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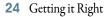


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On the cover

North Dakota soybeans aren't being exported at typical levels as a result of an ongoing trade dispute with China. However, exports are still happening, including shipments from ports in the Pacific Northwest. Trade agreements like a renegotiated agreement with Mexico and Canada give farmers hope for strong relationships with our trading partners around the world.

—Photo by Daniel Lemke



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egislative Work Continues as Session Nears

North Dakota farmers have a lot on their plate, especially in years like this where the growing season presented plenty of challenges. There are many unknowns out there for our producers and so much that cannot be controlled, so managing matters to the best of one's ability becomes the goal. That may well explain the main reason that the association employs people to track state policies and get to know state officials and legislators.

In a recent magazine, I addressed the potential restoration of snagging and clearing, a formula adjustment for where oil tax dollars go (Prairie Dog Infrastructure proposal), Soil Conservation Education, and dealing with NDSU Research and Extension cuts. Here are some further examples of what may be coming this legislative session.

Utilize the Legacy Fund as a Low-Interest Loan Source for the Purpose of Large Infrastructure Loans

The most prominent idea comes from Senator Hogue of Minot. His argument is that, now and from the beginning, our state sends the Legacy Fund monies to professionals who invest it around the world. Would it not be better to use that North Dakota money to invest in North Dakota? I can tell you that there are far more needs for water projects than the State Water Commission (SWC) will be able to fund at the level for which patrons are advocating. Recall that our governor has asked for agency budgets, including the SWC, to be reduced. The SWC had a budget request of \$652 million, and my understanding from a recent Water Coalition meeting is that the SWC will be operating from a \$260 million base with an optional \$170 million that may be granted.

While at that meeting in October, each entity (i.e., Rural Water, FM Diversion, Minot, etc.) tried to pare down its request to shovel-ready projects, but still, the groups came up with more than the SWC can grant. The SWC is trying to avoid each entity employing whatever political might they may have individually, which would leave less for everyone else, thus destroying the concept of a coalition. I can also tell you it appeared that everyone in that room was hoping that Senator Hogue's idea flies with the legislature. It seems to me that, with over \$5 billion in assets, the time may have arrived to use the Legacy Fund (probably interest earned rather than the principal) to help North Dakota.

Some Action on the Farm-Home Exemption

Discussion continues with legislators and agricultural interests, including the Association of Counties. We believe that multiple bills will be introduced.

An Automatic Posting Bill

From what I hear, it is almost certain to come up again this year.

A Change in How Wind-Power is Taxed

It is hard to know what might happen here. Certainly, there will be unforeseen initiatives that farmers may want to support or fight.

In the meantime, NDSGA would like to thank the many state officials and employees who have helped agriculture in the state, including state legislators, some of whom will not be continuing as lawmakers; we appreciate the sacrifices you make to serve. May the newly arriving legislators be as attuned to the importance of agriculture in North Dakota as their predecessors.

—Story by Phil Murphy



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

Reaching Out During Stressful Times

Even in good years, farming is a challenging and a frequently stressful way to make a living. As farmers, there are a lot of things outside our control that affect our business and families. We are at the mercy of the weather, and while we try to get the most for our crops, we don't control the prices which we receive. Most of us know that's part of doing business as a farmer, so we do the best we can and roll with the punches. Sometimes, the strength and frequency of the punches can seem overwhelming.

This year has been a particularly challenging one for North Dakota farmers. Commodity prices have been depressed for several years, so margins are tight on most North Dakota farms. Trade issues have dramatically changed soybean markets, and our vital exports to China have all but stopped. Throw in a challenging growing season that included wet conditions early and mid-October snow, delaying harvest and damaging crops, and you have a recipe for very stressful times in the countryside.

Every person responds to stress differently, and every circumstance is unique. It is understandable that many North Dakota farmers and their families are under pressure. Some physical signs of stress may be an upset stomach and fatigue while other individuals may deal with severe or persistent headaches. Someone may show emotional stress signals by withdrawing while another person may become angry and irritable. Changes in sleep habits, irritability, and getting into conflict with others or constantly working to avoid relationships are potential signs of stress.

Pressure is taking a toll on North Dakota farmers. The Centers for Disease Control (CDC) reports that suicide rates increased in North Dakota by over 57 percent from 1999 to 2016. The CDC also shows that farmers are three-to-five times more likely to die by suicide than other American workers.

If you or someone you know is exhibiting unusual behavior, including a lack of focus or motivation, uncharacteristic anger or alcohol abuse, it may be time to evaluate stress levels and the overall farm situation because there are resources available. North Dakota State University Extension has suggestions for farmers or others with extreme stress or depression:

- Call 9-1-1 for an emergency.
- Call 2-1-1 for listening support, help with suicidal thoughts, mental-health issues, crisis and referral.



Joe Ericson President North Dakota Soybean Growers Association

Email: joe.ericson@ndsga.com Website:

ndsoygrowers.com

- Call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).
- Reach out to a loved one; talk about how you are feeling.
- Talk to friends, clergy or a medical provider. Farmers are an independent group, and most of us are reluctant to share our struggles. I encourage you to take care of yourselves and to keep a caring eye on your neighbors. Farming may be an individual occupation, be we are all in it together.



Membership Application

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

Name:	Do you raise:				
Spouse:	□ Cattle □ Hogs □ Poultry □ Dairy				
Date of Birth:	How did you hear about NDSGA? (Please circle one)				
Farm/Company Name:	Recruited in person; Recruited by phone, Magazine;				
Address:	Internet; Mailing; Radio; Event; Other				
City, State, Zip:					
County:	□ 3-Year Membership \$200 □ 1-Year Membership \$75 □ Check enclosed (please make checks payable to NDSGA)				
Phone:	Credit Card: Visa / MasterCard / Discover / American Express				
Cell:					
Email Address:	Expiration Date:/ CVC:				
Occupation (Please check all that apply) Farmer Retired Agribusiness	Name on Card (Please print): Signature: Mail application with payment to: North Dakota Soybean Growers Association 4852 Rocking Horse Circle South Fargo, ND 58104				
 Finance Elevator Other Do you currently grow soybeans? Yes No Soybean Acres: Total Acres Farmed: 					

Through the Ups and Downs

ike Appert has seen tough times before. In fact, difficult financial conditions in the 1980s played

a role in him getting started with farming.

Appert farms near Hazelton, North Dakota, with his son and nephew. The fourth-generation farmer raises soybeans, corn, small grains, sunflowers and edible beans.

"When I grew up, I couldn't imagine doing anything other than farming," Appert says. "I get to do what I like."

Appert attended the University of North Dakota in the 1980s, earning a financial management degree. By 1991, Appert was back on the farm, doing what he loves.

"I thought if I could farm and keep from going broke, that's what I'd do," Appert says.

Going broke in the 1980s was

all too common in farm country. Difficult financial conditions forced many farmers out of business.

"The 80s were tough. We lost neighbors," Appert recalls. "Having a finance degree helped me; plus, it was probably a good time to begin farming because I started when things were cheap. Farming is cyclical, and timing is important."

Difficult economic times have returned to the heartland, putting North Dakota farmers under duress. Commodity prices have been depressed for several years, and in many cases, farmers have a hard time getting more for their crops than it costs to produce them.

"It's challenging right now, and I especially feel for the younger farmers who may not be as well positioned as some of us older farmers. We need the next generation to be able to come in, and circumstances like this make it hard for them," Appert says. "We don't want to lose them."

Because crops are a commodity, farmers often deal with the ups and downs of grain markets, but few people were prepared for the major challenges that arose because of the trade war with China. Since tariffs were imposed on billions of dollars of goods from China and China reciprocated with 25 percent tariffs on U.S. soybeans, the soybean markets have changed drastically. Prices have dropped, and the once thriving Chinese export market has all but disappeared.

"It's unfortunate because the relationship had been working," Appert says. "China is the reason why we grow so many soybeans in North Dakota. If we aren't able to get things put back together, it's going to be a sad day."

Shifting Roles

Appert is no stranger to leadership roles, having served on the North Dakota Soybean Council (NDSC) before becoming a board member for the North Dakota Soybean Growers Association (NDSGA).

"Being on the Council was a good experience. I was impressed with how it's run because it's productive and efficient," Appert says. "There



Hazelton farmer Mike Appert (center) is concerned with keeping the younger generation involved with farming.



Mike Appert is bringing experience gained while serving on the North Dakota Soybean Council to the North Dakota Growers Association.

are some very talented people on the Council who are willing to dedicate a lot of time, and that shows a lot of commitment."

Appert says that the Council experience helped him learn more about the ins and outs of the soybean industry.

"I learned a lot about trade. Soybean acreage really jumped during that time, and I was really impressed with the efforts put forward for marketing and research. I especially learned a lot about international marketing," Appert adds.

After leaving the NDSC, Appert was elected to the NDSGA, giving him a different perspective of the soybean industry.

"Initially, I wasn't all that interested in politics and policy, but I'm getting more interested," Appert admits. "Having my Council experience really helps because, now, I understand the mechanics of the industry. That helps on the Association and policy side."

The NDSGA advocates for policy that is beneficial for North Dakota soybean farmers both at the state and federal levels. Right now, Appert says, the concerns most pressing to North Dakota farmers focus squarely on Washington, D.C.

"Most of the issues facing North Dakota farmers are on (the) federal level, especially trade and tariffs," Appert explains. "We are so dependent upon trade, but we're also dealing with issues like the Farm Bill, wetlands and water."

Appert says that, while most of the major issues plaguing North Dakota farmers involve federal policy, growers are committed to supporting good state policy.

"North Dakota is a good ag state, but many of our ag issues go beyond us," Appert contends. "Right now, state issues look minor compared to trade."

Staying Positive

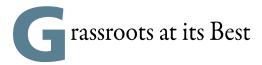
Despite the trade challenges that have created havoc on many sectors of the soybean industry, Appert is cautiously optimistic that trade issues will be resolved and that hardearned markets will return. That news would be good for the state's soybean farmers who are heavily dependent upon exports.

"Farmers got thrown into a fight, and it's taking longer to fix than I would have hoped," Appert says. "I'm optimistic something will happen. I know we have to deal with issues like China's treatment of intellectual property, but I get the feeling that the soybean issue will get fixed. I'm not optimistic about the timing, but there is a fit for us to get this market back because they have the demand and we have the production."

> —Story by Daniel Lemke, photos by Wanbaugh Studios



Appert is optimistic the flow of soybeans from his farm to China will soon resume.



Every day, we are given an opportunity to make a difference in the world. Whether it's a chance to help a neighbor in need or just doing our best to raise our children, what we do can affect the future.

North Dakota farmers have the opportunity to help shape the future of the state's soybean industry by becoming involved with the North Dakota Soybean Council (NDSC). The NDSC is a grassroots organization that relies on volunteers who are willing to get involved and contribute to the growth and development of the state's vital soybean industry. The NDSC is made of farmers who want a bright future for soybean farming and are willing to step up in order to make it happen.

We are at a pivotal time for agriculture here in North Dakota, so we welcome farmers who are willing to provide valuable leadership by seeking election to the NDSC. The Council directors influence where checkoff funds are invested in order to benefit all North Dakota soybean farmers through public research, market development, promotion and more. Fresh insight and ideas are always welcome on the NDSC, so we hope growers will consider running for the Council or nominating a farmer you think would provide leadership for the industry's future.

North Dakota is divided into 12 districts. In 2019, the NDSC is seeking four representatives to serve on its Board of Directors: a representative from District 1, Richland County; District 5, Barnes County; District 7, Traill and Grand Forks Counties; and District 9, Eddy, Foster, and Wells Counties.

