

THE NORTH DAKOTA **Soybean** GROWER MAGAZINE

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INSIDE

Productive Conservation

PAGE 16



Diligence Pays



Once planting is done and soybeans are in the ground, it may be tempting for farmers to breathe a

sigh of relief and to forget about the plants. Instead, June and July are prime months for regular, thorough scouting.

Whether farmers do it themselves or enlist the help of hired professionals, field scouting can yield valuable information for treatment options this year and for management decisions in future seasons.

“June and July are great times to see how the crop is doing because it sets the stage for yields the rest of the year,” says Sarah Lovas, crop consultant and founder of Lovas Consulting in Hillsboro, North Dakota.

Early Season Diseases

Because soybean planting in North Dakota typically wraps up in May, early season scouting can reveal the presence of yield-robbing pests and diseases. If the weather is cool and wet, conditions may be prime for disease.

“If farmers notice plants damping off or seeds not emerging, that may be evidence of root rot,” says Dr. Sam Markell, North Dakota State University (NDSU) assistant professor and plant pathologist.

Once root rot is detected,

there’s not much that can be done this year. Tolerant varieties need to be planted in known problem areas, and seed treatments can help fight off the disease. Because root rot-causing pathogens such as phytophthora, fusarium and rhizoctonia can survive for years, farmers will need to manage those areas in future years.

“Next time soybeans go in that field as part of their rotation, farmers will need to plant varieties with resistance to root rot,” adds Markell.

Weeds, Weeds, Weeds

Weed management is a year-round process. In June and July, scouting is important to evaluate the effectiveness of pre-emerge weed treatments and residual control and to watch for weed escapes. It’s also imperative that growers control weeds in this era where glyphosate resistance is becoming one of the most pressing issues.

“The trick with scouting is to find issues early,” says Central Ag Consultant Nick Paulsrud. “Diligence catches weeds when they’re small, so you can control them and maximize yields. There are more management options before weeds are fully established.”

As the season progresses, scouting diligence remains crucial. Dr. Richard Zollinger, NDSU professor and extension weed scientist, says that any soil that is not covered by a canopy of soybean leaves can

be fertile ground for troublesome weeds such as waterhemp, pigweed and foxtail. Spray treatments may be an option, but resistant weeds, such as waterhemp, may require other options, including hand roguing, in order to make sure that those weeds don’t make seeds.

“Growers need to become weed managers, not just sprayers,” Zollinger says. “We need to develop management programs for weeds that go beyond spraying to include things like mapping, scouting, identifying weeds and matching treatments to what is present. We need to know the enemy and match treatments to win the war.”

“Resistant weeds are a growing concern,” Paulsrud adds. “We are focused more than ever on keeping resistant weeds and weed escapes under control.”

Experts advise controlling weeds not only in the fields, but also in

—Continued on page 4

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O n the cover

Nick Vinje's dream of becoming a farmer has come true. Now his conservation-minded approach is being noticed.

—Photo by Daniel Lemke



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NDSGA Considers Group Health Insurance for Farmer Members

It's no surprise that rising healthcare costs are a concern for all North Dakota residents, especially those who are self-employed such as farmers. Whether you are an

individual insuring yourself or carrying coverage for an entire family, the cost of health insurance and medical treatments just keeps climbing.

The North Dakota Soybean Growers Association (NDSGA) is working to help. The organization is considering a group health-insurance benefit for NDSGA members as a way to help reduce healthcare costs for individuals who are not yet 65.

Blue Cross Blue Shield (BCBS) has agreed to look at offering a group plan based on interest from NDSGA members. To determine if this benefit is possible, the NDSGA needs as many people as possible to provide basic information to show their interest. Members can furnish that information by filling out an online survey at

www.ndsoygrowers.com.

The stronger the interest among members is, the better chance there is of realizing savings on health-insurance rates.

Surveys need to be completed by September 1, 2016, to determine if there is enough interest for BCBS to offer the group plan. The more interest, the greater likelihood that rate savings could be achieved. Open enrollment would begin in November 2016, so prompt attention is required. A group benefit could help save you money with your health-insurance costs.

