higher than we would normally expect them to because of a risk premium. Well, by the time the combines run, that risk premium has disappeared; it's gone."

Whatever the price, Olson recommends that farmers think like a buyer. For every soybean seller, there has to be a buyer.

"If prices get too high, buyers back off. With high prices, buyers have to be concerned prices will go even higher for them to think the current level is a good deal," Olson explains.

—Story by Daniel Lemke,
photo by staff



NDSU's Dr. Frayne Olson says it can be hard to develop a marketing plan when markets are swinging wildly.

Growing LEADERS



Andrew and Brittni Cossette came from different backgrounds. Andrew was raised in the Fargo area, and in 1992, he and his parents moved to the family farm that was started by his great grandfather in 1869. Brittni was raised in Montgomery, Minnesota, a community known for its rich Czech heritage.

Andrew Cossette earned a degree in farm management from the North Dakota State College of Science while Brittni got a bachelor's degree in health care administration from North Dakota State University and then earned a master's degree in the same area from Minnesota State University-Moorhead. The pair met during Brittni's last semester of college.

"It isn't a secret I played hard to get, but we bonded over common interests, and he opened my mind to the farming way of life," Brittni Cossette says. "I loved his excitement for agriculture and that helping with the family business is something we could experience together and, at that time, raise a family."

"My grandfather, my uncle and my dad took over the farm for many years, but when my uncle decided to retire, it allowed me to step up in his

place," Andrew Cossette explains. "Now, my dad, my brother and I work the operation together, where we rotate between soybeans, barely and corn on about 3,500 acres."

Brittni and Andrew Cossette are raising two sons, Wyatt and Weston.

The Cossettes were selected to participate in the Corteva Agriscience Young Leader Program, a two-part educational program for individuals and couples with an interest in agricultural leadership. The Young Leader Program recognizes the value that both partners play in a farming operation even when one person is employed off the farm.

The Cossettes' family friends Ryan and Jess Richard went through the program a few years ago. The Cossettes noticed a difference in the Richards' communication about the business and their relationship after their participation in Young Leader Program, so the Cossettes applied.

Due to COVID-19, the previous Young Leader Program met virtually. The 2021 class is meeting in person, which helps with one of the program's primary missions of network building.

"I think everyone has suffered a little cyber fatigue over the last year and a half, so our trip to Vancouver, Washington, to attend Phase One

of the Young Leader training was refreshing and needed," Brittni Cossette states.

The Young Leader Program trains participants in many areas of communication, but also helps the class to develop its leadership skills.

"One thing we would like to get out of this program is increased self-efficacy and the development of skills relevant to success in the modern ag industry," Andrew Cossette says. "Building self-advocacy and

self-determination skills, as a couple, will help our business and, most importantly, our relationship, last and survive."

The Cossettes know that, as young farmers, it's important for them to hone their skills and to become involved with the future of the agriculture industry. As a Young Leader for North Dakota, Andrew Cossette has been participating in board meetings with the North Dakota Soybean Growers Association.



Fargo-area farmers Andrew and Brittni Cossette are excited to meet fellow young farmers from across the country as part of the ASA Corteva Agriscience Young Leader Program.

Jamestown Golf Fore! the Fun of it

Thank you for making the 8th annual Jamestown golf tournament successful! The tournament is a way for the North Dakota Soybean Growers Association (NDSGA) to say thank you to its members and supporters. Your membership dues and sponsorship of NDSGA events help to provide the necessary funds to continue policy and advocacy work in Bismarck and in Washington, D.C. We're proud of our past successes and are continually working to make things better for soybean growers throughout North Dakota.

Jamestown Tournament Winners

First Place: Team Streeter Elevator: Brett Williams, Jeff Williams, Andy Heflin and Josh Grimm.

Second Place: Team PBK Seed Sales: Randy Blaskowski, Nick Blaskowski, Jeff Van Ray and Myles Torgerson.

Third Place: Team AgCountry Farm Credit Services Jamestown: Brad Kallenbach, Steve Dale, Andrew Gegelman and Justin Benson.

Jamestown Contest Winners

Longest Drive #6: Nick Blaskowski.

Longest Drive #17: Brett Williams.

Closest to Pin #12: Clay Erdmann.