The process is simple. Watch your mailboxes for nomination forms that will be mailed by January 1, 2019. Men or women who are soybean producers in the counties listed are eligible. If you are a soybean producer in these counties or if you know someone who would be interested, we encourage you to consider nominating him/her for the NDSC election. It's also okay to nominate yourself.

To ensure fairness and impartiality, North Dakota State University Extension conducts the election.

Like a township or other local system of government, the NDSC is a grassroots organization that relies on farmers to provide direction for the soybean industry, including where to invest checkoff dollars in areas such as research, market



Joe Morken North Dakota Soybean Council Chairman Email: jmorken@ndsoybean.org Website: www.ndsoybean.org

development and promotion.

Serving on the NDSC is a rewarding experience that helps you learn about the many facets of the state's soybean industry. More importantly, it offers farmers, like you, the opportunity to help shape soybean's future in North Dakota.

DSC Congratulates Scholarship Recipients

Annually, the North Dakota Soybean Council (NDSC) sponsors two scholarships for un-

dergraduate students and two scholarships for graduate students at North Dakota State University



(NDSU). NDSC's Undergraduate Scholarship is awarded to sophomores or juniors in crop and weed sciences, soil science, food science, animal science, agribusiness or agricultural economics who have a demonstrated a tie to soybeans; and are a U.S. citizen with a minimum 3.0 GPA. NDSC's Graduate Student Scholarships are awarded to graduate students involved in research that benefits the soybean industry.

This year, Adam Kroll, Royalton, Minnesota, pictured second from right; and Chantel Mertz, Fargo, North Dakota, not pictured, were awarded NDSC's Undergraduate Scholarships. Aaron Froemke, Lisbon, North Dakota, far left; and Peder Schmitz, Wheaton, Minnesota, not pictured, were awarded NDSC's Graduate Student Scholarships. NDSC Executive Director Stephanie Sinner, pictured second from left, spoke at NDSU's Scholarship Recognition Luncheon on November 8. Also pictured far right is Dr. William Nganje, department chair and professor, department of agribusiness and applied economics at NDSU.

Expect It. Demand It. Use It. ew use products are nothing new to the soybean checkoff. Ongoing research, beginning in the

mid-1990s has led to developing and manufacturing hundreds of products that contain soy. From insulation and plastics to lubricants and fuel, soybased products are readily available for use on and off the farm.

"As farmers, I think we forget sometimes of the opportunities we have ourselves to use and grow the industry we rely on," says North Dakota Soybean Council (NDSC) board member Perry Ostmo. "It seems that, only when the market negatively responds to events, that we begin to look at opportunities to grow demand. We need to expect, demand and use our own soy-based products every day to help ourselves out."

One example of a new-use product is biodiesel. The NDSC has stood behind the fuel throughout its development. A glut of soybean oil was a major production-limiting factor. Soybean crushers had very limited options to sell and use soybean oil. Domestic biodiesel, however, is an example of a product that can use a lot of soybean oil and increase the price of soybeans. One bushel of soybeans can yield one and a half gallons of



Increased demand for biodiesel boosts demand for soy oil.

B100, adding nearly 63 cents of value per bushel according to the National Biodiesel Board. Technology, specifications and education have improved drastically since the first loads of biodiesel were introduced in North Dakota 15 years ago. These improvements have helped solve many issues.

"I think we all agree that biodiesel had issues when it first came out," says Ostmo. "The poor standards, inconsistent feedstocks and the lack of sulfur all played a role in the troubles we had. Today, I use biodiesel in my equipment, and I have not had a problem with it. It takes a little tank management, but I still deliberately seek and use bio in my diesel. It's an easy way for me to use a product that works well and that financially benefits my operation."

Biodiesel blends up to five percent have similar gelling and cold-flow properties as straight number two diesel. Both fuels need to be looked at carefully during the winter. Preparation, education and good fuel-management practices go a long way to increase soybean demand and to generate a positive financial return at the farm level. Biodiesel has the opportunity to be a success story for North Dakota farmers.

"We, as soybean farmers, need to get behind the industries that have our products in them," says former North Dakota Soybean Growers Association President Craig Olson. "We can build our own industry by asking and encouraging our fuel distributors to carry B5, and then using the high-quality fuel on our farms during the crop season."

Examples of New Uses

In March 2018, a patented technology was developed by Wahpeton, North Dakota-based WCCO Belting. The technology incorporates soybean oil into rubber belting products, including Raptor[®] belts for draper combine headers. It's the first technology released under the company's new sustainable-product line called TerraTech™. The patented technology will soon be available for tube conveyors and baling equipment. WCCO Belting secured checkoff funds from the United Soybean Board to test the durability of the soy-based products. To learn more about WCCO Belting and its products, visit wccobelt.com.

Road dust is a common problem in rural areas, and it can lead to health issues for people living and working in these dusty environments. At the same time, the rapidly growing biodiesel industry is faced with excessive crude glycerol that is expensive to purify and dispose. With current funding from the North Dakota Soybean Council, James Bahr of North Dakota State University (NDSU) is developing dust-suppression agents from waste glycerol and soybean oil. A soy-dust control product could be available in the near future thanks for checkoff funds and NDSU.

Biodiesel, combine belting and soy-based road dust control are three products that farmers can use to support the soybean industry. However, that's the just the beginning. Tractor and car tires? Check. Field turf and furniture? Check. Paints and personal care? Check. There are over 800 consumer products which are readily available. Soy-based products aren't just for the far-out environmental groups anymore.

In 2012, North Dakota State Bison Football began using an astroturf field at the Fargodome. The turf is backed with soy-based polymers.

Accelerated Green Works, a lawn-care and landscaping contractor based in West Fargo, North Dakota, partnered with one of the nation's foremost artificial-turf producers. Accelerated Green Works installs SYNLawn artificial turf which includes a soy-based backing system.

"As a farm kid growing up in North Dakota, how awesome would it be to play on a sports field from a product you helped grow?," says Austin Langley, the NDSC market development committee chair. "Or know that you're using biodiesel during fieldwork? The options are out there for us, it just takes a simple ask from our suppliers and to keep our eyes open at the stores. We need to remember that the elevator is the first stop for our soybeans; then, we need to find places for them to go. Why should we expect other consumers to use products when we aren't willing to?"

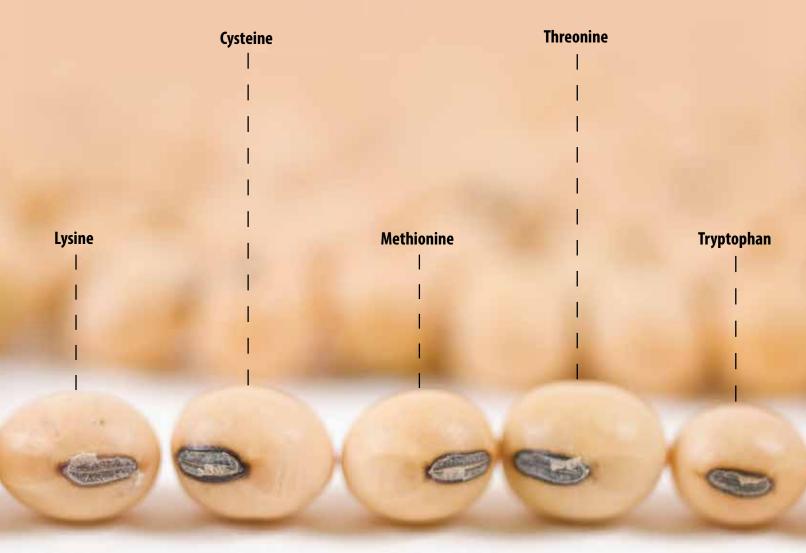
To learn about products that can be found at a store near you, click on the "Soy New Uses" website, soynewuses.org, hosted by the United Soybean Board. Then, you can find out how to start expecting, demanding and using soy-based products on your farm and in your home.

—Story by Harrison Weber, photos by staff and Wanbaugh Studios



Soy replaces oil in ag belting.

There is more to a soybean than just crude protein.



EAA = THE ESSENTIAL AMINO ACIDS

It's time to change the conversation on how we measure soy quality.

Learn more at soyquality.com



THE BARE ESSENTIALS

orthern Soy Marketing, LLC is Highlighting the Quality of U.S. Soy Essential amino acids (EAA)

are valued among international soybean buyers. And for good reason, say the leaders behind the growing Northern Soy Marketing (NSM), LLC team.

"United States-origin soybeans are known for their consistent quality," says Stephanie Sinner, an administrator with NSM. "Our goal is to address farmer profitability and encourage the global soy marketplace to recognize EAA rather than crude protein as the best indicator of soy quality."

NSM is a three-state alliance (Minnesota, North Dakota and South Dakota), led by a board of grower leaders, that invests checkoff funds to focus on promoting the quality and value of EAA in the nutritional makeup of northern-states grown soybeans.

NSM is pulling out all the stops in underscoring benefits of EAA: research, establishing new relationships with buyers and promotion.

"We're working with our customers to enhance value and making sure we share the EAA message," says NSM Chair Patrick O'Leary, who also serves as chair for the Minnesota Soybean Research & Promotion Council. "Our goal is to create a more concise way of valuing soybeans by looking at EAA profiles."

Recently, NSM launched a new, interactive website (soyquality.com) that focuses on explaining to buyers the enhanced value and quality of northern soybeans.

"As we go into meetings talking about quality, we wanted to offer a place – after we've left and the meeting is over – where the buyers could go to drill into that information," says Sinner, who is also executive director of the North Dakota Soybean Council. "It's a very buyer-centric website that is focused on providing key information on northern soybeans and the value of EAA."

A key feature of NSM's new website is a Critical Amino Acid Value (CAAV) calculator to calculate from sample whole soybean or soybean meal, showing buyers where they land on the EAA vs. crude protein chart. Recent research shows northern-grower soybeans containing lower crude protein have a higher CAAV profile than soybeans with higher crude protein scores.

"The calculator affords buyers the opportunity to put in the specification of soybeans they purchased so they can take a look at the CAAV that they're getting out of soybeans," says Kim Nill, Minnesota Soybean's director of market development. "Basically, we're trying to redefine the measure of feed quality and value based on EAA."

University of Minnesota Extension Agronomist Seth Naeve works closely with NSM to identify points of potential competitive advantages for soybeans that are destined for shipment off the PNW (Pacific Northwest). Because soybeans are harvested cold, stored cold, and transported cold, Naeve and NSM posit that soybeans from the northern region will arrive at destination in better condition.

"Since northern soybeans tend to be lower in crude protein, we knew there were likely traits that balance this perceived deficiency," Naeve says. "I work to help farmers to produce the highest quality soybeans they can. I encourage farmers to consider quality when choosing soybeans, and reduce the FM (foreign material) and damaged seed that goes to the elevator."

All three states work in unison to tackle concerns and priorities that affect the northern region, with the aim of better profitability for soybean farmers.

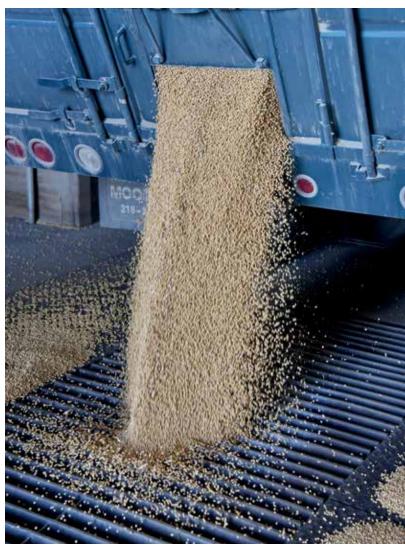
"The states work well together.

