



THE NORTH DAKOTA
Soybean
GROWER MAGAZINE

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INSIDE

Roads Pay a Toll

PAGE 16

FULL-CIRCLE RETURN

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



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

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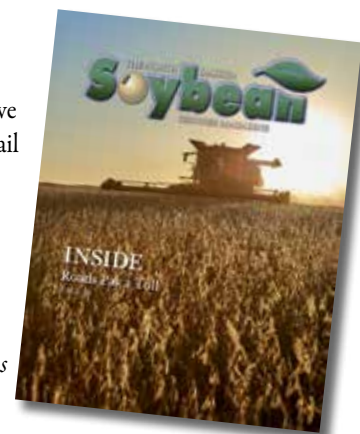
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On the cover

Getting soybeans from the field to market can involve multiple modes of transportation including roads, rail and waterways. For North Dakota soybean farmers, transportation is a vital cog in the marketing wheel. This issue of the North Dakota Soybean Grower examines some of the key challenges facing the state's infrastructure.

—Photo by Wanbaugh Studios



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P re-Session Preparations

While there are still a few final meetings for the legislative interim committees to hold before the 2019 session begins, committee work is largely done. The North Dakota Soybean Growers Association (NDSGA) pays attention to numerous committees and bills as well as ideas for bills which are discussed by entities other than the official committees.

The Water Topics Committee recently concluded two days of meetings in Minot. The committee will also meet in and tour Fargo. At this time, I know of no bill drafts from this committee, but I do know that some people and groups which are affected by the committee's policies will be looking to restore the State Water Commission's ability to cost-share for snagging and clearing rivers, which helps protect the bridges and roads that are so vital to our agriculture industry.

The Natural Resources Committee has heard issues related to the effects of wind development. There have been no specific bill drafts about that issue, but we can expect something to come from legislators this winter. The Natural Resources Committee's only bill draft is about permitting the Industrial Commission to issue a notice of disapproval to the federal government should there be any high-level radioactive waste brought into our state while the legislature is not in session.

The Agriculture Committee's sole bill draft would mandate training for soil-conservation directors. There is a specific law preventing that training, but it is now believed that some training would improve the entire program.

During this interim legislative period, a committee of private citizens joined with legislators for an effort called the Initiated and Referred Measures Study. (An initiated measure introduces new policy while a referred measure retracts a standing policy.) They looked at many potential changes, including increasing the number of signatures needed to get something on the ballot. It appears that the more significant recommendation, in the form of a draft bill, deals with having a measure's fiscal impact printed on the ballot so that voters are aware.

The Energy Development and Transmission Committee went across the state from Williston to Grand Forks, getting a handle on the effect that the energy boom has had on the state. The committee has no plans to submit any bill drafts, but the chairman, Senate Majority Leader Rich Wardner of Dickinson, has created a formula adjustment where the dollars would go from both the Oil and Gas Production Tax as well as the Extraction Tax. He calls his idea Operation Prairie Dog because it is a plan to help the state's infrastructure, and as Wardner said in committee, "nothing builds infrastructure like a prairie dog!"

Assuming a conservative average per-barrel oil price at \$52.50 and production of 1.2 million barrels per day, Wardner's plan would put more money into parts of the state which are not benefiting directly from the oil and gas boom while holding oil country harmless. His plan needs to be hammered out during the session, but the idea is that the money would be for streets, sewer, gutter, water lines, roads and road repair. He stressed that the definition of infrastructure still needs work, but it's likely that there will be much discussion during the session.

Another area of concern is North Dakota State University (NDSU) Research and Extension coming under the 10 percent budget cuts requested by the governor. This recommendation would mean that the main research station would lose around \$5 million, the Research Extension Centers (REC) about \$1.7 million and NDSU Extension Service \$2.5 million. These cuts are in addition to the reductions to their budgets during the last session. When speaking with a director at a REC, programs and jobs would have to be cut. The NDSGA encourages all concerned agricultural producers to be aware of this reduction and to speak with their legislator and/or legislative candidates about what research has and can do for modern agriculture.

—Story by Phil Murphy



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

Do you know the difference between the state's two soybean organizations? I didn't.

Happy Harvest!

I hope that everyone's crops have been great as we head down the home stretch of the harvest season. It's an exciting time as we see the growing season's results.

I would like to explain the differences between the North Dakota Soybean Growers Association (NDSGA) and the North Dakota Soybean Council (NDSC).

Frequently, I hear from farmers around the state: "I'm an NDSGA member. I pay the checkoff." When I first started on the NDSGA board of directors, I thought the same thing. At the first board meeting, I had to ask about the difference between the two organizations. I found out that they work hand in hand but are totally different in what they do.

The NDSGA is a member-driven, bipartisan organization that relies on its membership dues and sponsorships to conduct daily operations. The NDSGA advocates for sound policy in Bismarck and Washington, D.C. The board consists of eight

district representatives, two American Soybean Association (ASA) directors, three at-large directors and the Dupont Young Leader. The board members do their jobs on a volunteer basis. They are the "boots on the ground," so to speak. The NDSGA doesn't care whether you are red, blue or in between; it just wants to do what's in the best interest of the North Dakota soybean farmer.

The NDSC is the actual checkoff organization. It invests checkoff dollars for soybean research, education, promotion and market development. Checkoff funds can't be used for advocacy, so the NDSC does not do any policy work. That policy work is done by the NDSGA. The NDSC board of directors is elected by constituents from the respective districts. There are 12 districts in the state of North Dakota. You'll be receiving nomination forms in December if your district will have an election next year.

Both organizations work to benefit North Dakota soybean farmers. I hope this information gives you some idea about what the two soybean



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organizations do for you. Both boards are always looking for farmer leaders who are willing to step up and to provide leadership. If you or someone you know would like to be a part of either organization, don't be afraid to contact me or anyone on either board.

Have a safe and bountiful harvest season.



Membership Application

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

Name: _____
Spouse: _____
Date of Birth: _____
Farm/Company Name: _____
Address: _____
City, State, Zip: _____
County: _____
Phone: _____
Cell: _____
Email Address: _____

Occupation (Please check all that apply)

- Farmer Retired Agribusiness
 Finance Elevator Other

Do you currently grow soybeans?

- Yes No

Soybean Acres: _____ Total Acres Farmed: _____

Do you raise:

- Cattle Hogs Poultry Dairy

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

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

- 3-Year Membership \$200 1-Year Membership \$75
 Check enclosed (please make checks payable to NDSGA)
 Credit Card: Visa / MasterCard / Discover / American Express
Card Number: _____

Expiration Date: ____/____/____ CVC: _____

Name on Card (Please print): _____

Signature: _____

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

Diversification

Key to the Kessel Family Farm



Farming in southwestern North Dakota just a few miles from the Badlands and Theodore Roosevelt

National Park, in an area that receives less than 15 inches of annual rainfall is not for the faint of heart. For more than 30 years, farmers Greg and Stacey Kessel along with their Arrow K Farms have thrived thanks to perseverance, conservation and diversification.

Located outside Belfield, North Dakota, the Kessels' farming operation entails raising seed grains as well as producing a variety of crops, including waxy, hullless food barley; yellow peas and more. They operate Missouri West Seed Conditioning and offer custom seed treating. Through a breeding program, Arrow

K Farms has developed forage barley and a hard-white wheat variety. The family farm is also involved with craft malting through Two Track Malting.

The diverse enterprises within the family run farm offer the opportunity to adjust to ever-changing market conditions.

"I'm a big believer that you make your own destiny," Greg Kessel says. "We're fortunate that we can plant 14 or 15 different crops, so we can change things up. I consider it a luxury that we can adapt and change things as we need."

The Kessels have changed things

over the years, including becoming one of a few farmers in the area to raise soybeans.

"I've dabbled with soybeans since the 1990s," Kessel says. "We didn't have the chemistry back then to grow very good beans. Roundup Ready and Xtend really offered up some different tools, plus the new genetics are outstanding."

Kessel says that moisture is the most limiting factor for soybeans in the region. Late-season rains are important for soybean development, and they can be scarce in southwestern North Dakota. The Kessels no-till their farm to conserve the

limited water they have. Despite the typically drier conditions in the region, Kessel says that more farmers are interested in raising soybeans. In fact, Kessel says that he has friends and relatives growing soybeans in Montana.

Off-Farm Diversity

Diversity isn't limited to the crops grown by Arrow K Farms. Stacey Kessel was on the Billings County School District board for 12 years. Greg Kessel is one of five farmer directors on the North Dakota Barley Council; he is a board member for an oil refinery which is being built on Kessel property near Belfield; he chairs the local co-op of Creative Energy; and he currently chairs the Northern Crops Institute (NCI).

NCI is a collaborative effort among North Dakota, South Dakota, Minnesota and Montana to support the promotion and market development of crops grown in this four-state region. The North Dakota Barley Council has a seat on the NCI board which Greg Kessel was willing to fill.

"You can sit around and complain about agriculture and the economy, but you don't have the right to gripe if you don't try to make a difference," Greg Kessel says. "If you get involved, you can say you've truly made a difference."

Next Generation

Greg Kessel's off-farm responsibilities opened the door for the Kessels' two oldest children, daughter Jade Renshaw and son Grant Kessel, to take added roles at the farm. The Kessels two younger sons are still in school.

Renshaw is a North Dakota State University graduate who returned to the farm after college and is involved with many aspects of the operation, including the family's Rea Seed dealership and the seed-treatment business. Her return to the farm was not a given.

"Even though I grew up farming, I didn't think I'd come back," Ren-



Diversification, both on and off the farm is key to Belfield, North Dakota, farmer Greg Kessel.

shaw says. “As I got older and more mature, my mind changed.”

Bringing the next generation to the farm is the goal for many farmers who would love nothing more than to see their farming legacy carried on by their children. That transition isn’t always easy.

“It’s exciting, but it doesn’t come without challenges,” Greg Kessel admits. “No matter how much you plan, you find out there are other challenges that have to be overcome, especially in an ag economy that’s struggling. For young people, it’s a struggle to get into the business.”

Son Grant Kessel says that his parents have been slowly working him into the family business. Although he’s always been involved with the farm, there is still a learning curve.

“I grew up farming and don’t see myself doing anything else,” Grant Kessel says. “There is a lot to learn. You find out what you don’t know, but I like the work, so that’s a plus.”

Grant Kessel explains that he’s learning more about the bookkeeping and record-keeping aspects of the business as well as the ups and downs that come with farming.

“Right now, markets aren’t ideal,

but the thing about farming is things always change,” Grant Kessel says.

Greg Kessel believes that, despite the current challenges in agriculture, including trade disruptions and low commodity prices, it’s imperative to engage the next generation of farmers.

“We need to transition in more young people and get them to the table. There’s not enough young people involved,” Greg Kessel says. “We need to get them involved in the community as well as in our commodity organizations.”

Diverse Focus

Greg Kessel credits his family farm’s three decades of success to a diverse crop rotation and involvement with value-added enterprises. That formula will likely continue on Arrow K Farms as his children take more management responsibilities.

“I’ve always believed that you make your own destiny,” Greg Kessel says. “If something’s not working, try a different path. That’s why we’re involved in so many different things. But it does come with plenty of work.”

—Story and photos by Daniel Lemke

APPLY FOR A SCHOLARSHIP TO ATTEND: Executive Women in Agriculture Conference **January 15–17, 2019 | Hilton, Chicago**



The North Dakota Soybean Council (NDSC) is offering scholarships for two North Dakota women who are actively engaged in farm management and production of soybeans. Each scholarship will help cover costs of registration, air fare and hotel fees up to \$2,500 for each selected recipient.

To apply, complete and submit an online scholarship application by 4:00 p.m., Monday November 26, 2018. Applications can be found online at ndsoybean.org

All applications received by the deadline will be competitively scored by NDSC. NDSC will have complete discretion over participant selection for the scholarships.

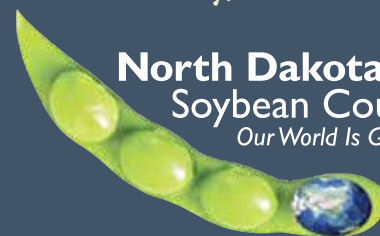
Women are an important thread in the fabric of American agricul-

ture. Today, women make up more than 30% of farm operators!

Women are invited to come to #EWA19 conference to be empowered and learn about farming operations.

This conference is specifically designed for women, and will address leadership skills, accounting strategies, consumer trends and family business boundaries. Now in its eighth year, EWA draws nearly 250 producers and agribusiness professionals from 28 states and Canada. EWA features dynamic keynote speakers and educational breakout sessions, as well as unique networking opportunities for women farm owners and operators from around the country.