Closest to Pin #4: Josh Grimm.

Longest Putt #16: Dakota Dockter.

Longest Putt #9: Joe Morken.

Thank You to Our Sponsors

Hole Sponsors: ADM; Advance Trading, Inc.; AgCountry Farm Credit Services; Butler Machinery Co.; Central Sales, Inc.; Centrol, Inc.; Gavilon Grain LLC; Innovative Agronomy; MEG Corp-Biodiesel; the National Biodiesel Board; the North Dakota Soybean Council; Nutrien Ag Solutions; Proseed and Visjon Biologics.

Dinner: BNSF Railway.

Lunch: Midwest Seed Genetics.

Golf Balls: Asgrow.

Golf Carts: Bank Forward.

Welcome Bags: BASF.

Signs: D-S Beverages.

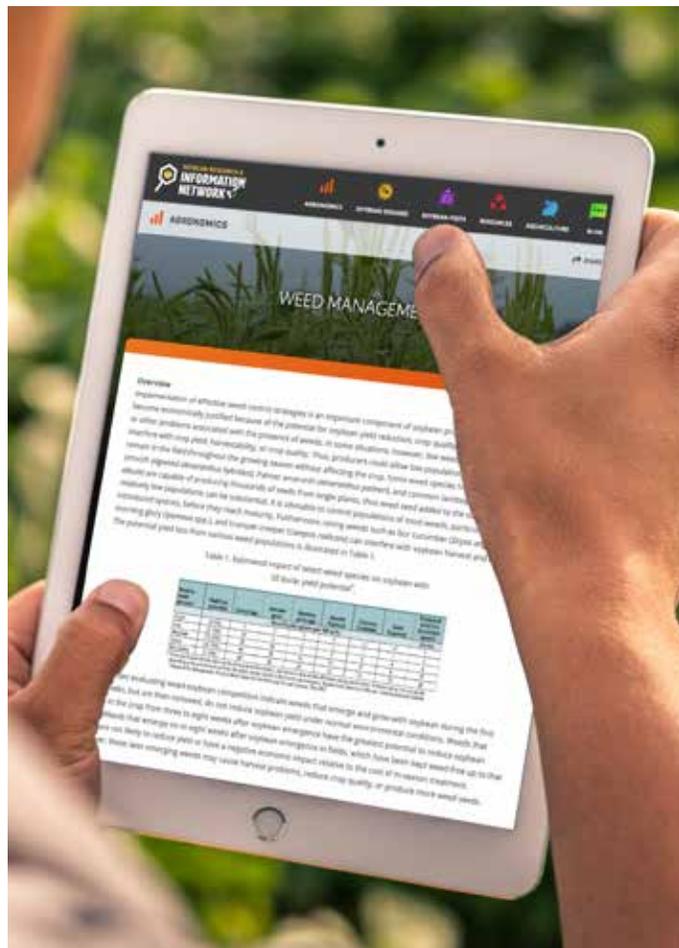
For more photos from the tournament, check out facebook.com/NorthDakotaSoybeanGrowersAssociation

The Fargo event will be at Rose Creek on August 22, 2021. More information is available at ndsoygrowers.com/events.

—Story and photo by staff



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



ONE LESS THING TO WORRY ABOUT.

Herbicide-resistant weeds cost soybean farmers time and money, impacting profitability. Fortunately, your state soybean checkoff is on the job with research projects to help you adopt the best management practices to preserve crop-protection technologies and enhance the overall sustainability of your U.S. soy crop. To learn more visit: soybeanresearchinfo.com



Funded by the soybean checkoff

“It’s important for farmers, especially young farmers, and their families to get involved because it provides the opportunity to find avenues and outlets that will listen to ideas, concerns, and find other individuals who are passionate about acting on the collective needs,” Andrew Cossette contends. “This experience has only helped us have a better understanding of agribusiness and current farm programs and organizations that are out there for us to lean on.”

“The truth of it all is,” Brittini Cossette says, “we all face different challenges from one another no matter what type of farming operation we run. We are proud to be a generational farm, and we work hard every day to be able to carry on that legacy. In order to do that, we need to be involved.”

To learn more about the Corteva Agriscience Young Leader Program or to apply, visit ndsoygrowers.com.