This is an effective, efficient way to promote the value of EAA," Nill says. "We have the same common goals."

NSM's outlook is bright as the organization continues flourishing.

"We're proud of the work of NSM, and the work of farmers by backing it up with data that U.S. soybeans are the best," Sinner says. "We're excited for the future."

—Story by Drew Lyon, Minnesota Soybean Research & Promotion Council, photo by Wanbaugh Studios



Soybeans from North Dakota, South Dakota and Minnesota can reach Southeast Asia in less than 30 days through the Pacific Northwest.

Minding What's Stored

arket disruptions have dramatically affected soybean movement, meaning that North Dakota

farmers are likely storing more soybeans than in previous years. Diminished export markets and a widened basis are prompting farmers to store their unsold soybeans while waiting for more favorable market conditions.

The wait could be long, so farmers must be prepared to properly manage soybeans in long-term storage in order to maintain quality and to minimize loss from that storage.

"The market moisture for soybeans is 13 percent, which is fine for storing soybeans during cool conditions," says Kenneth Hellevang, North Dakota State University Extension agricultural engineer. "If your soybeans will be stored through winter and into the warmer weather of spring and summer, store at 11 percent moisture to limit mold growth and deterioration. The storage life roughly doubles for each percentage point of reduction in moisture content."

Hellevang says that controlling soybean temperature during storage is critical. Free fatty-acid percentages, a negative characteristic, tend to increase with storage moisture, temperature and time. Soybeans should be stored near 30 degrees. Hellevang recommends that farmers cool stored soybeans during the fall and winter to maintain quality. Soybeans should be aerated to stay within 10 to 15 degrees of the average outdoor temperature during the fall.

If soybeans are stored in grain bins through spring and summer, aerate the stored soybeans to keep the temperature as cool as possible, preferably 40 to 50 degrees Fahrenheit.

"These temperatures enhance soy-

Figure 1.

Approximate Allowable Storage Time for Soybeans

Moisture	Grain Temperature (F)						
Content	30	40	50	60	70	80	
(%)	Approximate Allowable Storage Time (Days)						
11	300+	300+	300+	300+	200	140	
12	300+	300+	300+	240	125	70	
13	300+	300+	230	120	70	40	
14	300+	280	130	75	45	20	
15	300+	200	90	50	30	15	
16	300+	140	70	35	20	10	
17	300+	90	50	25	14	7	
19	190	60	30	15	8	3	

• Airflow through the soybeans permits maintaining the grain temperature but does not extend the allowable storage time beyond that listed in the table

 Allowable storage time is cumulative. If 16 percent moisture soybeans were stored for 35 days at 50 degrees, one-half of the storage life has been used. If the soybeans are cooled to 40 degrees, the allowable storage time at 40 degrees is only 70 days beans' storage life, and reduce mold and insect activity," Hellevang says.

Soybeans at 11 percent moisture have similar storage characteristics as wheat or corn at 13.5 to 14 percent moisture. Hellevang recommends that farmers use an allowable storage time chart for cereal grains in order to estimate the allowable storage times for soybeans (Figure 1).

Once cooled, Hellevang says that farmers should keep aeration fans covered to prevent snow or moisture from blowing into the bins during winter storage. Keep the fans covered during the spring and summer to limit outside air from warming the soybeans.

Stored grain needs to be monitored regularly because outside temperature changes can result in temperature and moisture changes inside the bin. Monitor soybeans at least once every two-to-three weeks during winter storage and every two weeks during the fall until the grain has been cooled to winter-storage temperatures. "Use available tools, but don't turn everything over to automation," Hellevang explains. "Improved technology can help you better manage stored grain, but you still need to manage the grain and inspect it visually."

Soybean-moisture variation may lead to storage and marketing losses. Operating an aeration fan will help move moisture from wet to drier beans. Moisture movement will be minimal without aeration airflow.

Alternative Options

Because on-farm storage is limited in many cases, farmers may be forced to store soybeans in alternative structures. Those systems require special attention so that the soybeans' quality is maintained.

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 when placed in alternative storage facilities because providing adequate, uniform airflow to dry grain or cool grain coming from a dryer is not feasible," Hellevang says.

Grain pushing against walls can damage buildings that weren't built for grain storage. Hellevang says that, typically, farmers will need additional

—Story continued on page 23



Matt Swenson of Kindred, North Dakota bins his soybeans after harvest in October, 2018.

Soil Impacts From a WGE Garvest

o say that many North Dakota soybean farmers faced challenging harvest conditions this fall would be an

understatement. Wet soils hampered the harvest in many areas; then, an October snowfall brought over a foot of snow to parts of eastern North Dakota. Farmers were forced to get crops out when they could, often under less-than-ideal conditions.

One concerning aspect of harvesting when soils are wet is the likelihood of soil compaction. Dr. Aaron Daigh, North Dakota State University soil physics professor, says that compaction starts a chain reaction of processes that have ramifications for future crop yields.

"The direct consequence of compaction on crops is the greater difficulty for roots to grow," Daigh says. "The lower the volume of soil that roots can grow in, the lower the amount of water, oxygen and nutrients the plant can access as it endures the growing season's weather."

Daigh says that compacted soils have poorer drainage, poorer aeration, lower temperatures, slower nutrient cycling, lower infiltration rates, lower total available water and greater erosion potential.

"All of these consequences will ultimately affect your crop," Daigh adds.

Harvest activities on wet fields can certainly cause soil compaction. In the best cases, Daigh says that the compaction is shallow enough for the yield loss to be mitigated by cycles of winter freezing and thawing, spring drying or any seedbed preparations before planting. In the worst cases, compaction extends so deep that neither the winter's freeze nor any ripper can reach its deepest depth. With the worst cases, only deep-soil cracking in the dry summer periods can help alleviate some of the deep compaction. For soils that do not naturally crack, the only remedy for deep-soil compaction is patience as the plant's root system slowly breaks through during subsequent decades.

Daigh says that the depth and severity of soil compaction depends on several factors, including axle loads, tire inflation and soil-moisture levels.

Fall Factors

Daigh says that most compaction occurs during an implement's first pass. Farmers can minimize the proportion of their fields damaged by compaction during harvest if they reuse the ruts. He also says that it may be tempting to get the ripper out, but good results from deep ripping are the exception, not the rule.

"We can confidently say that the odds of deep ripping having any effect on crop yields are 50-50," Daigh contends. "Fifty percent of the time, deep ripping has no effect on the next year's crop yields. The other 50 percent, only half of that may noticeably improve crop yields while the other half will cause more damage and yield losses."

If harvest goes well but fields become wet before fall tillage, farmers should consider staying off the field until spring. For chisels and shanks to break up to the soil, the implement has to press down on the soil below the tilled zone. If those depths are too wet, then a plow pan or smearing can occur, which may limit root growth and water infiltration during the next crop season.

A winter freeze may alleviate some compaction in the top few inches, Daigh says, but it will have little, if any, effect on subsoil compaction.

Spring Options

For areas that have ruts, Daigh says that farmers will want to level out those areas before planting. Tillage equipment shouldn't dig deeper than the rut. Instead, use a secondary tillage implement to go over the rutted areas two or more times in order to fill in and level out the ruts.

"Germination and crop populations may not be affected in these compacted areas, especially in somewhat dry springs, but producers can expect slower growth and delayed maturity as the season progresses," Daigh says.

If farmers forgo fall tillage operations and then wet conditions persist into the spring, the farmers should consider a reduced-tillage option, such as a strip till with coulters, a shallow vertical till or no-till.

"In our research, we consistently find strip-till berms warm up and dry out exactly the same as fall chisel plowing," Daigh explains. "A shallow vertical till that just thins down the residue layer is also a good option since it has minimal disturbance to the soil, can be done at higher speeds, and will cut down the soil warming and drying gap by more than 50 percent of what can be expected between no-till and chisel plow."

For more information about soil health, visit www.ndsu.edu/soils.

—Story by Daniel Lemke, photo by Wanbaugh Studios



Foggy, wet conditions hampered harvest for Matt Gast and family of Barnes County in October.

Rural Leadership North Dakota Class IX Applications Available in January 2019

f you want to improve your farm, ranch, business or community, North Dakota State University Extension's

Rural Leadership North Dakota (RLND) program can help. The RLND program started in 2003 and has 168 alumni who have completed the program. They come from agriculture and communities across North Dakota; the alumni represent 82 communities in 38 counties across North Dakota.

RLND participants attend 10 seminars over 18 months where they learn leadership skills; build networks across the state, region, and country; and participate in on-site visits to ag-related and community businesses.

The in-state seminars (seven of them) run from Wednesday noon to Friday noon. Three seminars are held out-of-state, including Minneapolis; Washington, D.C.; and an international destination.

Tuition for the RLND program is \$4,000. The amount covers all meals; hotels; and travel expenses, such as



Kristi Schultz introducing the North Dakota senators and representative at the U.S. Capitol.

busses during in-state seminars and airfare to out- of-state seminars. Participants are responsible for their travel costs to in-state seminars and to the points of departure for out-ofstate seminars.

Kristi Schultz, a North Dakota soybean farmer, was a RLND Class VII participant. Schultz was one of 29 participants in Class VII.

Schultz helped plan the Washington, D.C. seminar where class participants met with the North Dakota delegation in order to share opinions and concerns about legislation dealing with agriculture and communities.

One of the 10 seminars that Schultz participated in was an international seminar to Thailand and Vietnam. While in Vietnam, she and her fellow Class VII participants spent a day with people from the LEAD program in New York and Advanced Agricultural Leadership (AALP) program in Ontario, Canada. The participants heard from the U.S. ag ambassador to Vietnam as well as national ag leaders in Vietnam.

RLND participants work on a project during their time with the RLND program. Schultz's project was to help CommonGround North Dakota develop a strategic plan. CommonGround North Dakota is a project which is supported by the North Dakota Soybean Council and is dedicated to having conversations about farming and food. Schultz is a CommonGround North Dakota volunteer and sits on the North Dakota Soybean Council's communications committee. Her and her family farm in Embden.

"Being a part of RLND has

provided me with additional and new knowledge focusing on my personal development, my community, state and nation. In addition, I have been able to connect with and learn from each of my classmates while being able to use them as resources," says Kristi Schultz. "If you are wanting to learn how to be a valued and effective leader, whether it be personally or within an organization, I highly recommend the RLND program. This program is one that you will always be able to lean on whether it be personal connections made or the curriculum that was provided. It is well worth the time!"

Matt Danuser, a farmer and past North Dakota Soybean Council board member, was a RLND Class V participant. Danuser's international seminar was to Brazil where participants visited soybean fields and learned about the differences for growing soybeans in the Mato Grosso area of Brazil versus North Dakota.

"The friendships and skills I acquired through RLND have enabled me to become a stronger advocate for North Dakota. It will help me for years to come as I get involved on various community projects," says Matt Danuser.

To learn more about the RLND program, contact Marie Hvidsten, RLND program director, at 701-231-5640 or email at marie.hvidsten@ ndsu.edu. Applications for RLND Class IX will be available in January 2019 on the RLND website: www. ag.ndsu.edu/rInd.

> —Story by Marie Hvidsten, Rural Leadership North Dakota, photos courtesy of Kristi Schultz



Kristi participated in an international seminar to Thailand and Vietnam during her RLND experience.

2019 Tentative Agenda





FargoDome **1800 N University Drive** Fargo, ND 58102

7:30 a.m. – 8:15 a.m.