**To apply online, visit ndsoybean.org
Deadline: Monday, Nov. 26 by 4:00 p.m.**



North Dakota Soybean Council
Our World Is Growing.

If you have questions, please call (701) 566-9300

Keeping the Soybeans Moving

As farmers in a landlocked state, we recognize the importance of keeping our soybeans moving. Because the majority of North Dakota soybeans leave the state, it's vital to our industry that we have markets for our soybeans and streamlined ways to get those beans to our customers.

Transportation and marketing are two key areas on which the North Dakota Soybean Council (NDSC) focuses. The NDSC invests checkoff funds to keep a strong flow of North Dakota soybeans heading to market.

Soybeans may travel thousands of miles to reach overseas markets, but most soybeans start their journey to market on small, country roads, which is why transportation means everything when it comes to marketing North Dakota soybeans. We need to look at the health of our local roads as well as county and state roadways in order to make sure that we can get our products to market. This involves working with North Dakota Department of Transportation, Upper Great Plains Transportation Institute and other organizations to find ways to meet not only our immediate needs, but also to take into account future considerations.

Soybeans are one of the world's most widely shipped and widely consumed agricultural products. The Chinese market has been a great success story for the soybean checkoff and North Dakota

farmers. It took nearly 15 years of marketing and promotional efforts in China before a single shipment of U.S. soy was purchased. Several years ago, NDSC expanded our marketing efforts to the Southeast Asian region to develop the next success story for North Dakota soybeans. With a growing middle class in the Southeast Asian market, great opportunity is available and the trends are showing success. We continue to foster new relationships and build these markets. The partnership between NDSC and international soybean customers will be well worth the effort and investment for their consumers and our farmers.

International trade is one of the NDSC's priority issues, and part of how that issue will be addressed is through trade teams and market development. Having trade teams come to North Dakota to see how we raise our soybeans, to meet the farmers who work the soil, and to showcase our soybeans' quality and consistent delivery is an important way to build relationships. Be sure to read pages 12 and 13 to learn more on trade teams NDSC has recently hosted.

Working with the U.S. Soybean Export Council, the United Soybean Board and the World Initiative for Soy in Human Health, we continue to cultivate new demand for our soybeans. Markets such as Indonesia and Malaysia are important opportunities. I'm also hopeful that we can get our foot in



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the door with India. The demand for meat protein is growing in India, which has a population of 1.3 billion people. There are political and cultural challenges that restrict the flow of U.S. soybeans into India, but I have high hopes that India will become a large importer of U.S. soybeans.

Recent trade issues are challenging for us as North Dakota farmers, but I still believe that the future for soybeans is bright. The NDSC is working on your behalf to grow soybean markets. It's not just about profitability. It's about delivering a consistent supply of protein to the world. My goal is to provide a safe, affordable source of protein so that no one goes to bed starving.

North Dakota Soybean Council Sponsors FFA Award

North Dakota Soybean Council (NDSC) Director of Research Kendall Nichols, left, congratulates award recipient Clay Bendickson of Garrison, middle. NDSC sponsored the FFA Fiber and/or Oil Crop Production Proficiency Award, which was delivered at the 2018 North Dakota State FFA Convention on June 6, 2018 at NDSU in Fargo.





An Unwelcomed Arrival

North Dakota was one of the few states with no reports of Palmer amaranth infestation until a late August

DNA test confirmed that the pigweed found in south-central North Dakota were, in fact, the dreaded Palmer amaranth.

Palmer amaranth is native to the southwestern United States but was unintentionally introduced to other areas. It has devastated crops in the South and Midwest. Palmer amaranth is a prolific seed producer that can emerge throughout the growing season. It grows rapidly and is prone to herbicide resistance. It is a highly invasive weed that can dramatically decrease crop yields.

In recent years, Palmer amaranth was discovered in Minnesota and South Dakota. The discovery in North Dakota means that every major soybean-producing state now has confirmed cases of Palmer amaranth.

For several years, North Dakota State University (NDSU) Extension Agronomist Dr. Tom Peters has been involved with educational efforts to alert farmers to be on the lookout for Palmer amaranth. NDSU Extension has had the awareness campaign at the county level for two years, and Dr. Peters says that ag retailers and others have brought the message down to a local level. Despite those efforts, Dr. Peters explains how it was nearly inevitable

that the weed would be found in North Dakota.

“People have suggested that our efforts were unsuccessful because we weren’t able to keep Palmer amaranth out of North Dakota,” Dr. Peters says. “I would say just the opposite. The farmer who identified the weed used a pre-emerge herbicide on his soybean ground, followed by a post-emerge. The farmer walked his fields looking for weed escapes and was hand pulling weeds when he came across plants he couldn’t identify. He pulled them and then asked for help in identifying them.”

Despite the fact that the weeds turned out to be Palmer amaranth, Dr. Peters describes how the farmer did exactly the right things. All the suspected weeds were pulled, and Peters says that the state’s Palmer amaranth population may be back to zero. Farmers need to remain diligent and maintain zero tolerance.

“We’re fortunate that we are very early in the infestation, and it’s perhaps possible with diligence to keep Palmer amaranth from getting ingrained,” says Dr. Kirk Howatt, an NDSU weed science associate professor. “Farmers have to be diligent; they have to pay attention, so they can react to what’s happening in their fields or what may be coming from neighboring fields.”

Palmer amaranth poses a serious threat to North Dakota crops because it can grow 2 to 3 inches per day in optimum conditions and can reach a height of 6 to 8 feet or more. A single plant can produce up to one million seeds. Especially heavy infestations have reduced yield up to 79

percent in soybeans and 91 percent in corn, according to NDSU.

Palmer amaranth is extremely hard to control because it is prone to being resistant to several herbicides. Applying herbicides before the weed emerges is more effective than trying to control it with herbicides after it starts growing. Palmer amaranth can also be difficult to identify because it closely resembles other pigweeds, including redroot pigweed and waterhemp.

One of the best ways to distinguish Palmer amaranth from other weeds is that some of its leaf stem, or petiole, is as long as or longer than the leaf blade. Palmer amaranth also has distinctive, long, snaky seed heads that can grow up to two feet long.

Dr. Howatt says that Palmer amaranth isn’t the first species of troublesome pigweed to torment North Dakota farmers. Waterhemp also forced farmers to take notice and be more diligent with their weed control. Because Palmer amaranth can emerge later in the growing season, typically after farmers have completed their last post-emergent herbicide application, Dr. Howatt explains how greater emphasis may need to be placed on cultural practices as part of overall weed management. Narrow-row soybeans may shade out late-emerging weeds such as Palmer amaranth.

Palmer amaranth infestations in Minnesota and South Dakota originated in conservation plantings. After checking all other possibilities, Dr. Peters says that it appears waterfowl movement may be responsible for the case in North Dakota.

Weed seeds can move on farm

implements, with custom harvesting equipment, by wind and water, and even by migratory birds. Peters says that, because Palmer amaranth can pop up nearly anywhere, it’s up to farmers to be diligent. Areas of special urgency include fields where custom harvesting occurs, especially if the combines were used in other states. Areas that border South Dakota and Minnesota should also be closely watched along with fields near waterfowl flyways.

“The idea here is that this will involve everyone,” Dr. Peters says. “We will be successful if we can limit large infestations.”

People who see a plant that may be Palmer amaranth should contact their local NDSU Extension agent as soon as possible.

—Story by Daniel Lemke, photo by NDSU



Palmer Amaranth can be a single stem or branched weed. The above photo shows two larger branching Palmer plants, female on left, male on right.



One of the main identification characteristics of Palmer Amaranth is the petiole is much longer than the leaf blade, but this is not the case for every leaf and petiole. No other pigweed has this characteristic.



Female head on top, male head on bottom. Female head is prickly, male head is soft.



Transportation Summit Brings Voices Together

If any state knows the value of a highly functional transportation system, it's North Dakota. As a primarily

rural state, roads are the main artery for connecting people and conducting commerce. That's especially true for agriculture.

An estimated 1 billion bushels of agricultural commodities travel North Dakota roads each year. Some

products take a short journey from a field to a farm while other crops, such as North Dakota soybeans, begin a journey that could end in Asia.

Like many states, North Dakota's transportation funding is not keeping up with the current needs. The North

Dakota Department of Transportation (NDDOT) projects the 20-year need to maintain state roads at \$24.6 billion. Revenues for that time period from gas taxes and vehicle-registration fees are only estimated to be \$10 billion. The projection doesn't

include the needs of county and township roads.

The North Dakota Soybean Council (NDSC) and the North Dakota Soybean Growers Association brought leaders from many of the state's commodity groups and farm organizations together with state, county and township leaders, transportation experts and others for a transportation summit. Because transportation is such a pressing need for agriculture and many other North Dakota industries, soybean leaders recognize that input from many people and organizations is needed to develop a long-term plan that provides resources to maintain and to improve the state's transportation infrastructure.

"To have everybody together instead of just the agriculture sector is a huge plus," says Casselton farmer and NDSC Chair Joe Morken. "From the state and county and township representation to the commodity groups, all of us coming together, we're on the same page of where we need to end up; it's just how do we get there."



Transportation issues touch all aspects of North Dakota. Diverse input was tapped during exercises at the recent Ag Transportation Summit in Fargo.

“ **It’s not just about funding, but it’s about building efficiencies.** ”

NDDOT Director Tom Sorel says that the largest source of state transportation revenue comes from Highway Tax Distribution Funds, which are derived from state fuel taxes and motor-vehicle registrations. North Dakota’s state motor-fuel tax is 23 cents and has not changed since 2005. The tax stays the same regardless of the fuel price. Sorel says that motor-vehicle registration fees have also remained the same since 2005.

“It’s not just about funding, but it’s about building efficiencies,” Sorel says. “We are doing a lot in what we’re building and efficient in our use of dollars.”

Sorel says that North Dakota depends heavily on federal sources for highway funding. On average,

states receive just over 42 percent of their highway funds from the federal government and over 57 percent from state sources. North Dakota relies on 81 percent federal and 19 percent state funds, meaning that the state-funding sources aren’t keeping up with needs.

“For agriculture, transportation is a front of mind issue. With North Dakota being landlocked, so it’s strictly rail and truck. We have no control over rail, but the trucking is something we can do ourselves, so the infrastructure and funding discussion is important to us,” Morken says.

Soy Transportation Coalition Executive Director Mike Steenhoek says that transportation discussions, including how to pay for needed



Alan Dybing of the Upper Great Plains Transportation Institute at NDSU addressed issues of transportation funding.

repairs and maintenance, are taking place across the country. Being proactive is the best way to address issues.

“One of the inherent challenges with infrastructure and transportation is that most people only pay attention to it when there’s a problem, when there’s a bottleneck, when there’s a dilapidated road or a closed bridge,” Steenhoek says. “There’s a lot of value in people getting in on the front end of this discussion and not waiting for the catastrophe to actually happen.”

Summit participants rated transportation funding and education

about transportation issues as their top concerns. While no firm plans have been developed to seek changes for any state or federal funding mechanisms, it is evident that transportation and infrastructure issues will be an ongoing concern for North Dakota. Finding a solution to build and to maintain North Dakota’s state, county and township roads will require a complex solution.

“We’re taking a longer-term view,” Sorel says. “We’re looking at our needs 20 years out, not just biennium to biennium.”

—Story and photos by Daniel Lemke



NDDOT Operations Director Wayde Swenson highlighted the condition of the state’s highways and roads.



Summit participants narrowed down transportation issues to consistent funding and education.



North Dakota Farmers Host International Customers From **80** Different Companies



Marketing North Dakota soybeans does not stop when soybeans are delivered to an elevator.

Connecting international customers with producers plays a key role in creating value for North Dakota soy-

bean farmers. Each year, throughout the fall, the North Dakota Soybean Council (NDSC) hosts many trade

teams from around the world. These missions create a personal experience for soybean buyers which no other country can provide.