— *Story by staff*

—Continued from page 4

ditches, fence lines and other bordering areas.

Iron Deficiency Chlorosis

Iron deficiency chlorosis (IDC) is a challenge for many soybean farmers in the Red River Valley and beyond. IDC is evidenced by chlorosis, or yellowing, of the upper leaves. Scouting can reveal the presence of IDC, but there is little that can be done in-season to counteract it. There are options for future years.

"Planting IDC-tolerant varieties is a good line of defense," Lovas says.

NDSU has test plots to determine IDC tolerance for different cultivars. These test-plot results can be used to help make seed-purchasing decisions. Lovas says that other options include applying Fe-EDDHA fertilizer in-furrow with the seed during planting. There is also research showing that planting higher populations in rows can help manage IDC.

Aphids

Soybean aphids are an increasingly common pest in the upper Midwest. Major aphid flushes

typically arrive in mid to late July when summer is at its finest.

"When soybeans are growing well, those are the best conditions for aphids, too," Lovas says. "Under those conditions, populations can double in as little as 24 hours."

Scouting helps farmers decide if aphid populations need to be treated. The economic-action threshold is 250 aphids per plant on 80 percent of the field, with increasing numbers.

Soybean Cyst Nematode

Soybean cyst nematode (SCN) is a destructive soybean pest that Lovas says is a relatively new concern for North Dakota soybean farmers. Researchers are trying to determine where populations exist and to understand the population size. The research has shown that heavy infestations of the microscopic roundworm can reduce soybean yields by as much as 30 percent.

When soybean plants are severely infected with SCN, plants may become stunted; canopy development is impaired; and leaves may show yellowing.

"If farmers have it, determine the number of eggs in the soil, and then manage fields to keep numbers as

low as possible," Lovas says.

Soil sampling can determine the egg numbers and help farmers decide on a management plan. Because SCN moves with the soil, tillage, wind and water erosion can spread the eggs. High-erosion areas and field entrances can be potential hot spots.

Management options include crop rotation and planting SCN-resistant soybean varieties.

White Mold

Weather conditions play a key role in instances of white mold. Markell says that, if the weather is cool and wet, soybeans may be at risk for white mold.

White mold is typically a spotty problem and is not usually an epidemic throughout an entire field. If conditions for the disease are favorable at a critical time, such as early flower, farmers do have treatment options.

"There are fungicide options if the weather is cool and wet, and the variety is white-mold susceptible," Markell adds.

Markell says that white-mold management is different than most diseases. Once you see white mold, the game is over. Management is purely preventative. Farmers have to

make treatment decisions based on the weather at flowering, which can be 2-3 weeks before stem infections can be seen.

If conditions are warm and dry, white mold is not generally a problem.

Beyond this Year

Experts say that thorough, effective scouting means more than just casually driving by fields. It means getting into the fields and really looking. The process can reveal issues for this year's crop and profitability, but it can also be a management tool to make better decisions for future growing seasons. Scouting is important because problems such as herbicide-resistant weeds, IDC, and SCN are permanent. Once farmers have them, the growers have to manage them.

"Every time you learn something about that field, you can make better choices for the future," Lovas says. "It's much more challenging to make fixes after the fact. If you know you have an issue, you can plan ahead."

— *Story by Daniel Lemke,
photo courtesy
United Soybean Board*

C

onservation takes commitment

We all think about conservation. Even if you don't realize it, as producers, we are all active with conservation. Everyone has a different thought about and role in conservation. The first thing that probably comes to mind is the Conservation Reserve Program (CRP). Let's look beyond CRP right now, and think about other practices that work to help protect our land while keeping it in agricultural production for future generations.

How do we tie conservation into everyday practices? By using trees, cover crops or even pasture ground, there are many options available; it is not a one-size-fits-all scenario. That's why, what might work for your operation or land might not work for a producer on the other side of the state, or even for the farm right next to yours.