Registration - Lobby Trade Show / Buffet Breakfast - Arena Floor Research Pavillion – Arena Floor

8:15 a.m. - 8:30 a.m. | Rooms 201-204

Welcoming Remarks Expo Co-chairs Matt Gast and Ryan Wanzek

8:30 a.m. - 9:45 a.m. | Rooms 201-204

The Changing Face of Agriculture Mark Mayfield - Author and Hurmorist

Mark will take a hard look at the morphing of agriculture. Technology, communication, and change are the only way ag traditionalists can prevail in tomorrow's economy. This program is high on content, but also high on hilarity because Mark believes, "say it with humor and people will take the message home."

9:45 a.m. – 10:15 a.m. | Arena Floor

Break, visit trade show

10:00 a.m. - 11:00 a.m. | Arena Floor

AgriTalk Live Broadcast Chip Flory

10:15 a.m. – 11:00 a.m. | Rooms 101-104

Breakout sessions (see chart below)

11:15 a.m. – 12:00 p.m. | Rooms 201-204

Hot Topic Panel: International Trade and What it Means to Your Operation Moderator: Michelle Rook, AgWeek TV Panelists: Jim Sutter, USSEC; Dr. Bill Wilson, NDSU and Lesly McNitt, NCGA

12:00 p.m. – 12:45 p.m. | Arena Floor

Lunch Trade Show open

1:00 p.m. - 1:45 p.m. | Rooms 101-104 Breakout sessions (see chart below)

2:00 p.m. – 3:00 p.m. | Rooms 201-204

AgriTalk After the Bell (Live Broadcast) Chip Flory

3:00 p.m. - 3:30 p.m. | Arena Floor Break, visit trade show

3:30 p.m. - 4:45 p.m. | Rooms 201-204

Global Market Trends Chip Flory – Author and Radio Host

Chip will address global and domestic trends on the supply and demand tables for corn and soybeans. He'll also cover any on-going trade issues between the U.S. and global trading partners as well as the overall health of the ag economy.

To register for this free event, visit NorthernCornSoyExpo.com

Breakout Sessions	Main Stage	Theater Room	Room 101/102	Room 104
10:15 a.m. – 11:00 a.m.	International Trade Update Jim Sutter, USSEC Lesly McNitt, NCGA	ND Corn Growers Association Annual Meeting	DTN Weather Bryce Anderson	Palmer Ameranth Panel Dr. Kirk Howatt, Dr. Tom Peters, Richard Wiesz
1:00 p.m. – 1:45 p.m.	Insects and Diseases Panel Moderated by Dr. Abbey Wick	ND Soybean Growers Association Annual Meeting	Water Management and Wetland Regulation Kale Van Bruggen	Jay Bryson



hen the North Dakota legislature meets for its general assembly in January, many of the state's

agriculture research and extension funding requests will be on the table.

The State Board of Agricultural Research and Education (SBARE) was established in 1997 and is responsible for budgeting and policymaking associated with the supervision of the North Dakota Agricultural Experiment Station (NDAES) and the North Dakota State University (NDSU) Extension Service. SBARE develops ongoing strategies to solve production challenges for the state's crop and livestock farmers as well as formulating proactive strategies for NDSU Extension to fulfill its mission of providing research-based education to benefit North Dakota.

SBARE develops a biennial budget request based on its prioritized needs list and submits that request to the NDSU president and the State Board of Higher Education (SBHE). SBARE forwards its prioritized needs list and request without modification to the Office of Management and Budget as well as the appropriation committees of the legislative assembly.

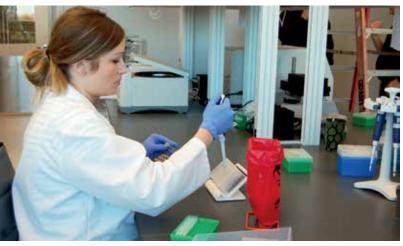
SBARE is comprised of five members elected by agriculture groups, five people selected by NDSU Extension, two individuals appointed by legislative representatives, the agriculture commissioner and the NDSU president.

The SBARE board spends months gathering testimony to help develop its list of funding priorities. Chairman Keith Peltier says that the SBARE board traveled across North Dakota and received significant input as it prepared its list of priorities to be brought forward to the legislature.

"The priorities we bring forward are generally well received by the legislature because the requests have been fully vetted," Peltier says. "We get good support for our recommendations, but funding depends on the money that is available."

Looking Ahead

Peltier says that the highest priority the SBARE directors brought forward for NDSU Extension is an overhaul of the system's web presence. SBARE recommends a one-time funding request for an Extension web and digital upgrade to overhaul and re-imagine NDSU Extension's online presence.



Microbiomes of crops, soils, and livestock are being harnessed to increase productivity, efficiency, safety, and quality.

"Farms are changing. They're being run by farmers who are more tech savvy," Peltier says. "We can't do transformational work if we're not able to communicate with them, so updating Extension's web presence was placed pretty high."

SBARE also recommends financial support to sustain local delivery of Extension programs and services.

A priority for the NDAES is an agribiome initiative. Knowledge about the human microbiome has revolutionized medicine and nutrition, and a similar revolution is happening in agriculture. SBARE directors say that the next agricultural revolution must be based on a more sustainable approach which harnesses microbiomes to increase water and nutrient-use efficiency, stress tolerance, disease resistance, and the production of high-quality food and agricultural products.

Major scientific breakthroughs now allow all microbes to be readily identified, creating a platform for innovation through the discovery of microbes with desirable traits in agriculture. While all sectors of agriculture can benefit from the development of probiotics, the potential gains for crop and livestock production are highly relevant to North Dakota.

"This is probably the next frontier of agriculture," Peltier contends.

The NDAES has several areas that can support an agribiome initiative which is focused on crop and livestock production, including strong programs in plant breeding, genetics, and genomics; plant nutrition and pathology; soil health; and water quality. The NDAES also has strong programs for animal nutrition, physiology and health. SBARE also prioritizes precision-agriculture efforts because farmers need research-based information about profitable precision-ag technologies to adopt, best utilize or optimize these technologies on individual farms as well as to learn how to convert the huge amount of data collected in the field to appropriate decisions.

SBARE priorities also include several capital improvement projects, including a new Agronomic, Pathology, and Soils Field Lab facility at NDSU to replace Waldron Hall; a seed cleaning facility at the Williston Research Education Center; and several other recommendations.

Return on Investment

Peltier says that public investment in agriculture research shows a very high return. He says that multiple studies show significant and high returns for research, with median estimates of a 40 percent return on investment and a range of 21 to 67 percent.

The studies also found that the benefits of public ag research were widely shared among farmers and consumers: in more abundant and lower-cost food.

"You really can't spend a better public dollar than on agriculture research," Peltier stresses. "There is tremendous return on investment, and that's money that keeps on giving."

While the legislature is supportive of SBARE's recommendations, legislators are faced with difficult decisions on funding.

"The governor and others are always looking at the return on state investments. We think we can build a very good case for agriculture research funding because we have a good story and deliver good results," Peltier says.

A complete list of SBARE priorities is available atag.ndsu.edu/sbare.

> —Story by Daniel Lemke, photo courtesy of NDSU

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.



Eyes and Ears for North Dakota Farmers

orth Dakota's 66th General Legislative Assembly begins in Bismarck on January 3, 2019, for its run of

80 working days. Chances are good that Scott Rising and Phil Murphy will be there just about every day.

Rising and Murphy are the eyes and ears for the North Dakota Soybean Growers Association (NDS-GA), serving as the organization's legislative education staff. Rising, who is retired from the Air National Guard, will be working his sixth legislative session while Murphy, a former educator and state senator, will work his second one for the NDSGA. The duo monitors activity at the capital because most farmers can't dedicate the time to watch every bill.

"It is really invaluable having them at the capital," says Joe Ericson, a farmer from Wimbledon, North Dakota, and NDSGA president.

"They give us updates on legislation that could impact us. They track the bills and let us know which ones affect farmers, and they let us know when we need to be there to testify in person."

Ericson says that budget issues are always important to the state and the NDSGA, including funds for agriculture research. Transportation funding, property taxes and water issues are other items that the organization regularly monitors.

Broad Focus

While Rising and Murphy track agriculture-specific legislation, any bills that affect North Dakota residents are on the radar.

"There's nothing that happens in the public arena that doesn't affect soybean growers," Rising says, "because they're citizens, too."

Rising says that he and Murphy track many bills that move through the legislature because the bills could have far-reaching effects. For example, an education bill could change the dynamics for local schools, directly affecting non-farmers and farmers alike.

"Ninety-five percent of the work that is done is to educate soybean growers and policymakers on the facets of issues we face as citizens," Rising says. "It's as simple and complicated as that."

Building Trust

Rising says that he has great respect for the state's legislators who make the commitment to participate in the legislative process both during the session and in the interim.

"I haven't met a legislator yet who doesn't want to do a good job for their constituents," Rising contends. "There's never a good time to be away from their homes, jobs or businesses, and yet, here they are. Being a legislator is difficult because you're going to make half the people relatively happy and the other half really mad."

Rising and Murphy are at the capital frequently as they work to build trust with legislators and staff.



Scott rising being interviewed by the media.

"Our goal is to develop a relationship of trust and credibility because it helps make their jobs easier," Rising explains. "We can't be an asset if we're not trusted, and you only gain that trust if you are there frequently. The more they get to know us and recognize that we provide credible information, then we're an asset to them and the rest of North Dakota. That's the real reason we're there."

Rising says that each North Dakota legislator is assigned to two committees during the session. He says that about 80 percent of their work will be focused on those committee responsibilities, making it difficult for lawmakers to get deeply educated about all the other bills, even though they'll be asked to vote on them. In those circumstances, Murphy and Rising can play the role of educator.

"We can help policymakers understand how a proposal might impact soybean growers, agriculture or the rural economy. Because they vote on other bills, we can share information about bills not in their committee that are important to us," Rising says.

Farmer Voice

The majority of the time when the legislature is in session, Rising and Murphy provide the NDSGA presence. However, farmer-leaders frequently make the trip to Bismarck to offer a firsthand view of how legislation has affected them or the possible effects which new measures might have. While NDSGA staff works to build and maintain trust, there's nothing quite as meaningful as the farmer's voice.

"It's always more impactful when a farmer is there," Ericson says. "That's because, as farmers, we deal with it every day and can give a firsthand perspective."

"I can give facts and figures, and testify as a third party, but messages resonate better when farmers are able to give testimony firsthand because their stories are powerful," Rising says.

Rising says that soybean farmers



Phil Murphy tells the story of legislation in action.

are represented at the capitol because growers have to be willing to be part of the legislative process. He adds that good policy involves a lot of people working out differences in order to find the common benefit. "We view North Dakota as one big town with a really long main street," Rising says. "We try to be good neighbors."

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



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Max Cossette, an NDSU student from Fargo, received recognition for receiving the NDSGA scholarship recently at an NDSU luncheon. Nancy Johnson NDSGA Executive Director was among the group congratulating Max. Staff photo.

Shaping the Soybean Future



orth Dakota's soybean industry has undergone profound changes in the past 20 years. The state's

crop grew from 1.5 million acres in 1998 to 6.9 million acres in 2018 according to the USDA National Agriculture Statistics Service. North Dakota is now the fourth-largest soybean producing state in the country based on planted acres.

North Dakota soybean farmers have had a hand in shepherding that growth. The North Dakota Soybean Council (NDSC) is comprised of elected farmers who oversee the investment of soybean checkoff dollars into research, education, outreach and market development programs that benefit the state's soybean farmers.

"It's a wonderful experience if you're able to do it," says Westhope, North Dakota, farmer Dusty Lodoen who served one term on the NDSC. "You learn a lot about the industry and how soybeans flow when they leave the farm gate and are shipped all over the globe."