—Story and photos by Daniel Lemke



Jim Thompson
Page, North Dakota

Tell us about your farm.

We farm in northwest Cass County around Ayr, North Dakota. We raise soybeans, corn, dry beans and wheat on a combination of dryland and irrigated acres. We utilize minimum and no-till practices across all of our acres.

What do you like best about farming?

Every year is different (and challenging), but I really enjoy the independence farming brings and the flexibility it usually provides.

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

I will say that I enjoyed the farm growing up, and I worked with my Dad on the farm through high school and the summers during college.

However, I wasn't sure that farming was what I wanted to do for a living after college. I graduated from the University of North Dakota with majors in aviation

administration and business management. After college, I lived in Dallas, Texas, and worked for GE Capital in both their Corporate Flight Training Facility and Corporate Airplane Finance division. After three years, I decided to move back home and give it a try.

What's most exciting about the upcoming growing season?

The early start to this season is a welcome change; the weather challenges we've faced so far are not. However, starting the season with higher-than-average prices always gives a grower hope for a successful and profitable year.

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

I attended many events put on or supported by the NDSC and always appreciated the work they have done on behalf of the soybean growers of North Dakota. Also,

I've known some of the staff and past board members, and the discussions we had generated an interest of serving on the council.

Why are soybeans part of your crop mix?

Soybeans are a great fit on our farm from a rotation and workload standpoint. The new traits in soybeans have allowed for us to use new tools in weed control and keep subsequent years' crops cleaner. Profitability is also a major reason to have soybeans in our rotation.

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

Market access to the Pacific Northwest has really allowed quick transport of North Dakota soybeans to overseas customers. However, I would like to see increased local demand and consumption. The planned crush plant at Spiritwood is just one step towards increased usage. Perhaps additional biofuel refinery demand, increased by-product demand for animal consumption and creative new uses for soybeans can bolster uses and demand for North Dakota soybeans.

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

The technology we use every day as farmers is something we need to keep up with and be willing to evolve alongside. GPS and auto-steer on the farm have become as common as the personal computer became in the '80s.

Variable rate, yield mapping and wireless capabilities are here

now, and we must become familiar with using them in order to make us more efficient as growers. U.S. farmers must continue to lead the world in farm commodity production.

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

Drone technology and remote operating have already showed up on the radar. These technologies will continue to evolve over the next decade and provide more opportunities for the grower. Trait technology will also continue to improve and allow us to grow more bushels with the same amount of land.

What do you like to do outside farming?

Our family enjoys summers at the lake, traveling when able and watching our kids' activities. There isn't as much downtime as the kids get older, and we are trying to take in every moment!

If you could go anywhere, where would it be?

Hawaii and Alaska are two places we haven't visited and would like to explore sometime. Otherwise, anywhere in the Caribbean with a beach suits us just fine.

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

GPS and all the applications that go with it.

—Story and photo by staff

Getting to Know the Expert



Dr. Michael Wunsch
Plant Pathologist, NDSU Carrington Research Education Center

Where did you grow up?

I'm originally from Montana. My father has a manufacturing firm that makes motion sensors; I didn't grow up on a farm, but I've always had an inclination toward agronomy.

Tell us about your education.

I have bachelor's degrees in biology and economics from University of Missouri-Columbia. I served with the Peace Corps after college, and then I pursued graduate studies

to learn more and to build my skill set. I received a doctorate in plant pathology from Cornell University in 2010.

How did you get interested in plant pathology?

I gained my exposure to crop disease management working with vegetable producers in Honduras while I served with the Peace Corps from 2000 to 2002. I really enjoyed the problem-solving aspect of it. In the dry season, growers there had one set of disease problems and in the cool,

wet season, they had another set of problems. I found that the challenge to address these problems so they could maintain a continuous supply of high-quality vegetables to be something I really enjoyed.

Why were you interested in applied research?

My research goal is to identify management practices that growers can utilize with their existing technology to maintain profitable production when environmental conditions are favorable for disease.

I came to Carrington in 2010 wanting to do problem-solving research to identify agronomic strategies for improving disease management. We develop solutions that a grower can implement tomorrow.