I have one example from my farm that I'd like to share. It is our pasture ground. The Red River Valley in Richland County is not known to have much livestock. My family owns some land that would be poor farmland. We have kept this ground in sod. Not only is it home to our cattle, some wildlife make it their home, too. By keeping this ground in pasture, we are reducing erosion of the soil on this marginal ground.

North Dakota agricultural, commodity and conservation groups have teamed up with the North Dakota Natural Resources Trust and the North Dakota Game and Fish (NDGF) department to fund a private-public-partnership with the Natural Resource Conservation Service (NRCS) to create a one-stop-shop for conservation programs. The North Dakota Association of Soil Conservation Districts is administering the fledgling organization and its Farm Bill Specialists. Four specialists are on staff now. They are expecting to add three more in July, and possibly two more by year's end.

If you are looking for ways to help improve your conservation practices, do some research, contact a Farm Bill Specialist or go to your local NRCS office. The staff will be able to assist you in finding a program to help with your farming practices, to cost-share trees or even to determine CRP eligibility. The NDGF also has programs available for landowners. With a comprehensive and appropriate conservation process, we can help reduce soil erosion, maintain soil health and protect our land for generations to come.



**Craig Olson, President
North Dakota Soybean
Growers Association**



Membership Application

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A Different Path

The clang of a hammer against metal rang through the farm shop as Joe Ericson pounded away on the disk

assembly, loosening an old bearing that he was intent on replacing. Nearby, sparks fell to the cement floor as Ericson's brother-in-law, Brad Clemens, used a welder to fill in worn areas on the disk shaft.

While these tasks are typical spring, farm preparations, Ericson's path to that Wimbledon, North Dakota, shop was a bit extraordinary.

Ericson grew up in Hatton, North Dakota. While he was familiar with

agriculture and knew a lot of people who farmed, his family wasn't among them. After high school, Ericson left Hatton and enrolled at North Dakota State College of Science in Wahpeton. After college, he went to work as a pharmacy technician, but it wasn't long before the farm life came calling.

"My wife was a bookkeeper in Fargo, and her dad was looking for someone to help with the farm

books," Ericson says. "We decided to make the career change, and it has

been the best thing that we ever did."

Since 2009, Ericson has farmed with his father-in-law, Mike Clemens, and Clemens' son Brad, raising corn, soybeans and sometimes wheat. The adjustment to farming has been smooth and one that Ericson made with full force.

Because of his non-farm background, Ericson brings a unique perspective to agriculture.

"I never realized the preparation and work that goes into getting ready each year," Ericson admitted. "All the average outsider sees is the tractor going up and down the field, but running a farm is just like running a business. Driving a tractor is only part of what we do. There are a lot of business aspects to farming, such as marketing and planning. Whenever I get a chance, I try to explain what other things go on in our day-to-day farming life



Joe Ericson's journey took him from pharmacy to the farm.

PROBLEMS WITH GOOSE DEPREDATION?

The North Dakota Game and Fish Department and USDA Wildlife Services offer assistance programs for producers who are experiencing crop depredation by geese, including scare devices, harassment techniques and training.

For chronic problems, special depredation permits are available that allow the destruction of nests and eggs, and the direct killing of Canada geese and goslings.

Depredation permits require a site inspection from USDA Wildlife Services to begin the process, phone number is (701) 250-4405.

Qualified previous permit holders can renew their permit by contacting the North Dakota Game and Fish Department at (701) 328-6351.

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that they might not know about or think about.”

Ericson didn't wait long to get involved. His insights are being put to use as a member of the North Dakota Soybean Growers Association (NDSGA) board.

“I was asked by one of the directors to be the American Soybean Association DuPont Young Leader, so I took him up on the offer, and now, I am the secretary of the NDSGA,” Ericson says. “I did it to learn more about the policy side of agriculture. It was a shock to see what things go on behind the scenes. I also see my involvement as a way to network with other

farmers from across the state, and sometimes the nation, to see what practices work for them and if any might help out on our farm.”