Farmer Led

Art Wosick of Minto, North Dakota, served on the NDSC for nine years while the board expanded to 12 members in order to accommodate the explosive growth in North Dakota soybean acres.

"At first, I didn't know a lot about how the industry worked," Wosick says. "But I started to understand how soybeans went from the field, to the West Coast and then overseas. A lot of farmers take their soybeans to the local elevator and then forget about them, but those soybeans will end up in places like the Philippines, Vietnam, Malaysia, China and even Myanmar."

The NDSC directs the investment of soybean checkoff funds into projects that are intended to improve soybean production or to enhance market opportunities for North Dakota soybeans. Directors evaluate projects based on merit and impact for North Dakota soybean producers to ensure that checkoff dollars get the best return on investment.

"I learned a lot about the checkoff,"

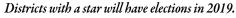
Wosick says. "Before I got on the board, I didn't realize how and where the money is invested. The board meets and discusses where to invest and where not to invest, so I learned a great deal about research into new soybean varieties, soybean treatments as well as the importance of international marketing."

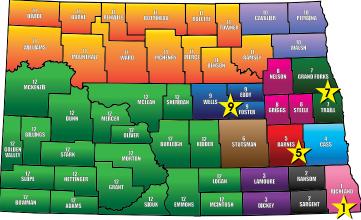
Leaders Sought

The NDSC has 12 districts across the state based upon soybean production. One farmer leader is elected from each district to serve on the NDSC. Each year, four districts are up for election with directors serving a three-year term. Directors help set the direction for the NDSC, but they also gain a wealth of understanding about the soybean industry.

As an elected NDSC representative, farmers guide the North Dakota soybean industry in the areas of domestic and international market development, research, transportation, producer education and communication, and consumer outreach.

The NDSC is seeking soybean farmers to serve in board leadership opportunities, as county representatives and potentially directors of the board in the following districts: District 1: Richland County District 5: Barnes County District 7: Grand Forks and Traill Counties District 9: Eddy, Wells and Foster Counties







Past NDSC directors Dusty Lodoen (far left) and Tyler Speich (middle) learn chopstick etiquette.

NDSC county representatives are the entry level of representing North Dakota farmers. Among their contributions, county representatives provide feedback and insight to the NDSC about how soybean checkoff funds should be invested to benefit soybean farmers in their county. The representatives also help to establish research priorities for the coming year.

County representatives move on to a district election, where a district



December 18-19, 2018 Hilton Garden Inn • Fargo, ND

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For more information visit DIGtheCTC.com

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Ballot Process

The NDSC elections are conducted by mail. Soybean farmers should watch their mailboxes for nomination forms which will be mailed by January 1, 2019. The elections are conducted by North Dakota State University Extension staff in order to ensure that the process is conducted impartially.

Any man or woman who lives in the listed counties and grows soybeans is eligible. Farmers who are interested in serving can nominate themselves. The NDSC encourages farmers to consider nominating themselves or others for the NDSC election.

As a working board, directors are expected to participate in regular meetings and events. Those who have served on the board know it takes a time commitment, but the results are worth the effort.

"I would encourage farmers to get involved," Lodoen says. "It's well worth the time to be on the board."

"If you think one person can't make a difference, the Council is evidence that you can," says Casselton, North Dakota, farmer and NDSC Chair Joe Morken. "Farmers who are interested should get involved because you can make a difference to North Dakota."

For more information on the council elections, visit www.ndsoybean.org/council-elections.

> —Story by Daniel Lemke, photos by Staff



Art Wosick tries new soy protein beverage to help improve nutrition for people in Central America.

Mark Your Calendar The North Dakota Livestock Alliance's First Livestock Summit is January 16, 2019

he North Dakota Livestock Alliance is excited to announce its upcoming Livestock Summit. This

informative and fun-filled event will take place on January 16, 2019, at a unique Ransom County venue: the Stiklestad Learning Center which is located 6 miles south of Fort Ransom, North Dakota, in the scenic rolling hills of the Sheyenne River Valley.

The event kicks off at 9:00 am with greetings from the summit's emcee, Mick Kjar of AgNews 890's Farm Talk. Kjar brings his enthusiasm and years of experience in agriculture broadcasting to guide the summit attendees throughout the day. The morning's panel discussions and presentations focus on the value and growth potential of North Dakota's livestock industries.

The first panel consists of North Dakota animal-agriculture producers sharing their experiences from permitting and expanding their facilities. Then, a presentation about the agronomic and economic value of manure management, presented by John S. Baker, a soil scientist with AGVISE Laboratories of Forest River, North Dakota, follows. The final session before lunch is a panel discussion that focuses on the financial incentives available to new and existing livestock and agriculture producers.

Lunch will be provided at the same venue and will include a dessert from a special guest, Maartje Murphy of

SAVE THE DATE NDLA's Inaugural Livestock Summit January 16, 2019 • 9 a.m. – 5 p.m. **Stiklestad Learning Center** 96465 119th Ave SE, Fort Ransom, ND Together, for the promotion of animal agriculture in North Dakota Come learn through engaging panel discussions and presentations how animal agriculture benefits North Dakota's farms and rural communities. Then join us for an afternoon filled with guided tours of new livestock operations. For more information and to RSVP, go to: ndlivestock.org or call (701) 712-1488

> North Dakota Livestock Alliance

Follow us on Facebook and Twitter @LivestockNd Duchessa Gelato! Duchessa Gelato is produced from milk which is sourced at her family's dairy, Van Bedaf Dairy, in Carrington, North Dakota. After the delicious lunch, we will lean back and relax for a performance from an agriculture-themed entertainer who will soon be announced!

When the entertainment ends, we will get onto buses for an afternoon of livestock-operation tours. We begin with a guided windshield tour of the new Ransom Multiplier swine barn by Englevale, North Dakota. This 2,500-sow barn was built in 2017 and is owned by the Nelson County Pig Cooperative. Next, we will be whisked to a guided tour of Qual Dairy, including its new robotic rotary-milking parlor. These tours provide excellent opportunities to see how North Dakota livestock producers are embracing development opportunities and technological advancements in their industries. These operations are a must-see!

To RSVP and to view updated event information, please visit our website (ndlivestock.org) and stay tuned on our Facebook and Twitter pages (@LivestockNd). You may also RSVP by emailing amberboeshans@ ndlivestock.org.

A block of rooms is available 15 minutes from Stiklestad at the Super 8 Hotel in Lisbon, North Dakota. The block is for the evening of January 15, 2019. The room block is available for reservations until December 15, 2018. There are also several hotel options in Valley City, about 40 minutes from Stiklestad.

If you are interested in learning about event sponsorship and exhibitor opportunities, please contact Amber Boeshans, executive director, at (701) 712-1488 or amberboeshans@ndlivestock.org.

> —Story by Amber Boeshans, North Dakota Livestock Alliance, photos by Wanbaugh Studios

Kendall Nichols Honored for his support of and service to NDSU Extension

psilon Sigma Phi (ESP), the Extension Service honorary organization, presented awards during the

North Dakota State University Extension/Research Extension Center's fall conference which was held October 22 to 25 in Bismarck,



Dr. Greg Lardy, interim NDSU Extension director and NDSU's associate vice president of agricultural affairs, with Kendall and Kendall's wife, Monica.

—Story continued from page 12

poles and a grain wall to support the grain force in a pole building. He recommends hiring an engineer to complete a structural analysis or having a contractor follow the building company's recommendations to prevent a structural failure.

Storage Bags

Storing grain in poly bags is a good option for fall and winter storage, but it does not prevent insect infestations or mold growth in damp grain. Place grain in the bag at the recommended storage-moisture content based on the grain and outdoor temperatures during the potential storage period. Heating will occur if the grain exceeds a safe storage-moisture content, and the grain cannot be aerated to control heating.

Bags should be placed on an elevated, well-drained site with the

bags running north and south so that solar heating is similar on both sides. Monitor the bags for damage because wildlife can puncture bags, allowing moisture in, which can lead to spoilage. Monitor the grain temperature at several places in the bags.

Grain Piles

Aeration and wind blowing on the pile will not dry wet grain adequately to prevent spoilage. Use a cover to prevent water infiltration. A 1-inch rain will increase the moisture content of 1 foot of grain by 9 percentage points.

Drainage is critically important for grain storage. About 25,000 gallons of water will run off an area that is about 100 by 400 feet during a 1-inch rain. This water must flow away from the grain and the area next to it. When determining the location for a pile, examine the entire area to assure that flooding will not occur during North Dakota.

Among the honored individuals was the North Dakota Soybean Council's (NDSC) Director of Research Kendall Nichols. Nichols received the "Friends of Extension" award on October 23. He strongly supports soybean research and educational programs for NDSU Extension and the North Dakota Agricultural Experiment Station. Last year, he organized an in-service training program tour to Nebraska so that Extension agents and specialists could learn about Palmer amaranth identification and management.

Nichols has been with the NDSC since 2012. Furthermore, he has more

heavy rains.

Prepare the outdoor ground surface where grain will be piled to limit soil moisture from reaching the grain. The storage floor should be higher than the surrounding ground in order to minimize moisture transfer from the soil into the grain.

Grain Covers

A combination of restraining straps and suction from an aeration system holds grain covers in place. Provide adequate airflow through the grain to control the grain temperature. Place perforated ducts on the grain under the cover in order to provide a controlled air intake for the aeration system and airflow near the cover to minimize condensation problems under the cover.

Drying Soybeans

Wet harvest conditions and heavy snow in mid-October meant that



Kendall thanks NDSU Extension Service during awards luncheon October 23.

than 25 years of experience with the Extension Service in Minnesota and North Dakota, and is a certified crop advisor. He has also served as an agronomist for Cenex Farm Service in Elliott, North Dakota, and as the manager of Midland Fertilizer in Enderlin, North Dakota.

> —Story by NDSU Extension and staff, photos by staff

many North Dakota farmers faced the prospect of drying soybeans. Hellevang says that soybeans can be dried in a high-temperature dryer, but the plenum temperature needs to be limited in order to minimize damage to the beans. Refer to the manufacturer's recommendations for maximum drying temperature.

"Typically, the maximum drying temperature for nonfood soybeans is about 130 degrees," Hellevang explains. "Even at that temperature, some skins and beans will be cracked."

Farmers should monitor the soybean seeds coming from the dryer and manage the dryer temperature based on the amount of damage that's occurring.

Learn more about soybean storage: ag.ndsu.edu/alerts/soybean-storage

> —Story by Daniel Lemke, photo by Wanbauh Studios and graphic courtesy NDSU



Soybean producers who are interested in intensive soybean management should plan to attend one of

three Getting it Right in Soybean Production meetings that are scheduled for Park River, Lisbon, and Hope, North Dakota. The Getting it Right in Soybean Production programs, including a noon lunch, are sponsored by the North Dakota Soybean Council which oversees promotion, research and market development programs that are funded by soybean checkoff dollars. The programs are free and open to the public. Preregistration is not necessary.

At the meetings, North Dakota State University Extension faculty and staff will discuss past soybean research which was conducted in North Dakota as well as the outlook and production issues for 2019. The program will provide information about all the major production decisions which have to be made in order to grow a soybean crop.

Farming is very dynamic, and new production information is generated annually. With tight budgets and challenging commodity prices, it is important for producers to gain as much practical knowledge as possible. These soybean education meetings feature research-based information and practical tips that can help producers with soybean production decisions for the 2019 growing season.