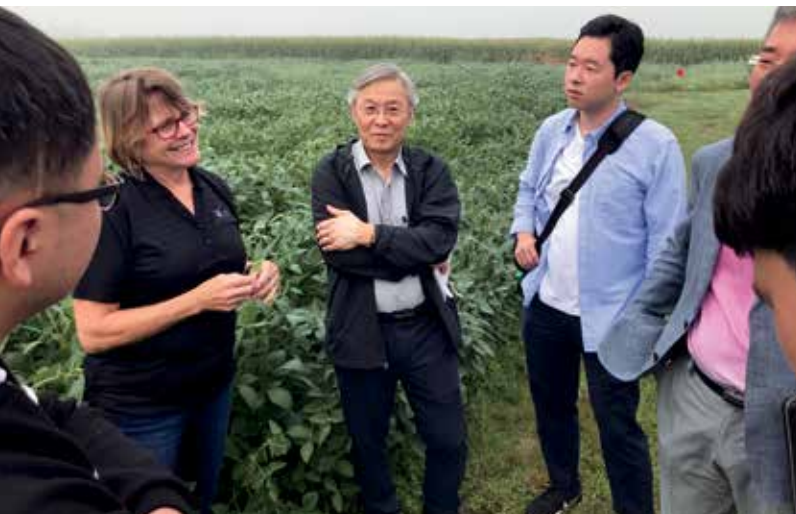
Dialogue between North Dakota farmers and our customers plays a vital role in improving and developing relationships. North Dakota soybean customers want to visit directly with farmers and ask many questions. From chemical-application rates to storage capacity and the use of technology, customers are curious. Most customers have never seen where and how soybeans are grown.

“I answer every question they have, ranging from cropping practices to sustainably,” says Scott Gauslow, soybean farmer from Colfax. “The more open we are about our operations, the more trust they have with

us farmers, and the more likely they are to buy from our region. I always explain why farmers rotate crops, plant different varieties and use technology on the farm. When I explain how it’s creating a superior, higher-quality product for them, they pay attention.”

In August and September, the NDSC partnered with Northern Crops Institute (NCI), the United States Soybean Export Council (USSEC) and the World Initiative for Soy in Human Health (WISHH) to host over 80 different soybean-purchasing companies from 14 countries. Trade teams want to see the farms from which their product comes, sit in the equipment used to harvest the soybeans and meet the farmers behind their orders.

“We hosted a couple trade teams at our farm near Colfax,” says Vanessa Kummer, former United Soybean Board chairwoman. “The South



Former United Soybean Board (USB) Chair Vanessa Kummer shares her sustainable production practices with the four largest soybean oil buyers from South Korea at her farm near Colfax.



Simon Enterprises, the fastest growing soybean buyer in the Philippines, along with several feed mill operators and nutritionists, stop for a photo in front of Maple River Grain and Agronomy in Casselton.

Koreans were very pleased with our clean grain and commitment to the many sustainable practices we use on our farm. The Koreans want to source whole soybeans from North Dakota for oil. They wanted to see North Dakota farm practices before making orders.”

Organizing and facilitating trade missions to North Dakota is one of the NDSC’s roles. By focusing on what makes North Dakota-grown soybeans superior over Brazilian or Argentinian beans, the checkoff adds value to North Dakota producers. The continued commitment and energy from board members and elevator managers make trade-team visits a success for North Dakota soybean farmers.

Checkoff-sponsored research is proving that, for the soybeans’ feed value, it is the essential amino acids’ content that counts. Crude protein is only an estimate of the total amino acids based on the level of nitrogen detected; it tells nutritionists nothing about the quantity of each amino acid or the balance of the essential to non-essential amino acids. A diet using meal from a lower crude-protein soybean with a naturally higher critical amino acid value can contribute to a healthier animal and a cleaner environment.

“We have been highlighting the value of the essential amino-acid profile in our North Dakota-grown soybeans,” says Mike Langseth, an NDSC board member and a farmer from Barney. “Our beans are naturally high in essential amino acids, which is something that is critical for soybean users to base their buying decisions on. When purchasing North Dakota soybeans, customers can be assured they are buying the most complete amino-acid-profile protein available.”



NDSC Board member Mike Langseth, third from left, of Barney and Colfax soybean farmer Blaine Kummer, far left, discuss the use of large equipment on North Dakota farms.

NDSC had the pleasure of hosting one of the fastest growing Philippine soybean importer, Simon Enterprises in September. “The crop this year is looking very good, we’re very impressed by the new infrastructure that’s put in place, the new elevator mechanisms that they have” says Hans Walter Chua, Procurement Manager for Simon Enterprises.

Chua and many feed mill operators and nutritionists visited the region in mid-September to meet with soybean farmers and confirm that they will be able to source North Dakota soybeans in an efficient and consistent manner.

In addition to stops at crushing facilities in Minnesota and farms in South Dakota, the team spent time at the Colfax Farmers Elevator, Vanessa and Paul Kummer’s farm in Colfax, Maple River Grain shuttle facility in Casselton, and with Dr. Bill Wilson at the NDSU Commodity Trading Room in Fargo. After the meetings in North Dakota, the group flew to the Pacific Northwest to the Port of Grays Harbor to view port facilities and meet with major exporters.

In addition to farm and elevator visits, some groups attend technical

training at NCI for soybean courses titled “Commodity Soybean Meal Procurement Management for Importers” and “INTSOY.” These courses teach buyers how and where to purchase soy products as well as how to efficiently and effectively utilize soybean oil, soymeal and soy flour for their food and feed products.

“When we can offer technical, educational courses for our soybean buyers in addition to buyers visiting with farmers, we can connect all the dots in the marketing chain,” says Stephanie Sinner, NDSC executive director. “By hosting trade teams in North Dakota, we can offer our customers a firsthand look at the best product and North Dakota’s advanced supply chain while getting to meet our soybean producers: all areas of importance to our soybean buyers.”

NDSC will be visiting with many of these buyers at winter meeting and events into 2019. NDSC strives to maintain relationships, but also invests checkoff funds to create new opportunities in growing markets for North Dakota soybeans.

—*Story and photos by Harrison Weber*

Cooperative Research

Twelve-State Program Maximizes Soybean Research



The farmers gathered around tables at the Fargo Holiday Inn and pored over spreadsheets filled with

detailed research proposals from university scientists across the Midwest. The growers debated the merits of the projects and balanced them against

the available resources. Ultimately, the farmers, who were board members for the North Central Soybean Research Program (NCSRP), agreed

to fund more than a dozen projects with \$3 million of checkoff money to benefit Midwestern soybean farmers.

The NCSRP is a farmer-led organization that invests soybean-checkoff funds for university research and Extension programs to increase yields and to better understand and manage plant stressors that reduce soybean yield and farmer profitability. The program was established in 1992 by state checkoff organizations and has grown to include Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin.

“The state soybean organizations recognized that our issues and opportunities don’t stop at state lines and that we should really get together and look at opportunities for better collaboration,” says Ed Anderson,

NCSRP executive director. “People were starting to observe some key missed opportunities and a lot of redundancy and duplication in the research that could impact farmers in the Midwest. Formation of the NCSRP is reflective of the checkoff concept. It’s very visionary, and it’s exciting that farmers get together and think about research, what their needs are and how to find solutions to meet those needs.”

The NCSRP complements state and national soybean checkoff programs by working to maximize producer returns through coordinated regional research efforts, minimizing the duplication of research and assuring that regional research projects are targeted at problems faced by soybean farmers in the North Central United States.

Collaborative Model

Edgeley, North Dakota, farmer Mike Schlosser was among the farmers evaluating the long list of possible research projects. Each state in the NCSRP has a seat on the board and has an equal voice about which projects to fund.

“I wasn’t probably aware before I got in this role, how much impact the NCSRP has,” Schlosser says. “Getting together with all these other states and focusing on programs where we don’t have overlap has a big impact on my farm. The topics that we’re trying to cover and the wealth of knowledge coming from those other states combined into one group is great.”

The NCSRP supports yield improvement, both agronomically and genetically, and works to preserve yield by dealing with disease and insects as well as abiotic stresses.

“One strength is that our primary



Farmer leaders from 12 Midwestern states toured the NDSU greenhouse to learn more about soybean research in North Dakota.



The NCSRP came to North Dakota for the first time ever in 2018 and got a first-hand look at the Soil Health and Agriculture Research Extension (SHARE) farm in Richland County.

focus has always been on yield improvement and yield preservation,” Anderson says. “The second big advantage is, when these 12 farmers get together, everyone really checks their state prejudice and bias at the door. They’ve always done a really good job of supporting the brightest and best researchers, wherever they are, whatever institution, and driving collaboration and multi-state projects that are going to benefit farmers across the Midwest.”

Anderson says that the NCSRP emphasizes a holistic, programmatic approach to problems and challenges. He says that there are ongoing projects in several key areas: breeding for yield improvement and quality, diseases and insects, agronomics and on-farm research, as well as communication and outreach. Research includes work with pathogens such as soybean cyst nematode (SCN), sudden death syndrome, while mold and iron deficiency chlorosis (IDC) as well as soil-borne pathogens such as Phytophthora, Fusarium and Rhizoctonia. Anderson says that the NCSRP also supports ongoing programs to look at genetic resistance and integrated management solutions for pests such as soybean aphids as well as other new and emerging insect pests.

North Dakota Impact

“I believe most of the projects that we funded have an impact on growing issues in North Dakota,” Schlosser says. “We’re fairly new, in comparison, growing soybeans here versus what they’ve done in the south, so I like the insight of what challenges might be coming to the Dakotas and the impact that’s going to have on us in the future.”

As is the case in other states, the North Dakota Soybean Council (NDSC) invests checkoff dollars for public research designed to improve the state’s soybean production and quality. Because many agronomic issues are universal, the NCSRP model helps states expand their research reach.

“It makes our decisions on a state level a lot easier if we know that we’re combining efforts with these other groups to fund the larger projects,” Schlosser says. “That makes it a lot easier on the individual states.”

“Bringing the 12 states together benefits North Dakota immensely, because most of the states are more mature in their soybean production,” says Kendall Nichols, NDSC Director of Research. “They have run into problems with diseases and other things, so we can learn from them. We get to hear from them what

research they’ve conducted, and that can help our researchers develop programs that will help address North Dakota’s issues more effectively, keep our costs down and deliver better results.”

Nichols says that North Dakota State University research projects receive NCSRP funding, including work on SCN as well as research into soybean aphid resistance and herbicide-resistant weeds.

Sharing Information

In addition to funding soybean research, the NCSRP has a communication component to share study results with farmers and researchers. The Soybean Research and Information Initiative (SRII) website shares out-

comes and recommendations based on NCSRP projects. There is also a searchable national research database that serves as a clearinghouse for hundreds of soybean research projects.

“We can fund all the coolest, most important and creative research in the world, but if we don’t get it into the hands of farmers, crop advisors, agronomists, researchers or companies that are developing products and practices, then it’s not going to benefit anyone,” Anderson says.

Anderson says that the NCSRP farmer members emphasize communication and outreach, which led to the SRII website. He says that the program is constantly working on ways to communicate via social media, publications, outreach opportunities, videos and podcasts. Farmers can access the SRII website and the national research database at www.soybeanresearchinfo.com and www.soybeanresearchdata.com.

“I think the NCSRP is a win-win, because it extends the value of checkoff,” Nichols adds. “I’m really happy that North Dakota is a part of it because we get to draw upon their resources and expertise. We get to be more efficient because of the information we gain.”

To learn more about the NCSRP, visit www.ncsrp.com.

—Story by Daniel Lemke, photos by staff



NCSRP directors listen to Kendall Nichols and Dr. Sam Markell at NDSU about the SCN coalition program.

Roads Pay a Toll for



Keeping pace with change is a constant challenge for all industries, especially agriculture. Technology,

genetics and agronomic practices have helped North Dakota farmers increase their soybean yields and productivity to the point where annual production tops 240 million bushels. Decades of development efforts have opened global markets that benefit North Dakota growers. Today, North Dakota is the second-leading whole-soybean exporting state in the country. For most North Dakota soybeans, the journey to market begins on a rural road.

According to the North Dakota Department of Transportation (NDDOT), there are more than 83,000 roadway miles in the state. More than 7,400 road miles are in the state highway system while counties are responsible for the care and maintenance of more than 19,600 miles. Townships and others are responsible for about 56,000 miles of North Dakota roads.

A study by the Upper Great Plains Transportation Institute (UGPTI) at North Dakota State University shows that over 14 percent of the vehicle miles traveled for agricultural product movement occurs on county and township roads. State highways account for 33 percent of the miles traveled. U.S. highways handle 26 percent, and the interstate system receives about 25 percent of the vehicle miles traveled to move agriculture products.

Many county, state and township

roads were designed and built in the 1950s and 60s. They were made to handle small loads for agricultural traffic, not the large farm operations and oil development of today.