As is the case with most North Dakota farmers, Ericson recognizes how environmental issues are impacting the industry. Those issues include wildlife, nutrient management and water.

“Water always is a big issue. Being from the prairie pothole region of North Dakota, we always are dealing with some sort of water issue, whether it is a wetland or a tiling problem,” he says. “I try to learn as much as I can about the water issues.”

Other issues, including genetical-

ly modified organism (GMO) food labeling, are important to North Dakota soybean farmers, which is why the NDSGA works to deliver the farmer's perspective in Bismarck and Washington.

“We do a lot of behind-the-scenes work with our state legislators and our federal delegation regarding agricultural issues,” Ericson adds. “We need to be there to represent the farmers and the farming community because more and more legislators are becoming farther removed from agriculture. They need our expertise to help them understand the issues from a farmer's perspective.”

Despite only being involved with farming for a handful of years, Ericson has jumped in with both feet as one of the state's soybean farmer-leaders who are working on policy issues that protect agriculture's interests and future. It's a cause Ericson is passionate about because there's nothing quite like farming.

“You get a clean slate every spring, so you have to make it count,” Ericson says. “Hopefully, the hard work pays off in the fall with a stellar crop.”

—Story and photos by Daniel Lemke

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Ericson participated in a national soybean leadership program and now serves in a key role for the NDSGA.



D

ear valued soybean producers,

Is the more profitable delivery option the elevator that is 10 miles from the farm and offers \$8.75 per bushels of soybeans or the processor that is 45 miles away and offers \$8.83 a bushel? It is important to avoid the temptation to sell soybeans and grain based solely on the per-bushel price offered. You must also consider the costs associated with that sale. There is a big difference between maximizing revenue and maximizing profitability.

To assist you in making the most profitable delivery decision, the Soy Transportation Coalition now has an updated online calculator (at no cost to you) that determines expected revenues and costs from local and distant delivery options. In a few short steps, you can determine the most profitable delivery option, whether it is the local option that offers a more modest price or the distant option that offers a higher price.

The calculator is designed to work for soybeans, corn, wheat or any other agricultural commodity. The calculator allows you to enter the delivery vehicle's bushel capacity along with the costs for fuel, labor/time and maintenance, ensuring that the full delivery

cost is incorporated for the calculation. You enter the spot prices for the local and distant delivery locations, the mileage to both locations and the time required for both deliveries. The calculator then determines the more profitable option.

The calculator also has a feature that allows you to enter a contracted rate if you elect to hire someone to transport the soybeans and grain rather than making the delivery yourself. New apps have also been created for iPhone and Android devices; therefore, you can access and use the calculator remotely in addition to your home computers.

While you may have your own system to determine the most profitable delivery location, I encourage you to check out the calculator at www.soytransportation.org. I believe you will find it useful for managing your farm operations this year. This calculator is brought to you by the soybean checkoff and your partners at the Soy Transportation Coalition.

Have a wonderful summer and a successful growing season!



Diana Beitelspacher,
Chief Executive Officer
North Dakota
Soybean Council

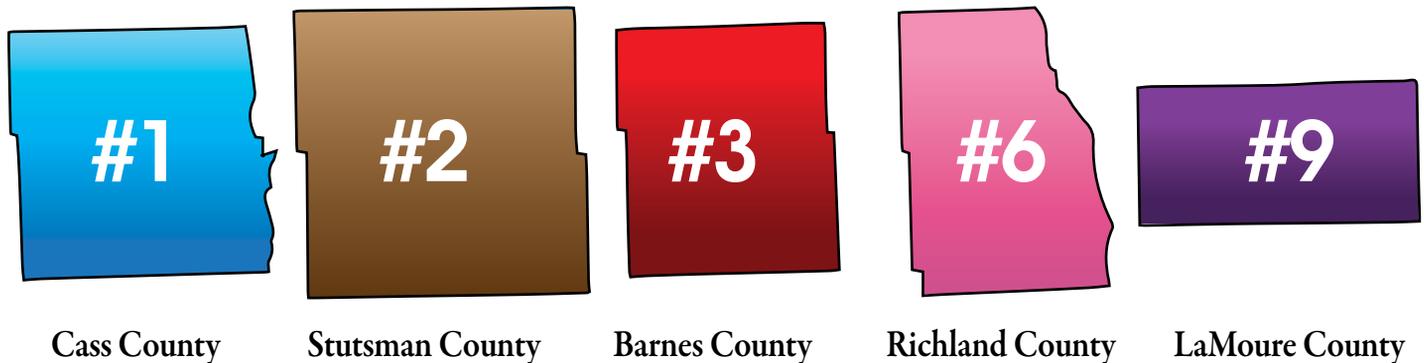
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N