The meeting dates and place are as follows:

• Tuesday, Jan. 29. Walsh County. Location: Park River City Auditorium, 504 Briggs Ave S., Park River, ND 58270, 10 a.m. to 3 p.m. Email bradley. brummond@ndsu.edu.

- Wednesday, Jan. 30. Ransom County. Location: Ransom County Fairgrounds Expo Center/West Wing, 612 7th Ave. W., Lisbon, ND 58054, 10 a.m. to 3 p.m. Email brian. zimprich@ndsu.edu.
- Thursday, Jan. 31. Steele County. Location: Hope American Le-

gion, Steele Avenue, Hope, ND 58046, 10 a.m. to 3 p.m. Email angela.b.johnson@ndsu.edu.

Speakers:

Participating Extension agents (Brad Brummond, Brian Zimprich and Angie Johnson) will be the hosts and will present local soybean-production updates.

Dr. Dave Franzen, NDSU Extension soil specialist, will present factors to consider when selecting soybean fields, the updated fertilizer recommendations, what factors contribute to iron deficiency chlorosis (IDC) and questions about the foliar application of micro nutrients.

Dr. Hans Kandel, NDSU Extension agronomist, will provide information about variety selection as well as the latest information about various production issues, such as the importance of early planting, crop rotation, good root nodulation, water management and some of the plant-disease issues, based on a large, 4-year North Dakota soybean production survey.

Greg Endres, NDSU area Extension cropping systems specialist, will discuss intensive soybean management, no till and strip till versus conventional till, planting dates, plant populations and row spacing, different soybean special inputs which are on the market and weed management issues.

> —Story and photos by Dr. Hans Kandel, NDSU



Dr. Hans Kandel, Extension agronomist, presented information at the soybean-variety and intensive-management research plots in Ransom County during the fall of 2018. Data from this research will be part of the Getting it Right presentations.

North Dakota Soybean Council Hosts National Food Editor and Influencer Tour

o help promote and increase awareness about the North Dakota soybean industry, including soy for

human utilization and food ingredients, the North Dakota Soybean Council (NDSC) was proud to host a national food editor and influencer tour.

Seven food editors and influencers arrived in Fargo on October 16 and 17, 2018, to experience the field-totable concept. Most of them had never been to North Dakota or visited a farm.

The attendees were the senior editor of a national school and nutrition magazine; the senior editor of a national progressive grocer magazine; the creative media director with the Academy of Nutrition and Dietetics and the executive managing editor of a food and nutrition magazine; a national food and nutrition blogger from Utah; a national editor with the Center for the Advancement of Foodservice Education (CAFE), an organization dedicated to connecting culinary educators with the latest foodservice trends and advances; the owner of a national Hispanic food communications company; and a national freelance food writer and chef.

To ensure that the group experienced great North Dakota cuisine, the tour started at the Hotel Donaldson in Fargo with a welcome dinner where the chef created three delicious soyfood dishes to add to the culinary experience. NDSC Executive Director Stephanie Sinner welcomed the attendees and provided an overview of North Dakota's soybean industry.

"We were very proud to host this group of editors in North Dakota and showcase our state and soybean industry," says Sinner. "Showing how our crop is raised, meeting the hardworking farmers and educating our editor guests on the benefits of soy as a healthy source of protein can help them start to think about soy as an ingredient for everyday meals



Group photo of national editors with The Soyfood Council staff and North Dakota Soybean Council staff members.

and recipes."

To kick off the first full day of the tour, Dr. Mark Messina, executive director of the Soy Nutrition Institute, gave an in-depth presentation about soy protein and the many human health benefits. This information laid the foundation for the tour. The Northern Food Grade Soybean Association (NFGSA) presented a panel discussion on growing soybeans for food applications in the U.S. as well as for international markets.

—Continued on page 26



Dr. Mark Messina provides a detailed presentation about the numerous health benefits of soyfoods.



An array of retail soyfood products were available for the group to try.

Funded by the North Dakota soybean checkoff





NDSC Director of Market Development Harrison Weber accompanied the group to Jamestown, answering many farm, agriculture and soybean production questions.

The editors had an opportunity to learn how to incorporate soy into many recipes during a cooking demonstration.

-Continued from page 25

Jeremy and Chrystal Rittenbach of Jamestown, North Dakota, hosted the group with a delicious soyfood lunch and a tour of their soybean farm. The editors asked great questions about the Rittenbach family and their farming practices. The editors also climbed into a combine to experience the technology and what it takes to produce soybeans. The evening reception featured innovative soyfood recipes to conclude the day.

The final day of the tour started with food demonstrations by JL Fields, an online strategist and expert with soyfood applications, along with Linda Funk, the executive director of The Soyfoods Council. The food demos included a breakfast which showcased textured soy protein with oatmeal in addition to a tofu scramble. JL Fields and Funk also showed the group how to make soups, salads, chili and cookies that are packed with heart-healthy soy protein. The editors also taste tested many retail soyfood products, including soy sour cream, baked tofu and soynut butter.

To complete the farm-to-table experience, the group traveled to a North Dakota processing facility in order to see what happens when foodgrade soybeans leave the field to be



The group also had the opportunity to taste finished soy recipes.



Jamestown soybean farmers Jeremy and Chrystal Rittenbach welcomed the group to their farm and allowed the editors to climb into a combine.

sorted, cleaned and packaged before being sent to customers around the world.

"It was so exciting to have such a great group of editors representing the food industry experience the North Dakota soybean industry up close and personal," says Funk.

The tour was fast-paced and packed with North Dakota soybean, agriculture and soy-protein information. The editors returned home with firsthand, factual information, including lots of recipes and soy story ideas, to share with their readers and their food communities.

> —Story and recipes by Linda Funk of The Soyfoods Council, photos by staff and The Soyfoods Council

Tofu Firecrackers

Created by Chef Christopher Koetke, CEC, CCE, The School of Culinary Arts at Kendall College, Chicago. This delicious bar food combines the crunch of tempura, the soft custard-like texture of tofu and the bite of Louisiana Hot Sauce. All it needs is some cold beer!

Ingredients

1 lb. soft or firm pressed tofu
 1 bottle Louisiana Hot Sauce
 2 eggs
 2 cups cold sparkling water
 2 cups all-purpose flour
 Soybean oil, as needed, for deep frying

Directions

Cut the tofu into dice-sized cubes or triangles. Place the tofu and hot

sauce in a bowl. Cover and place it in the refrigerator for 4-24 hours. Stir periodically. To make the tempura, mix the eggs and water in a large bowl. Add flour and mix just until incorporated. If the tempura is too thin, add more flour. If the mixture is too thick, add more water. Remove the tofu from the hot sauce. Coat the tofu with tempura and deep fry in soybean oil.



Apricot Oatmeal Soy Cookies

Ingredients 1 cup butter 1 cup brown sugar ¹/₂ cup sugar 2 large eggs 1 cup flour ¹/₂ cup soy flour 1 teaspoon baking soda 1 teaspoon cinnamon 1 teaspoon almond extract 1/2 teaspoon salt 1¹/₂ cups oatmeal 1 ½ cups Texturized Soy Protein 1 cup dried apricots, chopped ³/₄ cup dried cranberries 34 cup coconut, optional

¾ cup slivered almonds, or toasted or chopped macadamia nuts

Directions Preheat the oven to 350°. In a large mixing bowl, beat the butter and sugars until creamy. Add the next 7 ingredients, and mix until just blended. Stir in the remaining ingredients until blended. Drop by rounded tablespoons, 2 inches apart, on an ungreased cookie sheet. Bake 14-15 minutes or until the tops are golden brown.



Cool the cookies on wire racks. Yield: Approximately 4 ½ dozen cookies

Maple Pumpkin Cheesecake Tart

Crust Ingredients 2 cups graham crumbs ½ cup soy nuts, roasted/salted ½ cup butter ¾ teaspoon salt ¼ cup sugar

Filling Ingredients

8 ounces cream cheese 2 tablespoons maple syrup 2 teaspoons vanilla 1 cup sugar 1 cup canned pumpkin ½ teaspoon ground clove 1 teaspoon Saigon cinnamon, ground Dash of cardamom, ground ½ teaspoon freshly ground nutmeg 4 medium eggs ½ teaspoon salt

Topping Ingredients 1 cup of whipping cream mixed with 2 tablespoons of maple syrup for the topping 16 ounces silken tofu

Directions Preheat oven to 325°. To prepare the crust, mix the graham crackers, soy nuts and butter in a food processor until it resembles moist crumbs. Press the mixture into small or large tart pans. Reverse ½ cup of the crumb mixture to sprinkle on top the cheesecake. Bake in the oven for 4 minutes. Remove and cool. Use the food processor to mix the cream cheese and the next 11 ingredients. When adding the eggs, add them one at a time. Process the mixture until blended. Pour it into the crumb-lined pans.Bake 30-35 minutes for small pans or 50-55 minutes for large pans, or until the center is almost set. Cool before removing the pan's bottom. Refrigerate for 4 hours.



A Window of Opportunity

North Dakota farmers may be eager to turn the page on a challenging year that was 2018, but some key work needs to be done before focusing on next year.

One key provision that farmers should not overlook is applying for the Market Facilitation Program (MFP) which was created to provide direct payments that lessen the effect of lost export markets. Farmers have until January 15, 2019, to apply for the MFP program. Applications can be completed at a local U.S. Department of Agriculture (USDA)-Farm Service Agency (FSA) office or online.

"Once a producer completes harvest of their 2018 soybeans, they must total their share of actual production for all farms and counties for which they have a farming interest," says Brian Haugen, FSA program director. "FSA will accept a producer's certification to 2018 actual production. There is one opportunity to report production, as revisions to applications to report an increase of actual production will not be accepted."

Haugen says that the FSA will accept a producer's certification of bushels harvested for MFP. Production evidence, such as assembly sheets or settlement documents for MFP production, will only be required by FSA upon request or if a producer's MFP application is later selected for a spot check.

Haugen says that the intent is for producers to visit the FSA one time and to report actual 2018 production once they have completed harvest.

"When a producer raises multiple MFP commodities, such as corn and soybeans, multiple visits may occur as it is not until harvest of the applicable MFP commodity has been completed that it is eligible for an MFP application to be submitted," Haugen says.

To be eligible for the MFP program, producers must be in compliance with highly erodible land and wetland conservation provisions. Also, a producer's average adjusted gross income may not exceed \$900,000. The MFP payments are capped by three separate payment limitations: \$125,000 for MFP crops (corn, wheat, soybeans and grain sorghum); \$125,000 for MFP dairy and hogs; and \$125,000 for MFP sweet cherries and almonds. MFP payments do not count against other FSA-payment limitations which were established by the 2014 Farm Bill.

Once a completed MFP application is received, the FSA will review to verify that the certified quantity is eligible. Once eligibility reviews are completed, payments are then processed for approved applications. The initial MFP payment rates that are announced will be issued on 50 percent of the 2018 total production. Whether an MFP payment rate will be issued on a producer's remaining 50 percent of 2018 actual production will not be determined until early December 2018.

"MFP commodities do not have to be sold or marketed to be eligible for MFP," Haugen says. "The MFP payment will be based on total actual production from 2018, regardless if the commodity has been sold, contracted or remains in on-farm storage."

Crop Insurance

Weather events, including mid-October snow, may mean that farmers lost production and could be eligible for crop-insurance claims. According to Cropinsuranceinmystate.org, North Dakota has over 55,000 crop-insurance policies which cover over 23 million acres

Howard Olson, senior vice president of insurance and communications for AgCounty Farm Credit Services, says that it's likely that, due to wet conditions late in the growing season and an early snowfall, farmers will have some crop losses to claim. Olson says that, as soon as they can, farmers should contact their crop-insurance agent.