Wear and Tear

Over time, roads are “consumed” or degrade. How quickly they degrade is largely determined by vehicle traffic. The NDDOT says that pavements are stressed by loads on individual axles and axle groups directly in contact with the pavement. The gross vehicle weight, along with the number and types of axles as well as the axle spacing, determines axle loads. Increased axle weight is the primary cause of road and pavement

damage because every axel that passes over a highway consumes a portion of the pavement’s life. Illegally overweight trucks can also inflict serious damage to roadways.




ESAL is an acronym for Equivalent Single Axle Load. This concept establishes a pavement-damage relationship for axles carrying different loads.

The effect of ESALs varies depending upon the time of year. When the ground is frozen in the winter, traffic loads do much less damage to roads. During the spring, pavement layers are generally saturated and in a weakened state due to trapped water and partial-thaw conditions. The same

load on the same truck will cause five to eight times more damage to roadways during the spring thaw than during any other time of the year, which is why road-weight restrictions are put in place during the spring.

Truck configuration and axle spacing also play a role in road consumption. Even though a single-unit, four-axle truck may have a larger payload than a three-axle truck, the added weight disbursement offered by the additional axle means that the heavier load consumes less road life (Figure 1: Road Consumption Costs).

During the harvest season, North Dakota farmers can obtain a permit to carry loads which are 10 percent over the normally allowed weights in order to move grain from

FIGURE 1 Road Consumption Costs	Single Unit 3-Axle 	Single Unit 4-Axle 	5-Axle Tractor Single Trailer 
Payload	27,400 lbs.	33,600 lbs.	49,500 lbs.
Number of Trips to Haul 100,000,000 lbs.	3,650 trips	2,976 trips	2,020 trips
ESALs Per Trip (Asphalt)	1.7 ESALs	1.2 ESALs	2.4 ESALs
ESALs Generated	6,168 ESALs	3,610 ESALs	4,848 ESALs
Years Pavement Will Last	32.4 years	55.4 years	41.3 years
Annual Cost to Replace Pavement Per Vehicle	\$9,325	\$5,458	\$7,331

SOURCE: North Dakota Department of Transportation / North Dakota Local Technical Assistance Program

Carrying the Freight



the field to the farm or elevator. While that additional weight helps farmers during harvest, it also causes increased damage to roads. (Figure 2: Road Consumption Cost: 10 Percent Harvest Permit)

Expensive Proposition

Keeping roads in good condition is no small task, and that maintenance comes at an ever-growing cost. According to the NDDOT, asphalt surfacing cost \$500,000 per mile in 2005 and had grown to \$1.1 million per mile in 2017. Salt used for snow and ice control cost \$55 a ton in 2005 but climbed to \$81 per ton by 2017.

The NDDOT's main funding sources are state fuel taxes and motor vehicle registration fees which have not changed since 2005 even though

cost to maintain roads and the number of vehicles on those roads have increased. According to the NDDOT, North Dakota's truck-traffic numbers increased 66 percent from 2005 to 2017 while all vehicle traffic numbers climbed 30 percent.

The NDDOT estimates that maintaining the state transportation system at current levels will require investing \$24.6 billion over the next 20 years, which is \$14.6 billion more than the current funding mechanisms will generate. The additional funding is for state roads and doesn't include the costs for maintaining or upgrading county or township roads.

Currently, the NDDOT receives 81 percent of its funding from the federal government and 19 percent from state funds. The national aver-

age is 57 percent state funds and 42 percent federal investment.

Many farm groups, as well as state, county and local officials, understand the need to generate more funds for ongoing road maintenance and repair. This issue of sustainable transportation funding will undoubtedly be discussed during the upcoming North Dakota legislative session. Options such as vehicle and fuel tax increases are likely to be considered.

According to the NDDOT, the average North Dakotan drives 12,000 miles per year. The average pickup gets 20 miles per gallon. With the state fuel tax at 23 cents per gallon, the driver of that pickup contributes \$138 a year in fuel taxes.

At an agriculture transportation summit in August, more than two




dozen agriculture and transportation leaders identified consistent, long-term funding as a priority. The group also identified education about the effects of truck weight and configuration on roadway longevity as a key issue.

"Transportation is always important," says Wimbledon farmer and North Dakota Soybean Growers Association President Joe Ericson. "You never know what's going to come up in the session, but we're always fighting for transportation. Since we're such a rural state, we need to travel a long way to get our products to different places, so transportation is one of our big issues."

About 90 percent of North Dakota soybeans leave the state. Whether moved on township, county or state roadways, keeping the transportation arteries flowing is more than a convenience for farmers.

"The new paradigm for agriculture is that transportation is critical to your profitability," says Soy Transportation Coalition Executive Director Mike Steenhoek. "When your customer is located next door, transportation isn't as important. When your customer is located halfway across the world, it becomes critical. Just as important as growing the crop and building demand for the crop is being able to connect supply with demand."

—Story by Daniel Lemke,
photo by Wanbaugh Studios and
graphics by Above & Beyond

FIGURE 2 Road Consumption Cost: 10% Harvest Permit	Single Unit 3-Axle 	Single Unit 4-Axle 	5-Axle Tractor Single Trailer 
Payload	32,400 lbs.	39,600 lbs.	57,500 lbs.
Number of Trips to Haul 100,000,000 lbs.	3,086 trips	2,525 trips	1,739 trips
Number of ESALs (Asphalt)	2.6 ESALs	1.7 ESALs	3.7 ESALs
ESALs Generated	8,025 ESALs	4,293 ESALs	6,435 ESALs
Years Pavement Will Last	24.9 years	46.6 years	31.1 years
Annual Cost to Replace Pavement Per Vehicle	\$12,133	\$6,491	\$9,729

SOURCE: North Dakota Department of Transportation

Dicamba's Second Season



North Dakota saw fewer reports of damage from off-target dicamba spray in 2018, but the herbicide's

long-term future remains uncertain.

The Environmental Protection Agency's (EPA) conditional registration of Xtendimax™, Engenia™, and FeXaPan™ expires in November. The EPA is expected to make a ruling on the restricted-use label for 2019 sometime in the coming weeks.

In 2017, off-target dicamba applications caused damage to an estimated 163,000 crop acres in North Dakota, primarily to non-tolerant soybeans. An estimated 3.6 million acres were affected nationwide, prompting the EPA and North Dakota to issue new 2018 labels with tighter application restrictions.

A 2018 survey from the North Dakota Department of Agriculture showed that 51 people reported how they experienced plant damage which they believed was caused by dicamba, compared to 207 in 2017. Only six people had damage confirmed through tissue analysis. The 2018

North Dakota survey showed that 536 fields were damaged, totaling over 23,000 acres, compared to the 3,600 fields and 163,000 acres which were reportedly damaged in 2017.

Because the 2018 acreage-reporting damage came from survey information, Peters believes that the actual number of affected acres could be higher. However, the results show that the added restrictions likely made an impact.

The survey results "shows that the state restrictions put in place in North Dakota were helpful," says Dr. Tom Peters, North Dakota State University (NDSU) Extension agronomist, "but we still had off-target movement."

Dr. Peters explains that it is difficult to compare years because the 2017 and 2018 growing seasons were very different. Farmers had a much wider window in which to apply dicamba in 2017; additionally,

conditions were much drier. Dicamba that was not taken up by the plant or attached to the soil was "free" to volatilize and to move off target. In 2018, there were more timely rains which, Peters says, activated "free" dicamba and helped to reduce the perception of a dicamba problem.

"It's unacceptable, in my opinion, to be comfortable with using a herbicide technology where there is a reasonable probability you may damage a neighbor's crop," Dr. Peters says. "This is a technology that helps soybean farmers and provides tremendous early season control of common ragweed, common lambsquarters and kochia. But we still need to do more to prevent off-target movement."

Early season rains also limited dicamba applications in some areas because farmers were unable to get into their fields to spray during the approved window, which likely reduced the reports of dicamba drift.

NDSU Weed Science Associate Professor Dr. Kirk Howatt says that the additional training which farmers and custom applicators were required to take also played a role.

"I think the meetings helped people gauge the risks of using dicamba," Howatt says. "A lot of people were more cautious and used better sanitation, and they paid more attention to weather."

States have taken it upon themselves to place additional restrictions on dicamba use that go beyond the EPA's restricted-use label. Because farmers need additional tools to combat herbicide-resistant weeds, Peters doesn't want to see farmers lose the option of using dicamba-based herbicides. However, creating label language which is suitable for all states is challenging.

"Some states double crop, so soybean planting dates vary widely. It's going to be very difficult for an agency to write language that's broad enough to cover all scenarios."

Peters says that there is also question about why dicamba application rates vary widely from one crop to another. Within small grains, Peters explains hows dicamba can be applied at 1 to 2 ounces per acre on an active-ingredient basis. In soybeans, the label requires 12 ounces, which potentially increases the amount of the active ingredient which is available for off-target movement. Identifying a rate that allows farmers to manage weeds, yet is more consistent across crops, is also important.

Even though North Dakota farmers saw fewer instances of off-target movement in 2018, Howatt is concerned about the long-term future of dicamba for soybeans.

"If we can manage dicamba drift in North Dakota, but not in other states, that doesn't bode well for the technology," Howatt says.

More information about the North Dakota dicamba survey results can be found at nd.gov/ndda/news.

—Story by Daniel Lemke,
photo by Wanbaugh Studios

A Cloudy Future



North Dakota farmers are feeling the effects of tariffs imposed on U.S. soybean imports to China, but the

tariff's true impact is yet to be determined.

The 25 percent retaliatory tariffs were implemented after the U.S. added tariffs to billions of dollars in products made in China, including steel and aluminum. As a result, the American Soybean Association

says the price of U.S. soybeans at export terminals in New Orleans has dropped 20 percent since June. Farm-gate prices have fallen even further. During the same period, the premium paid for Brazilian soybeans has increased from nearly zero to \$2.18 per bushel, or \$80 per metric ton.

Sales Slump

China imported more than 27 million metric tons of U.S. soybeans in the 2017-2018 marketing year, totaling more than \$14 billion. Minimal soybean sales have taken place to China since the tariffs were imposed. North Dakota State University Crops Economist and Marketing Specialist Frayne Olson says lack of sales to China is not uncommon during summer months because most U.S. exports to China take place from October through March.

For the past five years, sales trends have followed roughly the same pattern. (See Figure 1)

"Soybean sales are extremely seasonal," Olson says. "Almost all U.S. soybean exports to China happen in a five month period."

Soybean exports to China typically ramp up rapidly in the fall as the new U.S. crop is harvested. China shifts its attention from buying South American beans to buying U.S. beans and export totals can accumulate quickly. By March, sales are greatly reduced because most of the soybeans bound for export have already been sold and farmers in Brazil and Argentina have begun their soybean harvest.

"The tariffs went into effect in July and we've not sold soybeans to China since. That's not such a big deal in July and August, but if we don't sell to China in October and November, that's a very different story," Olson says. "The big question is what will the red line (on graph below) look like in 2018-2019? Will it follow the same pattern we've seen in previous years or will it be flat?"

The 2018-2019 marketing year began in September and so far, sales to China are minimal. Exports to other customers including the European Union and Egypt are increasing, but their collective soybean appetites don't come close to matching China.

Olson says it's difficult to predict what will happen with exports to China because it's largely a politically driven scenario. He says some economists and market analysts believe China cannot adjust their soybean usage needs quickly enough to avoid buying some U.S. soybeans. China has large swine, poultry and aquaculture sectors and those ani-

—Story continued on page 31



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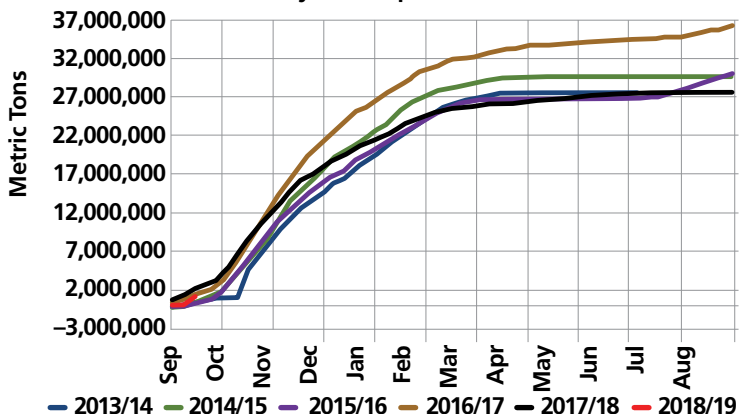


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FIGURE 1 Accumulated Soybean Exports to China 9/2013 – 9/2018



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Slow Soybean Movement Has *Downstream Effects*

Trade disagreements with China have substantially curtailed the export movement of North Dakota

soybeans, and that situation is affecting fall plans for farmers and grain elevators. Over 90 percent of North Dakota soybeans leave the state, with about 70 percent bound for exports, primarily going to Asia. Because soybean-export movement has slowed to a trickle, farmers and grain elevators

face some decisions about marketing their grain this fall.