orth Dakota Soybean Fun Facts

Did you know five North Dakota counties rank in the top 10 in the U.S. for 2015 soybean harvested acres?





Promoting True Soybean Value in *Indonesia, Malaysia* and the *Philippines*

What truly defines soybean quality? For decades, the world has relied solely on the levels of crude protein as

the single definition of soybean quality. However, as research has revealed, there is much more to what makes good soybeans. Essential amino acids are a key part of quality determination and critical in marketing high quality soybeans grown in the northern states. Now, the answer to this global question is being better defined by the efforts of three Qualified State Soybean Boards (QSSBs) of North Dakota, South Dakota and Minnesota. The Essential Amino Acids (EAA)

program is in its sixth year under the direction of soybean producers from all three QSSBs, with the mission of opening markets around the world and growing demand for northern grown soybeans. The program strives to have northern soybean producers engage directly with soybean buyers from around the world and discuss how to better define soybean quality.

The three QSSBs are supporting three teams to travel in the coming months; these individuals will visit

significant markets to promote EAA as a key quality characteristic of northern-grown soybeans. With each meeting, buyers gain a deeper understanding about the region's dedication to produce the highest-quality soybeans possible, as well as the opportunities for timely export by purchasing those soybeans from the Pacific Northwest, the soybean gateway to Asia.

On April 9-21, 2016, the team, led by Peter Mishek of Mishek, Inc., program coordinator, presented eight EAA seminars to different groups of soybean buyers and feed nutritionists in eight cities throughout the Philippines, Indonesia and Malaysia. The team included Bob Metz, a soybean producer from West Browns Valley, South Dakota; Theresia Gillie, a soybean producer from Hallock, Minnesota; Dr. Seth Naeve, associate professor and extension agronomist at the University of Minnesota;

and Stephanie Sinner, director of market development for the North Dakota Soybean Council. Metz serves on the U.S. Soybean Export Council and Gillie is the current vice president of the Minnesota Soybean Growers Association.

Personal relationships are critical for delivering the EAA message to buyers. Bob Metz says, "I see great value in the EAA program. I believe going back to these countries several times is necessary to have complete success, and we need to plant that seed with our customers to understand the value of paying a premium for soybeans that are naturally high in essential amino acids. We need to go back to them several times to answer their questions and continue to enforce in their minds that crude protein is not a good measure of value."

—Continued on page 10

The North Dakota, South Dakota and Minnesota QSSBs are all committed to continuing the efforts of marketing northern-grown soybeans by teaching buyers to use EAA to measure soybean quality rather than only using crude protein levels. "By continuing to meet with the key people in these countries, who will help influence other producers and feed formulators to see the value in U.S. soy, we are definitely moving the needle in the right direction as compared to when we started having this conversation over five years ago," says Bob Metz.



—Continued from page 9

The Philippines, while a dedicated customer of U.S. soybeans, is a market the three QSSBs continue to service in order to ensure the buyers are receiving good quality soybeans and soybean meal. In April, the team took the EAA message to the Cebu area for the first time. The Cebu meeting consisted of local soybean purchasers and nutritionists eager to hear the message about amino acids and soybean quality. Dr. Seth Naeve conducts soybean research for the three QSSBs and has done extensive work on the EAA science and profile for the northern soybean-growing states. Regarding the Philippines market, Dr. Naeve says, “We must continue to support the Philippine feed industry with nutritional decision-making tools to continue to encourage U.S. purchases.”