You've done a lot of work with white mold in soybeans. Tell us about that.

When I started this position in 2010, white mold was a significant but sporadic problem for soybean producers and really nobody was working on it in a meaningful way.

White mold is a frequent issue on irrigated soybeans, but it occurs less often on dryland soybeans, maybe one in five years. At the time the best strategy to manage white mold was to plant in 30-inch rows, but planting soybeans to 30-inch rows reduces yield potential in the absence of white mold. We first needed to figure out how much of a gain you get from 30-inch rows under white mold pressure. We needed to know that to determine if we were gaining enough yield from the 30-inch rows during white mold years to offset all the years when conditions do not favor white mold.

We learned there's a tradeoff. White mold is a disease that favors wet years, but wet years are also years with high soybean yield potential. Seeding soybeans to narrow rows maximizes yield potential:

The canopy closes earlier, resulting in increased capture of sunlight, and increased numbers of flowers and pods. Planting to narrow rows confers a big boost in yield potential but increases white mold. We learned the reduction in yield conferred by white mold was not enough to offset increased yield potential until you got to about 50% white mold incidence. Then the additional pressure was enough to overcome the gains from increased yield potential.

We tested 30 to 40 soybean varieties planted at four locations over five years, looking at the impact of row spacing across different seeding rates. When white mold incidence was under 50% at the end of the year, planting to narrow (14 or 15-inch) or intermediate rows (21 or 22.5-inch) consistently resulted in higher yields than planting to wide rows (28 or 30-inch), and when white mold incidence was under 33% (one in three plants) at the end of the year, differences in contamination of grain with sclerotia (the black resting structures of the white mold pathogen) were negligible across row spacings.

Subsequent research focused on optimizing the deployment of fungicides for management of white mold in soybeans. We learned that the application timing and fungicide droplet size that most producers had been utilizing was not optimal. By getting fungicide application timing and droplet size correct, we have been able to increase the yield gain conferred by the fungicide two to three-fold.

What do you like to do away from work?

I enjoy spending time with my wife and three children, working in our garden at home and doing things as a family.

—Story by Dan Lemke,
photo courtesy of Michael Wunsch

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North Dakota Soybean Growers Association

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Soy Growers Applaud Infrastructure Framework

Soybean farmers are pleased to see a strong bipartisan approach to investing in America's infrastructure and are supportive of the bipartisan infrastructure framework that was agreed upon by senators and endorsed by President Biden. The plan to overhaul the country's transportation, water and broadband infrastructure would put President Biden's Build Back Better vision into motion and would invest the resources proposed in his American Jobs Plan.

"The American Soybean Association (ASA) has long championed many of the investments in this package, including ports, waterways, highways and bridges, and broadband. We are thankful to see these issues prioritized and that the plan avoids tax provisions that would negatively impact farmers and their families, such as drastic changes to stepped-up basis," said Kevin Scott, ASA president and a soybean farmer from South Dakota.

While details about the bipartisan infrastructure framework must still be developed, the ASA looks forward to working with both the White House and Congress in order to advance infrastructure investment without imposing a tax burden on farmers.

U.S. Soy Exports Reach Record Level

First quarter U.S. soybean exports reached a record level in 2021 in terms of volume, surpassing the previous record set in 2014, which remains the only year to have exceeded the first quarter 2021 soybean export value. Strong Chinese demand due to a hog herd recovering from African Swine Fever continued after China had already bought most of Brazil's soybean supply. As weather delayed Brazil's 2021 harvest, the U.S. remained the main exporter with soybean supplies. However, as the U.S. supplies are now running thin, exports have fallen below the five-year average.

Although outstanding sales are

not the best measure of next year's exports, the new marketing year sales for the 2021 crop at this point in the year are at their highest level since 2012. The USDA is expecting 2021/22 soybean exports to be down from the current marketing year due to tighter beginning stocks and strong domestic crush margins that incentivize more of the beans to stay home. Weather throughout the 2021 growing season will play a large role in the actual outcome.

Soy Industry Leaders Urge GPS Protection

Members of Congress introduced bipartisan legislation to keep GPS reliable and to ensure that unfair cost burdens won't fall on U.S. farmers or other end users who rely on the network to operate safely and efficiently.