North Dakota Grain Dealers Association Executive Vice President Stu Letcher says that most grain elevators are well prepared for the upcoming harvest. Because soybean exports have slowed, Letcher explains how most

grain handlers are likely preparing to store more soybeans this year.

“They’re probably trying to prepare interior storage to store more beans,” Letcher says. “Some facilities also have bunkers with aerators. I hope we don’t see soybeans in outside piles.”

North Dakota has nearly 400 licensed public warehouses, 300 of which are traditional grain elevators. Letcher says that North Dakota has a lot of grain storage, with a commercial capacity of about 400 million bushels.

Letcher says that elevators may be moving old-crop soybeans that are still in storage in preparation for the 2018 harvest. He explains that there is likely some concern about prepaid freight. Most elevators make plans in January and February when anticipating the coming year. Letcher says that there is a concern that, if rail movement to ports such as the Pacific Northwest doesn’t pick up, elevators will have paid for the freight but will have nothing to move.

Letcher explains how it’s likely that some farmers will change their storage and marketing approach this year. Farmers typically sell their soybeans in the fall while storing corn and wheat.

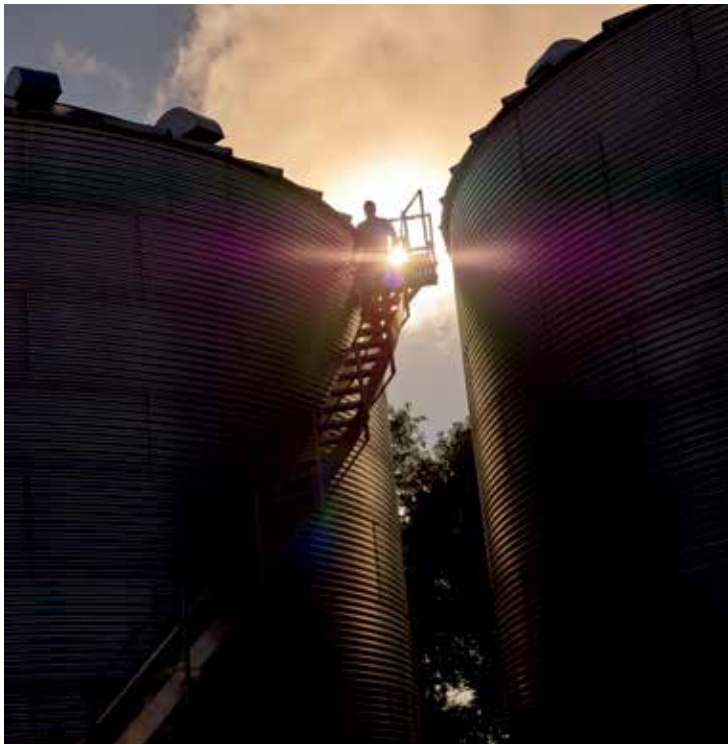
“It might be the opposite this year,” Letcher says. “Farmers might want to store their beans. It sounds like there may be more of a market for corn. The good thing is, soybeans can be stored for a long time.”

Ag experts expect on-farm and commercial storage to be at a premium this fall, and farmers will likely have to dramatically alter their marketing plans for the year ahead. Farmers may choose to store more beans because prices are low, and the current soybean basis makes it clear that market demand for soybeans is limited.

“The basis for beans is extremely wide, and talk is that it will continue to widen,” says Bryan Strommen of Progressive Ag in Fargo. “There are areas where, right now, the basis for soybeans is around a dollar and a half. Most of our beans go to the west coast, and with the lack of demand, especially from China, there’s not a lot of transportation or ships lined up for those beans, and that’s adding some weakness to the basis.”

Farmers located closer to soybean-processing facilities typically see a narrower basis, “but most of our beans get shipped out to the export market, and that certainly plays a big role in our basis here in our area,” Strommen adds.

Because farmers may need to store more soybeans this year, some growers



Trade disruptions are presenting marketing and storage challenges to North Dakota farmers.



may consider alternative storage options, including storing inside sheds, in bags or in outside bunkers if they don't have enough on-farm bin space.

North Dakota State University Extension Agricultural Engineer Dr. Ken Hellevang says that grain can be

stored in many types of facilities, but all storage options must keep the grain dry and provide adequate aeration to control the grain's temperature.

Grain must be dry and cool (near the average outdoor temperature) when placed in alternative storage

facilities because providing adequate, uniform airflow to dry grain or cool grain coming from a dryer is not feasible. For successful long-term soybean storage, the harvested grain's moisture is also a key factor.

While farmers are preparing for fewer soybean-export sales this harvest season, grain movement could ramp up quickly if a trade resolution occurs.

"Our facilities are flexible enough that, if the export market does start to come back, I think people would be surprised how quickly we can mobilize grain," Letcher says. "It depends

on where the grain is at because, if it's stored on the farm, it will take longer, but if it's in commercial storage, we can move pretty quickly. One of my least concerns is what would happen if the market comes back. That would be a good scenario."

For more information about alternative soybean-storage options and proper grain-handling techniques, visit www.ag.ndsu.edu/alerts/soybean-storage.

—Story by Daniel Lemke, photos by Wanbaugh Studios

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Grain movement in North Dakota could be a challenge for farmers this fall as they decide which crops to store and which ones to sell.



2018 Banquet in a

A perfect North Dakota summer evening served as an ideal backdrop for the fifth annual Banquet in a

Field on Tuesday, August 7, 2018. This unique meet-and-greet event creates an opportunity for volunteers to sit down with non-agricultural influencers in order to converse about sustainably grown food and farming.

The 2018 event brought approximately 125 guests and volunteers to the middle of Julie and Carl Peterson's farm, located at Peterson

Farms Seed in Harwood, North Dakota, where they were treated to a multi-course meal. The fare was prepared with 12 North Dakota crops, three meats along with honey and dairy products by local chefs and food writers Tony and Sarah Nasello; NDSU Meat and Animal Science also assisted. Event staff included CommonGround volunteers and

Kindred Future Farmers of America (FFA) members as servers.

The purpose of the Banquet in a Field event is to create an opportunity for conversations about food, especially how it is raised or grown, ultimately providing an educational opportunity that eliminates fear or misinformation.

"In our fifth year of hosting this

evening, I continue to be surprised at the questions about technology and science in agriculture, particularly GMOs," says Julie Peterson, whose farm has served as the event location each year. "Ultimately, these conversations—and the opportunity to share a meal—are all about ensuring that consumers can enjoy food without fear."

The event is organized by CommonGround North Dakota, a group of farmer volunteers who work to bring clarity to discussions about food and farming. Of the 125 invited guests who were served, 100 were not involved with agriculture. The 25 farmers and ranchers at the banquet openly fielded questions and created discussions about food and their personal experience.

"Events like these are a great way to give people a connection to the food they buy at the grocery store," says CommonGround North Dakota Coordinator Val Wagner. "Not only did we have the chance to mingle and socialize, we were able to address some of their questions and concerns



North Dakota farmers were on hand the evening of August 7 to start conversations with guests about their food and where it comes from.



Field

Fifth annual event connected consumers with North Dakota growers and producers

and have our guests leave with a connection to agriculture.”

Prior to the sit-down dinner, attendees toured crop plots to learn more about each crop and tasted appetizers featuring the food grown in those fields. Throughout the meal, a panel of CommonGround North Dakota volunteers, led by Val Wagner, answered the guests’ questions.

“Even in a rural state like North Dakota, many people don’t have any farmers in their social circles,” says

Mike Langseth, a North Dakota Soybean Council director from Barney. “Because of this, they don’t have an understanding of how their food is produced even though a lot of them are interested. I thought Banquet in a Field was a great event. It connects people who want to know how their food is produced together with the people whose business it is to produce that food in an environment that gives them the permission and the space to ask the questions

they want answered. I really enjoyed some of the questions. People with no agricultural background will ask you questions about things that you haven’t ever considered. Sometimes, it takes a minute to back up and think: “Wait...why do I do it that way?”

The CommonGround North Dakota program is about starting a conversation between the farmers

who grow food and the consumers who buy it; a conversation which is based not only on personal experience as farmers, but also on science and research. To learn more about CommonGround North Dakota, visit www.facebook.com/CommonGroundNorthDakota

—Story by staff,
photos by Betsy Armour



Christie Jaeger, Val Wagner and Sarah Lovas answer panel questions from the audience.



A big thank you to Kindred FFA who served dinner to guests August 7.



Opinion Column

Marcil, Jr.: Farm Kids are Better Than City Kids

That's it. I have been saying this for the last two years since my son was born: He should be raised on a farm. Farm kids are better than city kids. No question.

Most people consider me a city kid. My wife, who grew up in a city of 20 million people, thinks I grew up on a farm. She is wrong. I'm actually a city kid: full of street cred and zero farm cred. I am jealous of people who were raised on a farm.

When you grow up on a farm, you need to work harder. You understand the connection between man and nature. My daughters think that food comes from the grocery store. Farm kids need to wake up in the morning and take care of something that is

greater than themselves. They are feeding a nation, feeding a world, making the world better. In the city, you complain if you have to park a block away from the cookie-dough store.

My wife and I recently attended the Banquet in the Field event planned by CommonGround North Dakota, an organization that brings city folk to the country in order to teach them about how food is produced. Carl and Julie Peterson of Peterson Farms Seed are the main sponsors and hosts, and the event was perfect.

Cris and I were sitting at one of maybe 30 tables, and each table had a farmer or two. The organizers

thought that we would not be able to tell the farmers from the city slickers, so each farmer had a button that said "Ask me, I am a Farmer." The button should have said "I look healthier than you. I am a Farmer." or "I get more activity than you. I am a Farmer." or "You sit at your desk too much. You're lazy and definitely will never be confused for a farmer."

Tony and Sarah Nasello did an amazing job creating and preparing a feast that was made entirely from North Dakota products. It made me even more convinced that I need to raise my lil' guy on a farm. First, have a few questions for farmers.

When do you decide to wash your pickup? Why do you wash your

pickup? Do you ever get tired of the sunsets? Does it ever get too quiet? When your 12-year-old daughter wants an Ariana Grande with an extra pump of bubble-gum flavoring from Starbucks, what do you do?

When your 23-year-old daughter from California comes home and you run out of organic toilet paper, where do you get more?

Yes, farming is a way of life. My grandfather Max grew up around agriculture and so did my dad. I think they are better people because of it. I want my boy to be a better person than me, so I think he needs to be raised on a farm. Any takers? How 'bout my 12-year-old daughter? She's the perfect age to be shipped off to a boarding school in Wishek.

—Column by Bill Marcil, Jr., president and CEO of Forum Communications and publisher of *The Forum*

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7:30 a.m. – 4:45 p.m.



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Teaching the Benefits of Soyfoods

Soybeans and soy products are well known for their worth in animal diets, but they are often overlooked

for their value and versatility in human nutrition. The North Dakota Soybean Council (NDSC) and North Dakota State University (NDSU) Extension are working to change that perception through education.

The NDSC supported the development of a Simply Soy curriculum through NDSU to help people become more familiar with soy and all the food products which are made from soy. The curriculum, which includes a bingo game and recipes, was an effort to help people learn more about the agricultural commodities grown in North Dakota along with the products' uses.

"When we were developing the program, we piloted the game and found that some people are not familiar with all the different soy products and their use," says Julie Garden-Robinson, NDSU Extension professor and food and nutrition specialist. "Many people are familiar with tofu, soy nuts, soy milk, soybean oil and soy sauce, but we found that many did not recognize the words edamame, tempeh, miso and tamari. We also encourage people to do some taste-testing of the recipes we provided."

Garden-Robinson says that NDSU Extension has provided the curriculum to middle-school and high-school teachers, Extension agents and community groups. The agents have distributed more than 150 teaching kits. She says that at least 100 teachers along with 50 Extension educators and volunteers throughout North Dakota have received the lesson materials and training, so the potential is there to reach thousands of North Dakota teens and adults.

"We have used the educational materials with teens to adults. It is a "train-the-trainer" curriculum, and it is available on our website, so anyone can download the pieces and use it for an educational program," Garden-Robinson says.