Indonesia and Malaysia are unique for many different reasons.



EAA seminar in Cebu, Manila.

Indonesia is the third-largest market for U.S. whole soybeans, which are largely used in the human-food sector for soymilk and a staple food called tempeh. While Indonesia is a large importer of U.S. soybeans, the country has a very price-sensitive

market and has challenging logistics to receive soybean shipments. The ports in the region have difficulty accepting large vessels, so Indonesia look more to co-shipments of commodities such as corn and soybeans. The ability of U.S. shippers to offer

these shipment types will greatly help to increase soybean exports to Indonesia.

Malaysia was a new stop for delivering the EAA message to soybean buyers. The team toured an egg-layer farm outside Mela-



Malaysia is a large egg producing country, supplying fresh eggs to Singapore as well.



EAA team meets with Mr. Eko, owner of Putra Prima Mandiri layer farms, in East Java, Indonesia.

ka, Malaysia. In the farm's feed mill, synthetic amino acids were being added, in liquid form, to the feed rations. Malaysia has similar logistical challenges as Indonesia and prefers small vessels of corn and soybeans. Malaysia is one of the wealthiest countries in the southeast Asia region with an annual per-person consumption of 110 pounds of chicken and 240 eggs. There is great opportunity to work with the region's farmers who produce more than 20 million

layer chickens. These poultry producers can benefit by using northern-grown soybeans to ensure higher amino acid levels in their feed rations. Malaysia's livestock and poultry producers who purchase northern-grown soybeans, that are naturally higher in amino acids, might not have to rely on purchasing synthetics which can be costly.

There is strong potential for increased exports of northern-grown U.S. soybeans to both Indonesia

Amino Acids & Protein

Amino-acid requirements for animals is the reason that soybeans are a great source of protein: because soybeans naturally provide amino acids.

Crude protein is only a measure of nitrogen, not an accurate or complete measure of the available protein in the soybean. A goal is to educate buyers and nutritionists about using EAA as a tool.

Peter Mishek, project coordinator says, “EAA is a tool buyers can use to have a better understanding of the quality and value of the soybeans and soybean meal they are purchasing. Using EAA as a measure of quality helps nutritionists formulate feeds to best meet the animal's needs.”

and Malaysia. It will be important to keep the message about quality and EAA in front of these buyers in order to become a partner in helping produce the best feed by using the best ingredients. All the buyers and nutritionists with whom the team met were impressed by the U.S. farmers' dedication to

producing a quality crop year after year. Gillie says, “Visiting with our customers and listening to their concerns is a valuable tool. This program was a great opportunity to discuss our farming practices and tell our buyers how in our northern growing region, we are able to keep our crops cool and maintain excellent quality: from our farm to their operations.”

The value of investing checkoff funds for EAA market development in key regions will pay off in personal relationships and by helping foster customers who are dedicated to buying quality soybeans and soybean meal from the northern growing region. The EAA program will not only open new doors for northern grown soybeans, but help keep those doors open with continued dedication to delivering quality soybeans to the buyers around the world. For more information, visit www.soyeaa.com.

—Story and photos by Staff



EAA team members talk with the owner of a layer farm outside Melaka, Malaysia. Liquid synthetic amino acids can be seen in the background.