"It's important that farmers get their production reported," Olson says. "Its even more critical this year because of the Market Facilitation Program. The sooner they report, the better, because their crop-insurance agent can report it and farmers can use that information for decision-making for next year."

In addition to crop losses, farmers with revenue protection may qualify for a claim because of a dramatic soybean price drop in 2018. Based on the November futures price differential from the insurance price established in February to the harvest price identified in October, farmers may have revenue-protection claims.

North Dakota State University Crops Economist and Marketing Specialist Dr. Frayne Olson says that a price drop alone may not qualify farmers to make a claim, but it could be a different story if production was also reduced.

"For those farmers with poorer yield in addition to price reductions, they should be sure to check with their agent, do the math and see if they qualify for indemnity," Frayne Olson says. "Yield loss combined with the big price drop might be enough for those farmers with revenue coverage to make a claim."

Once harvest is done and bushels have been counted, if farmers think they have taken a loss, they're encouraged to contact their agents right away before any applicable cutoff dates.

Howard Olson says that, if there is a production loss, it should be reported within 15 days of harvest completion. Insurance companies can reject a claim if it is submitted more than 60 days after harvest. Also, if you only have a revenue loss, that loss must be reported within 45 days of the official announcement of the harvest price. The harvest price for soybeans was announced on November 1, so the deadline to report a revenue loss is December 15.

> —Story and photos courtesy of NFGSA

Best of the Best in Wheat and Soybean Research - 2019

Researchers and Extension Specialists from North Dakota State University and the University of Minnesota are working together to deliver the most current research information to help you make better management decisions on your farm. One of the highlights will be hands-on demonstrations where you get a closer look at important production and marketing tools.

Best of the Best in Wheat and Soybean Research and Marketing workshops will be held Thursday, February 14 at the Alerus Center, Grand Forks and Friday, February 15 at the Courtyard by Marriott in Moorhead.

These sessions are free. Pre-registration is encouraged. CEU credits are available.

For times and to register, call (800) 242-6118, ext 3 or go online at <u>www.smallgrains.org</u> and click on Best of the Best link.

Brought to you by the MN Association of Wheat Growers, ND Soybean Council, MN Wheat Research & Promotion Council, ND Grain Growers Association, MN Soybean Research & Promotion Council and the ND Wheat Commission.

Farm Bill Ano State Stat

Congress was unsuccessful in negotiating a new bill before the 2014 version expired on September 30.

American Soybean Association (ASA) Policy Communications Director Wendy Brannen says that staff for both the U.S. House and Senate Agriculture Committees were working to resolve the remaining differences prior to the mid-term elections. The hope was that members of the Conference Committee would approve the compromises when the lame-duck session convened on November 13.

Even with this optimistic scenario, the committees would only have three weeks, including the week of Thanksgiving, to prepare a conference report that both chambers could vote on before the 115th Congress adjourns after December 7, when the current continuing resolution that funded the government in FY 2019 expires.

According to the ASA, the major obstacles that prevented agreement between the primary negotiators, Senate Agriculture Committee Chair Sen. Pat Roberts, House Agriculture Committee Chair Rep. Mike Conaway, and ranking members Sen. Debbie Stabenow and Rep. Collin Peterson, included changes that the House bill would make to the Commodities, Conservation and Nutrition titles of the 2014 Agricultural Act.

In the Commodities title, the House would eliminate Agriculture Risk Coverage (ARC) and Price



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Loss Coverage (PLC) payments for base acres that weren't planted to a program crop in 2009 to 2017 and would use the savings to allow farmers who experienced a 20-week drought during 2008-2012 to update their PLC and ARC payment yields. Depending on how the analysis of these provisions is done, about 5 to 7 million acres of "under-planted base" would lose payments while farmers in 417 counties, primarily in Texas, would receive about \$500 million over 10 years through increased cotton payments.

A Conservation title change would merge the Conservation Stewardship Program (CSP) into the Environmental Quality Incentives Program (EQIP), reducing the cost of supporting conservation practices on working lands.

The major change in the Nutrition title is tightening the work requirements and transferring funds to establish state job-training programs.

ASA President John Heisdorffer, who grows soybeans in Iowa, says that the ASA has consistently called for a new five-year Farm Bill to provide needed certainty and stability for farm-support programs.

"During this ongoing period of low crop prices and farm incomes combined with the volatile conditions in U.S. trade relationships and agricultural exports—we need to see Congress pass a Farm Bill, particularly with the ongoing trade war with China and the debilitating effects of its retaliatory tariff on soybeans," says Heisdorffer.

Once funding for FY 2019 is decided, the ASA reports that Congress will likely adjourn rather than wait around to pass a new Farm Bill later in the month. If a new bill can't be completed and farmers are faced with the expiration of dairy provisions for the 2014 act after December 31, an extension of the current Farm Bill would be necessary.

"This would more likely be for at least one year rather than kicking it to the incoming 116th Congress through a short-term extension," Brannen says. "There has been some discussion of as long as a three-year extension to get farm legislation beyond the next Congress and the next presidential election."

The ASA also supports increased funding for the Foreign Market Development (FMD) program and the Market Access Program (MAP). While MAP is funded through calendar year 2018, authorization and funding for FMD expired at the end of September with the 2014 Farm Bill. The U.S. Soybean Export Council (USSEC) has sufficient resources to continue overseas programs and activities into 2019, but an extension of both FMD and MAP is needed to continue critical market development work.

> —Story by Daniel Lemke, photo by Staff



North Dakota farmers Josh Gackle (left), Greg Gussiaas (center), and Monte Peterson (right), lobbied in Washington DC for Farm Bill passage.

Soybean Trade Progress

Soybean industry leaders are heralding a tri-lateral trade agreement with Canada and Mexico as a positive

step for the nation's soy growers. Once approved by Congress, soy leaders say that the finalized U.S.-Mexico-Canada Agreement (USMCA) will help bring more stability to the North American markets.

Under the North American Free Trade Agreement (NAFTA), U.S. soy exports to Canada and Mexico totaled nearly \$3 billion in 2017, and U.S. soy exports to Mexico grew fourfold under the agreement, according to the American Soybean Association (ASA). Mexico is now the second-largest export market for U.S. soybeans and meal. Additionally, about \$43 billion of agriculture products are exported to Canada and Mexico every year.

The USMCA needs Congressional approval as well as ratification by governments in Canada and Mexico. ASA leaders don't expect the final vote until late February or March of 2019.

"Soybean growers asked for a 'dono-harm' approach to the NAFTA negotiations," says Davie Stephens, a soybean grower from Clinton, Kentucky, and ASA vice president. "We feel that the USMCA honors that approach. While there are no specific gains for the soybean industry in the USMCA, we are pleased that U.S. poultry and dairy will have greater access into Canada."

The ASA has stated that completing the USMCA will allow the U.S. to focus on new free-trade agreements with other countries, including Japan and the European Union.

The USMCA maintained access for soybeans into Canada and Mexico while eliminating some potentially harmful provisions, according to Stephens.

"For U.S. agriculture, this is really a good deal," says North Dakota State University Crops Economist and Marketing Specialist Frayne Olson. "The new agreement reduces the uncertainty and anxiety."

Olson says that agriculture issues weren't the primary reasons NAFTA was renegotiated, but farmers were caught in the wash. Automobile issues, wages, and steel and aluminum tariffs were more hotly debated, but trade with the United States' closest neighbors is a big deal.

"Finalizing a new NAFTA allows soybean growers to gain stability for those export markets. Together, Canada and Mexico represent roughly \$3 billion in soybean exports," Stephens says. "That said, many other agriculture commodities still lack certainty even with the completion of the USMCA because Section 232 steel and aluminum tariffs are still in place, which continues to cause retaliation against U.S. ag products."

Olson says that North Dakota soybean farmers aren't likely to notice any direct soy-movement effect because of the new tri-lateral agreement, but farmers will benefit indirectly from additional product flow.

"The benefit to North Dakota farmers will be more indirect and based on national soy movement and prices, which directly impacts farmers," Olson says.

According to Olson, the biggest benefit to the state's farmers may come with harmonization of the wheat-grading system between the U.S and Canada. Currently, Canada grades wheat differently than the U.S., putting U.S. farmers at a disadvantage when selling into Canadian markets. Nearly all U.S. wheat is classified as feed grade in Canada, so farmers have a difficult time getting the full market price. Meanwhile, when sold into the U.S, Canadian wheat is graded based on quality. The new system will bring commonality to the grading process.

> —Story by Daniel Lemke, file photo

Counting Rural North Dakota

orth Dakota farmers are accustomed to monitoring variables such as input costs and harvested bushels.

As the manager of the North Dakota Census Office, Kevin Iverson is concerned with tracking the people who make up North Dakota's population.

The North Dakota Census Office is the state's official statistical data center. The office cooperates with other entities for state, county and city population estimates, getting involved with geographic issues because changing municipal boundaries can affect how populations are tracked.

Rural Picture

According to the U.S. Census Bureau, North Dakota's population was over 755,000 people as of July 1, 2017. An estimated 195,000 North Dakota residents live in one of 87 Census Tracts with fewer than 10 people per square mile. These rural

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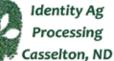
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tracts cover 96 percent of the state's land area, but less than a quarter of the state's population lives there.

"What we typically find is that rural North Dakota is somewhat more male and older," Iverson says. "A lot of our younger individuals have migrated to cities. The exception is in western North Dakota."

Growth in the state's oil industry has drawn people to the western part of the state, but Iverson says that data show that most population growth has occurred in the 13 North Dakota cities with populations exceeding 2,500 people.

"Towns that can diversify their economies, that's where growth will happen. That's what we're seeing in the west with the expansion of natural gas and oil," Iverson explains.

Most rural residents are white and older, with the largest population group between 50 and 64 years of age.

"Most rural areas don't typically find a lot of minorities, except American Indians," Iverson says. "Most (people) are fairly well established financially. We will see some who have had a bad year, but there's not a lot of poverty in rural North Dakota.

Iverson points to the technology that is heavily used for agriculture as a contributor to the migration from rural areas because there is less need for labor.

"Farms are getting larger and more automated, and it seems like that will continue," Iverson says. "We're seeing more consolidation. Farms are getting larger and fewer. This is all driven by efficiency."

2020 Census

The North Dakota Census Office is preparing for the 2020 U.S. Census, which Iverson says is a monumental undertaking. The census assures that all populations are treated fairly in terms of congressional representation and with the distribution of federal funds.

The census establishes North Dakota's portion of federal funds for the next 10 years. According to the North Dakota Census Office. in Fiscal Year 2015, \$1.45 billion in federal funds were obligated to North Dakota based upon resident counts from the 2010 U.S. Census and annual population-growth estimates. That amount equates to \$1,910 in federal funds distributed for each North Dakota resident. Federal-fund distributions include money for Medicaid and Medicare; highway planning and construction; and the Supplemental Nutrition Assistance Program, including school nutrition. Funds also go to Head Start, energy assistance and more.

"One missed resident equals \$19,100 lost over a 10-year span," Iverson says. "If we miss one-tenth of one percent of our residents, we could lose out on \$15 million."

Iverson says that businesses depend on census data to make decisions. Population change and growth can affect whether a new business opens or an existing enterprise possibly expands.

North Dakota residents will start to see plenty of information about the census after January 1, 2019. Residents can respond and provide census info as soon as April 1.

"If residents don't respond, we will send someone out, but that gets expensive," Iverson contends. "It's better that we do everything we can to get people to respond."

More information on the 2020 U.S. Census is available at census.gov/2020census.