The lesson uses a bingo-game format, so everyone is actively involved with looking for the answers on a game card. Of those who completed a survey, Garden-Robinson says that 96 percent planned to share what they learned with others.

"We found that their knowledge scores changed significantly from pre-to post-survey, and many planned to try less familiar soy products," Garden-Robinson adds.

By participating in the lesson and

review game, participants learn about food sources of soy, current recommendations for soy consumption, why some soy products carry a health claim, and how to prepare and to use soy products in their meal planning.

Soyfoods are consumed worldwide as a food staple and healthy ingredient. Soy protein may lower the risk for heart disease. Garden-Robinson says that some research indicates how consuming 25 grams of soy protein daily may decrease low-density lipoprotein (LDL) cholesterol and may help lower blood pressure.

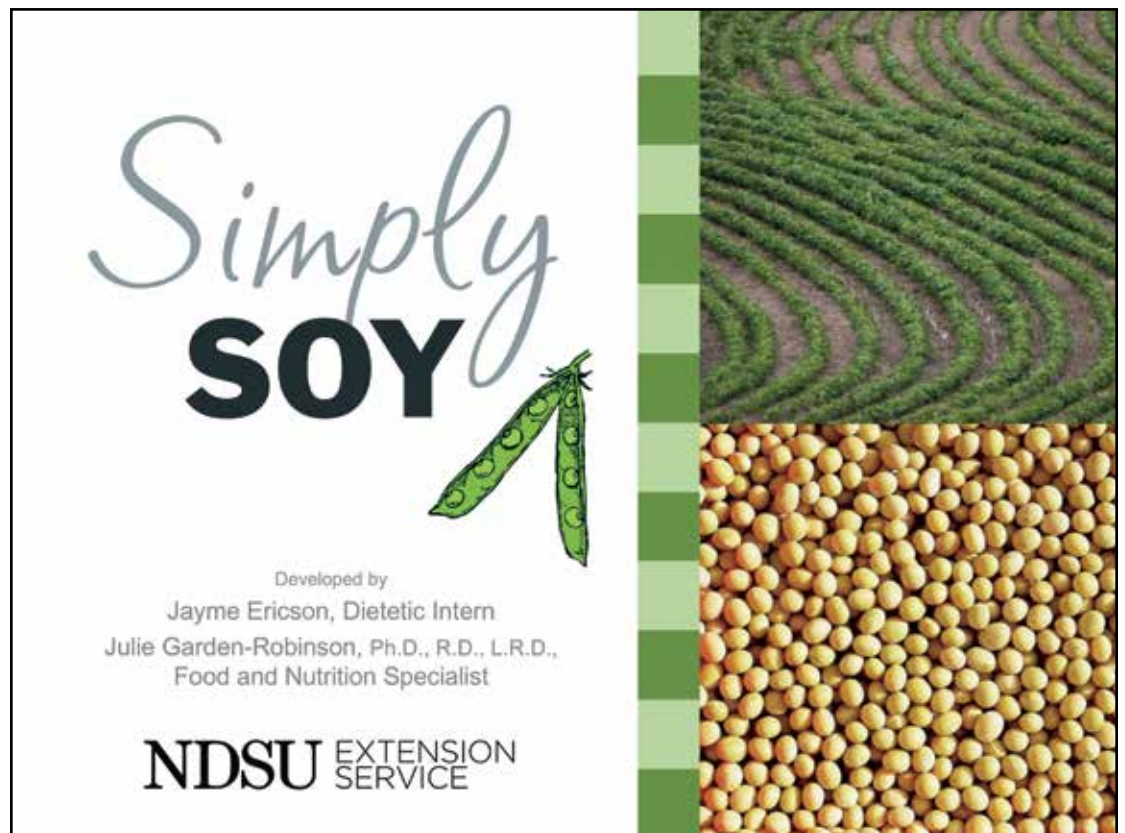
Some food products that contain soy carry a health claim if the product meets the guidelines for protein content, saturated fat and cholesterol which were set by the Food and Drug

Administration (FDA). If consumers see the soy-health claim on food packages, the products have met FDA requirements.

While the curriculum was developed as a teaching tool, anyone can download and use the materials without cost. The curriculum also contains a fact sheet and soy recipes.

The Simply Soy lesson materials are available on the NDSU Extension website by searching for Simply Soy Teaching Package at www.ag.ndsu.edu/food or visit ndsoybean.org/soyfoods. For more information, contact Julie Garden-Robinson at julie.garden-robinson@ndsu.edu.

—Story by Daniel Lemke, graphics supplied by NDSU



The curriculum includes a PowerPoint presentation with notes.



Soy Settles the Dust

Dust from gravel roads and work sites isn't just an annoyance, it can be a health concern and even

cause crop loss in adjacent fields. Research conducted at North Dakota State University (NDSU) and supported by the North Dakota Soybean Council (NDSC) shows how soy-processing coproducts could be the answer for controlling dust in an environmentally sound way.

More than 1.4 million miles of unpaved roads exist in the U.S. according to Jim Bahr, a senior engineer for NDSU's Research and Creative Activity department. Bahr says that 80 percent of the gravel roads which are treated for dust control receive chloride salts because of the low cost. There is a growing concern about the corrosive nature of the chlorides as well as their tendency to accumulate in groundwater, resulting in the salinization of lakes and streams. Bahr says that fugitive road dust has also been linked to respiratory problems and low crop yields in areas adjacent to gravel roads. As a result, there is a need to have non-corrosive, environmentally safe options for road-dust control.

For the past decade, NDSU researchers have worked on developing new polymers from soybean oil and other renewable resources. Bahr says that, about four years ago, there was a call for research into the road-dust problem in the Bakken oil field due to

the increased traffic on gravel roads.

"At first, I considered waste glycerol from biodiesel production, but quickly found that it had already been tried and was not that effective," Bahr says. "Nevertheless, glycerol is cheap and available in abundance, so I thought about combining it with soybean oil in a chemical reaction to create something that had the benefits of both the oil and the glycerol, but could be easily dispersed in water."

One quarter-mile section of gravel road has been treated so far. Bahr says that the soy-based product performed better than the calcium-chloride product used on the adjacent stretch of road during the tests. The soy product lasted the entire summer while the calcium chloride's performance was substantially reduced by the summer's end.

"Our product is not corrosive to vehicles and infrastructure, and it does not wash away into the groundwater by the rain," Bahr says. "It (the product) appears to have a longer life span of effective dust control, and it can be used as a drop-in replacement for chlorides. This is crucial for widespread adaptation because it will allow the chloride-application companies out there to use our material without the need to modify or purchase new equipment."

Additional road tests are planned for the coming years.

Bahr says that, if the soy-based product were applied to just 10 percent of the currently treated roads, the annual utilization of soybean oil would exceed 305 million pounds or would utilize oil from about 27 million bushels per year. A national survey shows growth for county transportation departments' road-dust treatment programs. More than half of the counties responding to the survey said that they had an active dust-control program, more than double the number from a few years ago.

"The market is large and growing," Bahr says.

A second road test will be performed in Cass County, North Dakota, through the summer of 2019 with funding from the North Dakota Department of Transportation. Bahr says that NDSU just started a new project, treating reclaimed asphalt pavement (RAP) with a soy-based product to see if it can be used as a RAP rejuvenation agent. That work is funded by the NDSC.

Starting this fall, researchers will work on scaling up the manufacturing process using a chemical toll processor while sourcing the starting materials from low-cost, crude material suppliers. This work will be funded by the United Soybean Board and will result in additional road applications to further demonstrate the technology.

Much of the research about the road-dust suppressants is being supported by North Dakota soybean farmers who could reap the benefits of an innovative, value-added use for soybean products.

"The development of a new soy-based product will result in an expanded market and increased demand for soybeans, both at home and abroad," Bahr says. "A secondary benefit is that soybean farmers will have a better option for road-dust control in and around their properties."

—Story by Daniel Lemke,
photo by Jim Bah



Evaluating dust control.

ASA/WISHH Asian and African Trade Team Gains U.S. Soy-Use Insight at NCI INTSOY

Thanks to training in North Dakota, Asian and African food companies and organizations working with the

American Soybean Association's World Initiative for Soy in Human Health (ASA/WISHH) have new ideas about how they can use more U.S. soy in breads, noodles, sausages and more. ASA/WISHH brought 11 trade-team participants to attend the August 2018 Northern Crops Institute's (NCI) INTSOY course in Fargo.

The participants were from Asia (Sri Lanka and Myanmar) and Africa (Ghana, Nigeria and Senegal). WISHH has established a relationship with companies and organizations in these countries and has identified key contacts to participate in the INTSOY and other NCI training. The trade-team representatives are currently using soy to produce foods such as tofu, soymilk and porridge mixes. Some people were already experimenting with soy as a new ingredient for other locally processed foods.

As a result of the training, participants see opportunities to increase their use of U.S. soy through new product development and more knowledge about the benefits of using U.S. soy. They likened the training to "one-stop" shopping where they learned about new soy products as well as meeting ingredient and equipment suppliers on the same trip.

"Our company is interested to incorporate soy products in our breads, noodles, sausages, etc.," reported a participant from Sri Lanka who continues to communicate with WISHH and NCI speakers.

"This course gives me more interest and more conviction that I have to do something to contribute in the promotion of soybean's nutritional potential," said a Senegalese participant in follow-up conversations with ASA/WISHH staff.

The INTSOY course builds a strong foundational knowledge about soy uses in food and feed, and introduces participants to innovative applications that highlight soy's nutritional and functional properties. NCI staff arranged a variety of classroom-style lectures, industry meetings and practical demonstrations to

provide a well-rounded experience for the INTSOY participants.

"ASA/WISHH connects trade and development," says North Dakota Soybean Council (NDSC) Secretary Matt Gast who also serves on the ASA/WISHH Program Committee and has traveled with WISHH to Cambodia and Myanmar. "North Dakota soybean growers had the foresight to start building trade relationships with developing countries when they supported creation of ASA/WISHH in 2000."

"With today's trade environment, we see that these relationships are

more important than ever," says Gast. "WISHH has already established a valuable presence for us in Asia, Africa and Central American developing countries."

NDSC, along with the Minnesota and South Dakota Soybean Research and Promotion Councils, supported the training that builds new markets for U.S. soy. The USDA Foreign Agricultural Service Market Access Program and Emerging Markets Program were also important resources for WISHH's activities and complemented the state soybean-checkoff investments.

—Story and photo courtesy of WISHH



ASA/WISHH trade-team participants learn about new soy uses at the August 2018 Northern Crops Institute's (NCI) INTSOY course in Fargo. NCI's Dr. Zach Liu explains how to produce soymilk using whole soybeans at the NCI test lab.

UPDATE

Northern Food Grade Soybean Association

This year, there is additional stress at harvest time, especially for the U.S. soybean farmer and other supply

chain partners in the soybean industry. Many people likely expected that the tariff/trade-war situation would either have been resolved or that there would be a clear path to resolution.

One objective and ongoing effort for the Northern Food Grade Soybean Association (NFGSA) is to provide value-added opportunities for the region's soybean producers. Our human utilization/trait-specific market access efforts in Asia have included China, but they have not been the dominate buyer for the region's non-GMO soybeans. Although the current events are a concern, it is not crippling to the human-utilization segment of this industry. In fact, this industry segment is experiencing a strong demand for U.S. soy.

Here are some recent industry events and efforts to further strengthen this food segment of the soybean industry.

Global Trade Conference

The U.S. Soybean Export Council (USSEC) and the Midwest Shippers Association hosted their annual U.S. Soy Global Trade Exchange Conference in Kansas City on August 28-30. Over 700 attendees from 54 countries participated in the three-day conference, seeking to learn more about the current status of the U.S. soybean market situation. Many NFGSA members were actively meeting with buyers during the conference, reassuring the buyers about the industry's commitment to supply them with their specific needs.

Human Utilization/ Trait-Specific Needs

There are estimates showing that the human utilization/trait-specific sector will double within five years in international markets. NFGSA activities are very much in line with

the following quotation: "success is when preparation and opportunity meet." NFGSA members know that collaborative messaging from a unified industry is very powerful to assure current and future customers about the organization's commitment to serve customers' needs now and in the future.

U.S. Supply vs. Canadian Supply

For many years, it seemed or was perceived that Canada had a distinct advantage in the human-utilization marketplace. Both U.S. and Canadian suppliers have recently commented that the U.S. is in a much better situation for the future; access to growers and acres is the main factor. The Canadian supply is small relative to the U.S. supply, and as the world demand increases, food companies are much more likely to purchase

from the U.S., simply for long-term stability and reliability.