The Recognizing and Ensuring Taxpayer Access to Infrastructure Necessary for GPS and Satellite Communications Act, or RETAIN, was introduced by U.S. Senators Jim Inhofe (R-Okla.), Tammy Duckworth (D-Ill.), Jack Reed (R-R.I.) and Mike Rounds (R-S.D.) in response to the Federal Communication Commission's (FCC) Ligado Order.

The American Soybean Association (ASA) and other groups have signed a letter to support the RETAIN Act.

The FCC order went into effect in April 2020 and allows Ligado Networks to establish a wireless network that will threaten the reception capability of hundreds of millions of GPS devices and growers' abilities to use GPS technology. Because growers rely heavily upon navigation systems and precision technology, the prospect of GPS units not working is alarming to soybean farmers.

The FCC's order acknowledges the likelihood of interference with GPS signals and requires Ligado to pay the federal government for repair costs, but the order does not specify what those costs are and does not currently include the private sector. According to Sen.

Inhofe's office, 99% of the more than 900 million GPS devices across the country are used by the private sector, as well as by state and local governments. Under the current order, private-sector businesses such as agriculture, or their consumers, are on the hook for the repair costs.

The RETAIN Act would require Ligado to cover the cost of correcting any interference that its operations create and specifically outlines the areas of potential costs, including engineering, construction, site acquisition, research, personnel or contracting staff and labor costs. For agriculture, this act means that Ligado would need to upgrade, repair or replace any farm equipment which is affected by Ligado.

EPA to Repeal and Replace 2020 Navigable Waters Protection Rule

U.S. Environmental Protection Agency (EPA) Administrator Michael Regan announced that the agency has taken initial steps to repeal and to replace the Trump administration's 2020 Navigable Waters Protection Rule (NWPR). The move is the latest in a long string of Clean Water Act jurisdictional rules that go back to 2008 and include the Obama administration's well-known 2015 Waters of the U.S. (WOTUS) rule.

While the EPA and the Army Corps of Engineers work to write the new rule, the 2020 NWPR will remain in effect around the country.

Upon review of the NWPR, the EPA and the U.S. Army Corps of Engineers determined that the latest rule significantly reduces clean-water protections, especially in arid regions of the Southwest United States and in Gulf Coast wetland areas.

According to the agencies, this new regulatory effort to address what bodies of water are considered jurisdictional under the Clean Water Act will be guided by a "practical implementation approach for state and Tribal partners" and will consider the latest science and the effects of climate change on waters. The agencies' goal is to issue a "durable"

rule that will put an end to years of back-and-forth rulemaking and litigation. To that end, the government has committed to not return to the 2015 Obama-era rule, noting that the ag community voiced significant concerns during that rulemaking process. The new rule will reflect input from landowners, agriculture, and state and local governments, along with environmental groups; later this year, soy growers can expect to see opportunities to participate in a series of national and regional listening sessions.

Farmers for Free Trade Asks Congress for Agricultural Investments

Farmers for Free Trade (FFT) is urging the House and Senate leadership to consider the critical importance of infrastructure to U.S. agriculture when crafting the next infrastructure package. In a letter sent to Congress, the FFT coalition, which includes the American Soybean Association, requested that future infrastructure legislation include much-needed investments for dams, locks, inland waterways and ports, rural highways and roads, bridges, rail and broadband infrastructure in order to deliver products to market.

The letter outlined the importance of a modern, updated infrastructure system for the agricultural supply chain, which affects access to new foreign and domestic markets. Farm-product exports totaled \$136 billion in FY2020 and made up approximately 8% of total U.S. exports. The coalition also explained the effect that American agriculture and infrastructure investments will have to protect and to create jobs.

In 2019, 22.2 million full- and part-time jobs in America were dependent on the agricultural and food sectors, about 10.9% of total U.S. employment. The FFT coalition contends transportation improvements directly influence the bottom line for agriculture producers while providing jobs for Americans.

—Story by staff



MAINTAINING OUR REPUTATION TO DELIVER

Whether shipping by river, road or rail, the soy checkoff is committed to ensuring America's infrastructure is a significant advantage for U.S. soybean farmers. We're looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And it's helping make a valuable impact for soybean farmers like you.

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



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