—Story by Daniel Lemke, file graphic

Getting to Know Your NDSC County Representative



Jeff Hagen, Esmond, North Dakota – Benson County

Tell us about your farm.

My grandfather homesteaded our farm. I am the third generation on the farm. I started out farming with my father, and now, I have two teenage boys who are both interested in farming in the future. We raise mainly soybeans and wheat and a little corn and barley.

What do you like best about farming?

I like being my own boss and making my own decisions.

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

Yes, growing up on the farm and then all the schooling I had along the way, high school and college, geared me towards farming. I came back and started farming in 1990.

What was the most exciting about the past growing season?

Up in this area, that we have a little bit of moisture to work with next spring. We froze up wet here now. This last spring, we were absolutely bone dry when we were seeding the crop. In June 2018, we received nine inches of rain, and that's what made our crop.

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

I saw my county up for election, and soybeans are one crop I really enjoy raising. We're still learning how to raise them. We've only been raising them for 15 years.

How has your involvement been beneficial to you? Why?

I've only been an NDSC country representative for about eight months, so it's still pretty new to me yet. I look forward to getting involved. I know there's a lot of producers up this way that still want more education about raising soybeans.

Why are soybeans a part of your crop mix?

They are very nice rotation with wheat. Ever since we started raising them, we've never had a disappointing crop. They have always been a good return for us.

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

I would like to see more young people get a chance to farm. Try to put a stop to these 15,000-20,000 acres farms. It makes it tough for young people to get going when one farmer has 15,000–20,000 acres.

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

Changes have been mostly (the) technology we use and the labor shortage.

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

Hopefully, I have one or two of my boys farming with me. There will be more technology and bigger equipment.

What do you like to do outside farming?

Though my work is my hobby (laughs), I do like to do a little bit of hunting and snowmobiling. I actually got started being (a) bow-hunting instructor last year with (a) local 4H group.

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

There are lots of places I would like to see in the United States yet. I want to visit Washington, D.C., one day.

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

I just bought a new planter that's got a lot of gadgets on it–all the bells and whistles–and it's going to be a learning curve for me.

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

I would say an air seeder. A friend of mine said recently (that) a roll tarp on a grain box was one of the best inventions ever made.

> —Story by staff, photos courtesy of Jeff Hagen



Jeff's son Grant

Getting to Know the Expert



Bryon Parman, NDSU Extension agricultural finance specialist

Where did you grow up?

I grew up on a family farm in Dundy County, Nebraska, raising corn and cattle.

Tell us about your background.

I was in the Navy for six years, including two deployments. I earned a Master of Science degree in economics with a specialization in agricultural real estate and finance from the University of Nebraska-Omaha, and a doctorate in agricultural economics from Kansas State University.

Where did you work before coming to NDSU?

I was on the farm and financial management staff at Mississippi State for four-and-a-half years. I moved back to the plains with my wife and two sons, and started working at NDSU on May 1.

What is your focus?

As ag finance specialist, I am open to working with any individual crop or livestock farmer, or ag business owner. I'm at the disposal of North Dakota producers. A lot of what I do is education and analytics.

How would you assess the current financial environment in North Dakota?

It's a challenging environment in North Dakota. The upper 25-30 percent have made prudent decisions over the past four or five years and are doing okay. They didn't jump at high rental rates and probably didn't buy a lot of new equipment. The middle 50 percent are hanging on, but the bottom third is in trouble. They may have made decisions based on prices and profits from 2012 to 2014. Commodity prices aren't showing any signs of improving. Yields have been good the past few years, which has helped, but some farmers will have to make some hard decisions.

Is financial management even more critical during difficult times?

Farm financial management and ag finance aren't as popular when people are making money. It's harder to get farmers to see the value of looking at things analytically. But if you're able to shave \$5, \$10 or even \$15 an acre off operating costs, that's just as important when times are good as when margins are tight.

What do you like to do away from work?

I like upland bird and deer hunting. I'm also a competitive rifle and pistol shooter.

> —Story by Dan Lemke, photo courtesy of NDSU

EPA Extends Dicamba Label

he U.S. Environmental Protection Agency (EPA) is extending dicamba registration for "over-the-top" use

on cotton and soybeans for two more years. The action followed extensive input and collaboration between EPA, state regulators, farmers, academic researchers, pesticide manufacturers, and other stakeholders.

"EPA understands that dicamba is a valuable pest control tool for America's farmers," said EPA Acting Administrator Andrew Wheeler. "By extending the registration for another two years with important new label updates that place additional restrictions on the product, we are providing certainty to all stakeholders for the upcoming growing season." Label changes were made to ensure that dicamba-based products can continue to be used effectively while addressing potential concerns to surrounding crops and plants.

Dicamba registration decisions for 2019-2020 growing seasons include:

- Two-year registration (until December 20, 2020)
- Only certified applicators may apply dicamba over the top (those working under the supervision of a certified applicator may no longer make applications)
- Prohibit over-the-top application of dicamba on soybeans 45 days

after planting

- Applications will be allowed only from 1 hour after sunrise to 2 hours before sunset
- In counties where endangered species may exist, the downwind buffer will remain at 110 feet and there will be a new 57-foot buffer around the other sides of the field (the 110-foot downwind buffer applies to all applications, not just in counties where endangered species may exist)
- Clarify training period for 2019 and beyond, ensuring consistency across all three products

- Enhanced tank cleanout instructions for the entire system
- Enhanced label to improve applicator awareness on the impact of low pH on the potential volatility of dicamba
- Label clean up and consistency to improve compliance and enforce-ability

The registration for all dicamba products will automatically expire on December 20, 2020, unless EPA further extends it.

There is no indication if North Dakota regulators will add any state-specific requirements to the label.

—Story by Daniel Lemke

Bean Briefs

Food-Grade Soy to Myanmar

Representatives from the American Soybean Association's (ASA) World Initiative for Soy in Human Health (WISHH) came to North Dakota in mid-October to learn more about the growing and handling of food-grade soybeans as well as the contracting process. Participants also met with U.S. exporters.

Rick Chase, ASA/WISHH's in-country representative for Myanmar, attended the course at the Northern Crops Institute (NCI) and will use the content to follow-up with Myanmar soymilk and tofu processors in order to facilitate future sales with U.S. exporters.

This event was a follow-up activity to the food-grade soybean, U.S. Department of Agriculture (USDA)-funded Quality Samples Program that was conducted earlier this year. Seven food-grade soybean varieties from three different U.S. exporters were sent to Myanmar. The varieties were tested by soymilk and tofu processors. Many processors are interested in learning more about U.S. food-grade soybeans and obtaining price quotes.

Continuing Momentum of Free-Trade Agreements

Trade negotiations are on the horizon with the European Union, Japan and the United Kingdom, continuing the momentum generated by a bilateral deal with South Korea (KORUS) and a renegotiated NAFTA agreement, now the U.S. Mexico, Canada Agreement (USMCA).

The American Soybean Association (ASA) has worked for a negotiated solution to the trade war with China and has urged that the exports lost to this key market be offset with new free-trade agreements. The ASA is hopeful that the administration's formal notice to Congress that it will enter trade negotiations with the European Union (EU), Japan and the United Kingdom as soon as mid-January will make a settlement with China a plausible next step, bringing an end to the devastating tariff imposed on American soybeans.

Concluding the USMCA and having success with subsequent free-trade-agreement negotiations with Japan, the EU and other countries would mean opportunities to potentially increase U.S. soy and livestock-product exports to other promising markets, including the Philippines. The ASA is encouraging the administration to consider adding Vietnam and Indonesia to its list of potential negotiating targets. Increased sales to these markets won't offset lost U.S. exports to China, so the ASA continues to emphasize the need to reach an agreement that rescinds the current tariffs and allows soy growers to restore the vital, number-one export market.

WRDA 2018 Signed

The U.S. Senate voted 99-1 to approve America's Water Infrastructure Act which includes the Water Resources Development Act (WRDA) of 2018. The WRDA authorizes the programs and projects conducted by the U.S. Army Corps of Engineers (USACE) on locks and dams, dredging and other waterway projects. The American Soybean Association (ASA) supports WRDA reauthorization to continue the progress for updating the U.S. inland waterways infrastructure that is vital to the movement of soybeans and appreciates Congress returning to a practice of passing the reauthorization bill every two years.

The U.S. House passed the WRDA legislation with a voice vote in September, so the bill now heads to the White House. The president it into law during October.

The 2018 WRDA is a straightforward reauthorization bill with no new, significant policy changes or funding. The annual funding for USACE inland waterway programs is provided through the annual Energy & Water Appropriations Bill which has had increased funding levels since 2014. The ASA will heighten its focus during the next Congress on efforts to further accelerate the completion of the longstanding priority projects on the inland waterway system through the appropriation process, the bi-annual WRDA in 2020 or a major infrastructure package which is facilitated by President Trump.

Aquaculture Focus in Cambodia

The American Soybean Association's (ASA) World Initiative for Soy in Human Health (WISHH) program is building on its successful track record in aquaculture development by launching the Commercialization of Aquaculture for Sustainable Trade (CAST)–Cambodia. CAST will connect trade and development by accelerating the production of high-demand fish species for the Cambodian market and developing a lasting aquaculture industry that recognizes the value of soy protein in feed.

Through an extensive, competitive proposal process, the U.S. Department of Agriculture (USDA) selected WISHH to implement CAST under the USDA Food for Progress Program. A previous WISHH project in Pakistan, also funded by the USDA, played a groundbreaking role with introducing tilapia and U.S. soybean meal to Pakistan's aquaculture industry. The U.S. Soybean Export Council (USSEC) now leads the U.S. soy industry's work in Pakistan, which continues to be an important U.S. soy customer. In west Africa, WISHH is currently implementing the AMPLIFIES Ghana project that improves Ghana's poultry feed-production capacity and increases the efficiency in poultry value chains.

"CAST is an exciting affirmation of WISHH's ability to connect trade and development," said WISHH Chairman Daryl Cates, an Illinois soybean grower. "WISHH is a trailblazer for trade through CAST, which will improve agricultural productivity and expand trade of agricultural products through commercial aquaculture-sector growth in Cambodia."

The southeast Asian country's gross domestic product (GDP) has increased by more than 7 percent per year since 2011, heightening the demand for animal- and aquaculture-sourced protein. CAST's anticipated local economic impact exceeds \$300 million over the life of the project, and Cambodia's aquaculture-industry demand for soybean protein is projected to reach 100,000 metric tons per year by 2030.

North Dakota soybean grower Matt Gast serves on the WISHH committee and joined the WISHH staff at a variety of meetings in the region. "Aquaculture is really taking off in Cambodia, and soy protein demand will grow with it," Gast said. "An importer of U.S. beans is building a brand-new fish-feed plant in Phnom Penh."

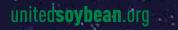
ASA/WISHH connects trade and development. As a trailblazer for trade, WISHH grows markets for U.S. soy farmers and, at the same time, improves lives and economic opportunities in developing countries. WISHH works with international companies and organizations that purchase U.S. soy.

Soy Leaders Push Biodiesel Tax Credit

The American Soybean Association is connecting with its members and followers to encourage Congress to pass a multi-year extension of the biodiesel and renewable diesel incentive in tax policy. The tax credit would help blenders and fuel marketers expand the use of biodiesel.

Soy leaders say that, when the extensions are short term, the industry does not have the stability it needs to access capital and to invest, hire and expand as needed. Long-term certainty would assure industry growth and would lead to greater economic- and energysecurity benefits

—Story by staff





INVESTING IN NEW MARKETS FOR U.S. SOY

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