Adding Value to Our Customers Through Education

This region, and specifically North Dakota, has always stepped up to take the lead with educating customers around the world. There is a collaborative effort by the North Dakota Soybean Growers Association, North Dakota Trade Office, the Northern Crops Institute (NCI) and Midwest Shipper Association to be the North American leader in these efforts.

For example, in October, NCI will host the Food Soybean Procurement Program. Buyers from four different countries will attend in order to learn about risk-management tools, contracting and other information as it pertains to buying U.S. soybeans.

In the midst of significant challenges for the soybean industry, there are most definitely opportunities for a better and brighter future.

—Story and photos
courtesy of NFGSA



Participants hear from a panel discussing global food grade soybean demand opportunities and market potential.



It was a full house during opening remarks at the Global Trade Exchange and Midwest Specialty Grains Conference in Kansas City August 29.



Harvest is Upon Us

Harvest is a bit earlier this year, bringing the question about easy foods that can be made or can be heated and served quickly. Foods that can be toted to the field for a quick and nutritious meal are needed.

Soups and stews are the answer along with some great cookies and snacks. There are many reasons why soy should be a key ingredient in any meal. Soy is rich in protein; fiber;

vitamins; minerals; and isoflavones, which are plant-derived compounds. Soy protein has also been shown to lower LDL (bad) cholesterol, to improve heart health and to reduce the risk of heart disease along with other health benefits.

Soy protein is easy to use in favorite chili or soup recipes; add shelled edamame or black soybeans (rinsed and drained) instead of the typical

beans which are listed in recipes. If reducing saturated fat is important, use textured soy protein for half of the ground beef, pork or turkey. Just add it dry; the tofu will rehydrate and take on the recipe's flavor. This option is a great way to sneak in soy protein.

Cookies are easy to make ahead and freeze. Adding tofu to chocolate-chip cookies or textured soy protein to oatmeal cookies makes the cookies a bit healthier while adding

moisture and great texture. Give it a whirl, and try these cookies.

When harvest is done, it is on to Thanksgiving and the holidays. An all-time favorite is the tofu pumpkin pie. Add a bit of soy protein to every meal, and start getting the many health benefits.

Happy Fall!

—Story, recipes and photos courtesy of Linda Funk, The Soyfoods Council

Cuban Black Soybean Soup

Ingredients

- 2 tablespoons soybean oil
- 1 cup diced onion
- ¼ cup diced green pepper
- ¼ cup diced celery
- 1 cup smoked ham, diced
- 2 cloves garlic, minced
- 2 (15-oz.) cans black soybeans, not drained
- ½ teaspoon red-pepper flakes
- ¼ teaspoon ground cumin
- 2 pinches dried oregano
- 3 cups low-sodium beef broth
- 1 teaspoon salt

Directions

Heat the oil in a large saucepan over medium-high heat. Add the ham, onion, green pepper and celery; cook, stirring frequently, until the vegetables are almost tender, about 3 to 5 minutes. Add the garlic, and cook another minute. Add all the remaining ingredients. Heat to boiling; then, reduce to a simmer, and cook 45 minutes. (Add water or broth if the soup is too thick.)

Yield 6 servings



Curried Corn and Pepper Chowder

Ingredients

- 2 tablespoons soybean oil
- ½ cup finely chopped, green bell pepper
- ½ cup finely chopped, red bell pepper
- ¼ cup minced shallots
- 2 teaspoons curry powder, or to taste
- ½ teaspoon salt
- 3 cups fresh corn or one 16-ounce bag frozen corn, thawed (about 3 cups)
- 1 cup vegetable stock
- ½ teaspoon freshly ground pepper, or to taste
- 3 cups plain, unflavored soy milk
- ½ cup shredded cheddar cheese

Directions

Heat oil in large saucepan or Dutch oven over medium-high heat. Add the bell peppers; cook, stirring occasionally, until tender, about 4 minutes. Add the shallots during the last minute; stir until

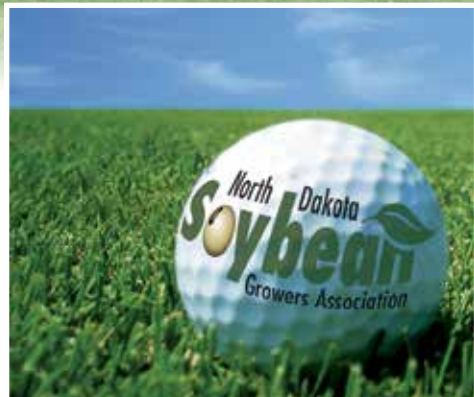
tender but not browned. Add the curry powder and salt; stir for 1 minute. Stir in the corn, vegetable stock and pepper. Bring to a boil; reduce the heat to medium; cover and cook until the vegetables are tender, about 5 minutes. Transfer 2 cups of the corn mixture to a blender or food processor. Add 1 cup of the soy milk. Process until the mixture is nearly smooth. Pour the puréed mixture into the saucepan; stir in the remaining soy milk. Stir gently over medium heat until the mixture is heated through, about 5 minutes. Sprinkle each serving with 2 tablespoons of cheese. If you want more protein, add ½ cup dry, textured soy protein when adding the remaining soy milk. Heat for 8 to 10 minutes, stirring. If the chowder is too thick, stir in more soy milk.

Yield: 4 servings.





Fifteenth Annual Golf Tournament



Thank you for making the 15th annual golf tournament successful! The tournament is a way for the North Dakota Soybean Growers Association (NDSGA) to say thank you to members and supporters. Your membership dues and sponsorship of NDSGA events help to provide the necessary funds to continue policy-advocacy work in Bismarck and Washington, D.C. We're proud of our past successes and are continually working to make things better for soybean growers throughout North Dakota.

Congratulations to our tournament winners:
First Place: Team SB&B: Scott Sinner, Pat Bresnahan, Ryan Toop and Ellery Bresnahan.

Second Place: Team Country Grain Cooperative: Brent Geisler, Mike Stoller, Dave Barnick and Travis Traut.

Third Place: Team Peterson Farms Seed Street Elevator: Jeff Williams, Brett Williams, Matt Schwarz and Jerry Gilmore.

Congratulations to our contest winners:

Longest Putt #7: Dustin Theurer

Longest Putt #18: Johnny Melvin

Longest Drive #5: Brian Johnson

Longest Drive #14: Kaelin Kylo

Closest to Pin #3: Henry Steinberger

Closest to Pin #11: Jeff Williams

Thank you to our tournament sponsors.

Hole Sponsors: AgCountry Farm Credit Services,

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Lunch and Dinner: BNSF Railway

Golf Balls: Asgrow

Signs: D-S Beverages

Player Carts: National Biodiesel Board

Program: American Ag Network

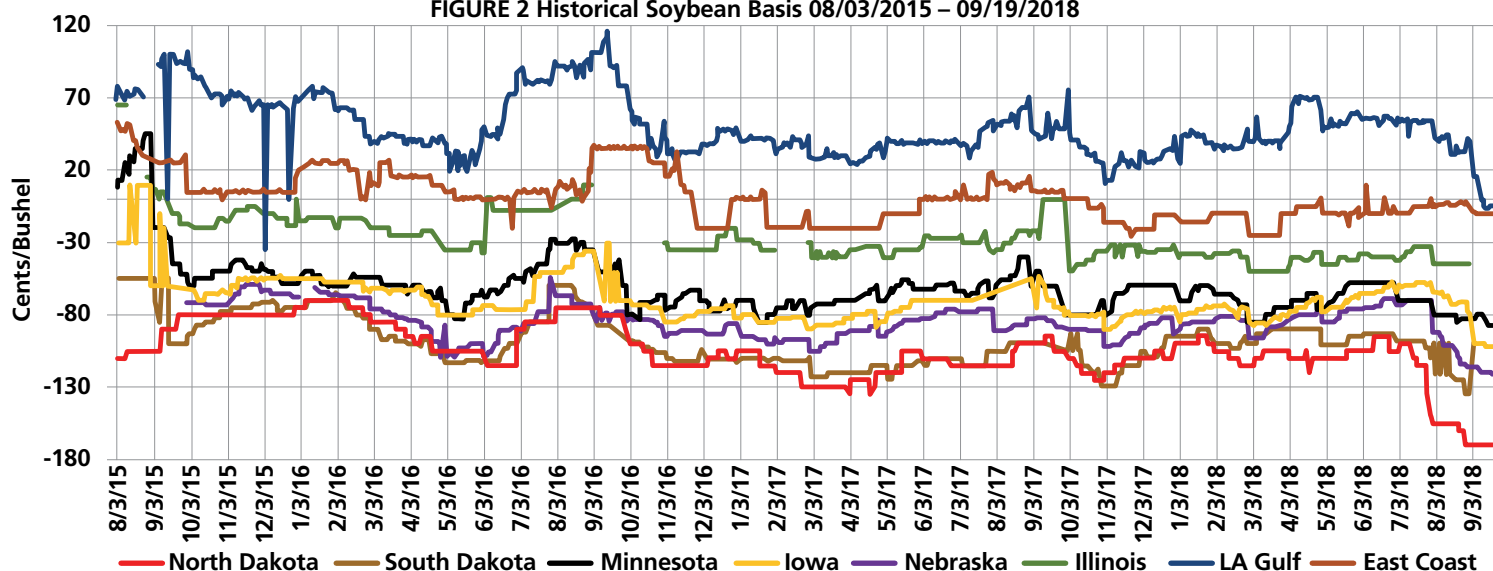
General: Gateway Building Systems

Two NDSGA tournaments are scheduled for 2019. The Jamestown tournament is scheduled for July 23, 2019. The Fargo-area event will be August 27, 2019. More information is available at ndsoygrowers.com/events.

—Story and photos by staff



FIGURE 2 Historical Soybean Basis 08/03/2015 – 09/19/2018



—Story continued from page 19

mals need to be fed. Other analysts believe that because it's a political disagreement causing the disruptions, by not buying, China is sending a message to the United States that they don't need U.S. soybeans.

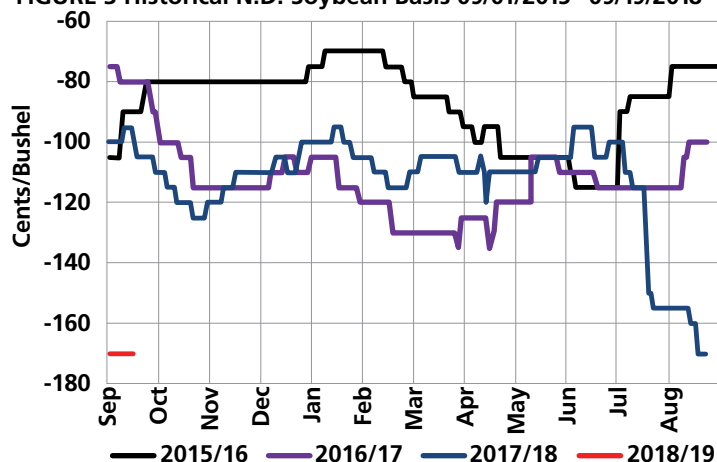
"Politics makes it harder," Olson says. "It's harder to predict what's go-

ing to happen and it's more difficult for farmers to know what to do."

Basis Impacts

North Dakota farmers felt the impact of the China soybean tariffs almost immediately through a widened basis. Once tariffs were implemented in July, the basis at many North Dakota grain elevators

FIGURE 3 Historical N.D. Soybean Basis 09/01/2015 – 09/19/2018



widened rapidly to nearly \$1.80 below futures prices. (See Figure 2)

Olson says the basis signals what the market wants. A widened basis means buyers aren't looking for soybeans. About 60 percent of U.S. soybean exports go through the Gulf of Mexico while 25 percent are shipped from ports in the Pacific Northwest. Olson says about 98 percent of the soybean shipments from the Pacific Northwest are bound for China. Once the flow of soybeans to China was choked off, North Dakota farmers felt the pain.

"North Dakota basis levels responded quicker and got hit harder than most other states," Olson contends. "Other states are starting to feel it now, too." (See Figure 3)

Ports in the Gulf of Mexico serve diversified soybean markets including Mexico, the European Union and north Africa while the

Pacific Northwest is geared primarily toward Asia, with China the largest market. States in the Upper Midwest have seen the widest basis because most soybeans are shipped through the Pacific Northwest, but other areas, including those who export through the Gulf are feeling more of the basis pinch.

As combines begin rolling across North Dakota and the rest of soybean country, Olson expects the soybean export picture to become much clearer.

"In the next month or so we will see if China comes back to buy U.S. soybean," Olson says. "The answer to that question will have a huge impact on the market and the psychology of the market."

—Story by Daniel Lemke, photo by Wanbaugh Studios and graphics courtesy of NDSU

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Getting to Know the Grower

What's most exciting about the upcoming growing season?

Hopefully, a new Farm Bill with new improvements. I am also in the agronomy seed business, so I hope to see new hybrids and varieties of seed with better prices.

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

I try to stay involved with the community, and I had some neighbors and friends ask if they could nominate me. I think it is very important to be involved and know how the checkoff dollars are being spent and to make sure they are benefiting the farmers. It is a very prestigious board.

How has your involvement been beneficial to you? Why?

I am a part of the research committee and NCSRP. I like the roundta-

ble discussions and learning about crop issues. It is great that I can offer my two cents with my agronomy background and as a grower.

Why are soybeans a part of your crop mix?

Soybeans are a good fit and have been a fairly profitable rotation.

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

Timelier and spread-out rainfall. The temperature this year was great, so I would want that to continue. Also, to eradicate all mosquitos of course.

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

Definitely technology. For example, we used to have 6600 and 7700

Tell us about your farm.

My Grandpa Frank started the farm; and now, my dad, Richard, and I run the farm. We grow corn, soybeans and wheat.

What do you like best about farming?

The cycle of growing things from planting to harvest: I love harvest time. Always trying to improve. Comradery with growers, being able

to relate and go through the tough times together. Family oriented job. Privilege.Prideful.

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

Yes, it has always been in my blood. I was born and raised on the farm and enjoyed it. I always saw myself becoming a farmer.



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John Deere combines, and we have now changed to 500-600 horsepower tractors. Also, the information with GPS and mapping devices, the technology with seed yields for corn and soybeans (They have doubled since my childhood.), and the cost of farming and what it takes for inputs have drastically increased.

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

Personally, to take over most of the farm as my dad is looking to retire. Keep corn and soybeans; hopefully, there will be markets for them. Also, to use biodiesel and ethanol in order to increase marketability as a country.

What do you like to do outside farming?

I love to spend time with my family. My wife and I have our fifth child on the way. We like to go camping and fishing. I also like to play in my wife and I's band when we can.

If you could go anywhere in the world, where would it be?

I would really like to take a vacation to Ireland. That is on my bucket list.

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

Grain-handling storage and dryers to play markets better.

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

Climate fieldview in order to know where they planted varieties and to receive the yield results. Overall, to know what is best on the farm and keep track of it.

—Story and photo by staff



Shana Forster, Director, North Central Research Extension Center, Minot, North Dakota

Where did you grow up?

Mandan, North Dakota

Tell us about your education.

I earned a Bachelor of Science degree in Crop and Weed Sciences and Plant Protection in 2000, a master's degree in Plant Sciences in 2002 and a doctorate in Plant Sciences in 2017, all from NDSU. Go Bison!

Do you have an area of specialization?

I would definitely say I am an agriculture generalist. I have the most experience with pulse crops and durum wheat. But in my former position as area extension specialist, I worked in all areas of crop production, which meant I needed to know all crops.

What interested you in this area?

I love North Dakota and North Dakota agriculture. I want to see all producers succeed. In this region of the state, we are very diverse in not only crops, but also production methods. My style of research is to help determine realistic methods to solve problems. I like to take a very hands-on approach.

What led you to the North Central Research Extension Center (NCREC)?

I first came to the NCREC 10 years ago as the assistant pulse crops breeder. I had a master's degree focused in plant breeding and genetics, so it was a great fit, and I was excited to get back into plant breeding.

Getting to Know the Expert

After a few years, I became the area extension specialist. When I started that position, I also began working on my doctorate, where I focused on durum-wheat production. I have been the NCREC center director since April 2016. Although I am technically administration, I still enjoy field research. This year, I have trials in durum and hard-red spring wheat; canola; field pea; lentil; chickpea; sunflower; and, of course, soybeans!

What is the focus of the NCREC?

The goals at the NCREC are to conduct research to find practical answers to crop-production problems, to conduct educational programs and demonstrations to address these problems, and to increase foundation-grade seed of new and popular varieties for this area. We have staff working in the areas of agronomy research, pulse-crop breeding, grapes, weed science, Extension education, soil health, crop protection and livestock and foundation seed increase.

What crops are being grown at the NCREC?

It would be easier to answer what is NOT grown at the NCREC. This

year, we are increasing foundation seed of hard-red spring wheat, durum wheat, oats, soybeans and flax. As for research trials, we study everything except sugarbeets and potato. However, we have studied energy beets in the past and currently have potatoes growing as a demonstration in collaboration with a local gardening group.

Why is this research valuable?

It is not uncommon for farmers in this region to grow eight to 10 different crops each year. With that many crops, rotation concerns will always arise, including herbicide carryover, disease issues and more. The variety testing that is done at the NCREC and the four off-station locations give producers even more regional, unbiased and scientific data to make the best variety choices for their farm.

What do you like to do away from work?

Spend time with my children (Aidan, 13, and Ella, 11), read, travel and yoga.

—Story by Dan Lemke,
photo by staff

Soybean Farmers Applaud Tariff Plan

U.S. soybean farmers reacted positively to the release of details about a plan from the U.S. Department of Agriculture (USDA) to offset the short-term effect of tariffs on U.S. agricultural exports, including a 25 percent additional duty that China imposed on soybean imports. The package includes a Market Facilitation Program that will make payments to producers of soybeans and six other farm commodities to partially offset the effect of tariffs on their 2018 production, a program to increase USDA purchases of various U.S. agricultural products and a Trade Promotion Program to develop foreign markets for American agricultural exports.

“We welcome USDA’s announcement that soybean farmers will receive a payment on their 2018 production to partially offset the impact of China’s tariff on U.S. soybean imports,” said ASA President John Heisdorffer, a soybean producer from Keota, Iowa. “This will provide a real shot in the arm for our growers, who have seen soybean prices fall by about \$2.00 per bushel, or 20 percent, since events leading to the current tariff war with China began impacting markets in June.”

The expected value of the 2018 soybean crop has been under increasing pressure ever since tariffs were imposed first by the U.S. and then by China in July. In the last two months, the USDA has raised its estimate for soybean production in 2018 to a record 4.6 billion bushels, reduced its estimate for soybean exports in the 2018-19 marketing year by 230 million bushels and projected an 82 percent increase for soybean carryover stocks to 785 million from 430 million bushels by September 2019.

“ASA strongly supports USDA’s initiative to provide an additional \$200 million to develop foreign markets through a Trade Promotion Program. Increasing funding for market development has been a top ASA priority for this year’s farm bill and is even more critical given the need to find new export markets for U.S. soy and livestock products,” Heisdorffer says.

The assistance package will help our farmers, but most growers are focused on long-term market opportunities, including a resumption of trade with China as well as updated agreements with Mexico and Canada. China was the number-one export market for U.S. soybean growers in 2017, importing 31 percent, or nearly one in every three rows of total production, equal to 60 percent of the total U.S. soybean exports. More than 70 percent of North Dakota soybeans were exported to China in the last marketing year.

Promoting Soy in Romania

In an effort to promote U.S. soy and to support the local feed manufacturers’ association, U.S. Soybean Export Council (USSEC) representatives attended the fifth annual conference of the Romanian Feed Manufacturers Association in Bucharest, Romania.

Two U.S. soy experts, Gunnar Lynum, an Ohio Soybean Association consultant, and Dr. Jan van Eys, a USSEC regional consultant, were invited to join the event.

While feed production numbers stay flat or are negative in most western European countries, in Eastern European countries, especially Romania, livestock production is growing rapidly and

is well above the growth rate seen in neighboring countries. This growth will require an increased amount of soybean products and know-how. Consequently, the prospects for U.S. soy in eastern Europe are viewed as excellent.

Celebrating Soy Foods

The end of July marked the 40th anniversary for founding the Soyfoods Association of North America (SANA).

SANA is the lead advocate for the health benefits and nutritional advantages of soy consumption. The group encourages sustainability, integrity and growth of the soyfood industry by promoting and maintaining the benefits of soy-based foods to consumers, health professionals, researchers, media, government officials and industry partners.

Recently, SANA and the American Soybean Association (ASA) worked together on issues including upholding the soy-protein health claim and the use of soy as an extender in military meals.

Soy-Based Innovations are Reaching New Heights

A new soy-based product, Roof Maxx, reverses asphalt shingle aging and is certified as 86 percent biobased content under the USDA BioPreferred Program.

Ohio State University assessed the Roof Maxx asphalt restorer in a new technical report, concluding that the product exhibits great potential as an economical, biobased solution for both maintaining and increasing a roof’s service life. Extending a roof’s life saves money for the property owner and cuts the waste streams which head to landfills.

After 24 years of building a roof-replacement company, Ohio-based brothers Todd and Mike

Feazel launched Roof Maxx in 2017. The soy-based sealer revives sloped shingle roofs and reduces landfill waste, all at a fraction of the cost for total roof replacement.

The United Soybean Board (USB) assisted Roof Maxx in discussions with the USDA’s Bio-Preferred Program as well as creating and distributing information about the product to thousands of USB contacts who expressed interest in soy-based products. The USB’s case study also featured the on-farm sustainability efforts of USB Director Keith Kemp of Ohio. Kemp had Roof Maxx applied to his home.

Roof Maxx is made with methyl soyate, which has the full-green circle designation on the Environmental Protection Agency’s (EPA) Safer Chemicals Ingredient List. The USB worked closely with the EPA for the past several years in order to provide the scientific data about methyl soyate which was required to support this designation.

Congress Passes Waterways Bill

The U.S. House and Senate recently acted on bills that address annual funding for U.S. Army Corps of Engineers (USACE) waterways functions and the biannual reauthorization of the inland waterways programs. These bills, supported by the American Soybean Association, continue progress toward updating the inland waterways infrastructure that is vital to the movement of soybeans and agricultural inputs.

An agreement was reached between House and Senate leadership and committee leaders on a Water Infrastructure Act of 2018, which includes reauthorization of the Water Resources Development Act (WRDA). WRDA

authorizes improvements to the nation's ports, inland waterways, locks, dams, flood protection, ecosystem restoration and other water resources infrastructure.

The measure passed the House on a voice vote and is expected to be passed by the Senate and signed into law by the President. The WRDA component is a relatively straight-forward reauthorization without significant programmatic changes or new or additional funding sources. It continues the trend for Congress to return to regular order by passing a WRDA reauthorization every two years. Prior to the 2014 WRDA, Congress had gone seven years without passing a WRDA reauthorization bill. The Water Infrastructure Act of 2018 also maintains and extends process reforms enacted under the

2014 WRDA that streamline the regulatory approval process and eliminate barriers that delay projects.

Unions, Ports Reach Deal

International Longshoremen's Association (ILA) members at ports from Maine to Texas overwhelmingly approved a six-year extension of its contract with the United States Maritime Alliance to avoid disruptions of Gulf and East Coast port operations. Contract extensions provide supply chain stakeholders, including those involved with soybean shipments with the certainty they need to run their operations.

The current ILA contract was set to expire at the end of September. Previous labor disputes at U.S. ports have caused disruptions in soybean shipments.

Additional Tariffs on China Escalates Effect on American Beans

President Donald Trump announced in late September that the U.S. would impose 10 percent tariffs on an additional \$200 billion in Chinese imports. That 10 percent is slated to rise to 25 percent in January.

China has vowed to retaliate, which the President said would prompt him to place additional tariffs on another \$267 billion in goods, affecting nearly all Chinese exports to the United States.

The American Soybean Association (ASA) is highly concerned about the ongoing, escalating feud, as it will continue to exacerbate damages both short term and long term to the China market. According to ASA, the price of U.S. soybeans at export position

in New Orleans has dropped 20 percent, from \$10.89 to \$8.68 per bushel since June. Farm prices have fallen even further. During the same three month period, the premium being paid for Brazilian soybeans has increased from virtually zero to \$2.18 per bushel, or \$80 per metric ton (MT).

ASA continues to advocate for ending the tariff war and for long-term solutions to the loss of export markets, including concluding the North American Free Trade Agreement (NAFTA) and negotiation of bilateral trade agreements that expand and diversify U.S. markets for soybean and livestock products.

—Story by staff



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North Dakota
Soybean
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