Northern Crops Institute News

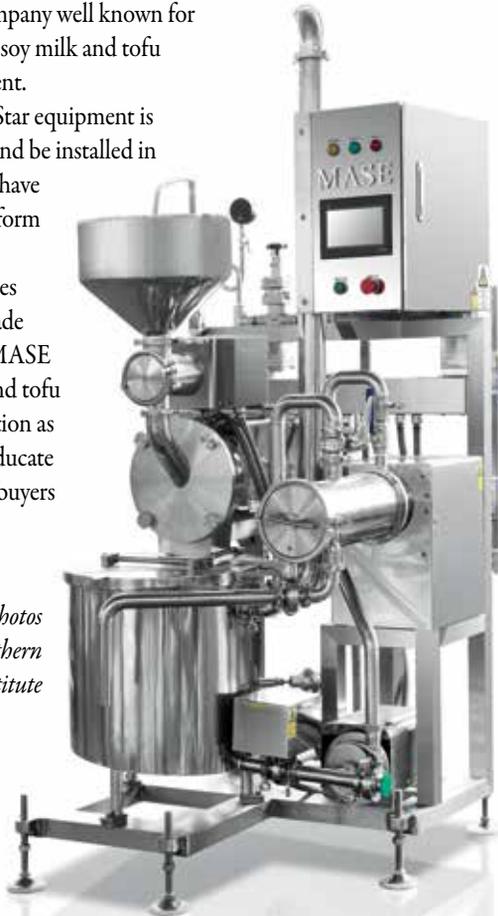
New MASE Soymilk and Tofu Production Equipment to be Installed July 2016

The Dakotas, Montana and Minnesota region has earned the reputation of being the world's leading source of high quality food-grade soybeans. As the global demand for food-grade soybeans increases, regional food-grade soybean producers and their customers have become interested in the real world evaluation of current and future food-grade soybean varieties. With that in mind, NCI has set the stage to establish itself as an authority in evaluating and demonstrating the quality of Northern-grown, food-grade soybeans.

Dr. Zach Liu joined the NCI staff early in 2015 as NCI's food scientist with emphasis upon soy foods development. Dr. Liu has extensive experience in food-grade soybean evaluation and soy food product development since 1998. Dr. Liu has developed specifications for the purchase, installation, and operation of a pilot scale soy milk and tofu production system. NCI ordered a soy milk and tofu production system from MASE, a Japanese-based company well known for building world-class soy milk and tofu production equipment.

The MASE MiniStar equipment is scheduled to arrive and be installed in July 2016. NCI will have the capability to perform soy foods product development activities with commercial-grade technology. NCI's MASE MiniStar soy milk and tofu pilot plant will function as NCI's platform to educate food-grade soybean buyers on Northern-grown soybean quality.

—Story and photos provided by Northern Crops Institute



The NCI-INTSOY Course June 5-10, 2017

The Northern Crops Institute (NCI) announces that it will host the 2017 NCI-INTSOY course at its facilities located on the campus of North Dakota State University during the week of June 5-10, 2017. National Soybean Research Laboratory (NSRL) at the University of Illinois has organized and hosted this successful course for many years and is pleased to cooperate with NCI as we take on this new role. NCI will utilize NSRL's expertise as part of the program. The course's educational mission will also essentially remain the same—to expand soybeans in the international marketplace.

The NCI-INTSOY course is designed to teach practical processing methods and innovative applications of soybean ingredients in meat, beverage, baking, candy and snacks, traditional soy foods and animal feed products.

The course is intended for CEOs, food scientists/engineers, industrial food/ animal feed processors, marketing/sales and product development, and humanitarian groups. The course will be limited to 30 participants.

Participants will begin the week long course in Minneapolis, Minnesota. They will travel through farm country and visit commercial soymilk and livestock feed processing facilities. Participants will also visit a soybean farm on their trip to NCI located on the North Dakota State University Campus in Fargo, North Dakota. After two days of hands-on labs and lectures at NCI, the group will travel to South Dakota State University in Brookings, South Dakota for an additional day and a half of training and demonstrations. Also included are tours of an innovative aqua-feed research center and a soybean crushing plant. The program concludes with a drive through Minnesota's heartland including an overnight stay and additional site visits on the way back to Minneapolis where participants will depart.



North Dakota soybeans not only feed livestock, they're important sources of human nutrition around the world.



Scout for Insect Pests in Soybeans



NDSU IPM Scout Micaela Halvorson sweeping soybeans.

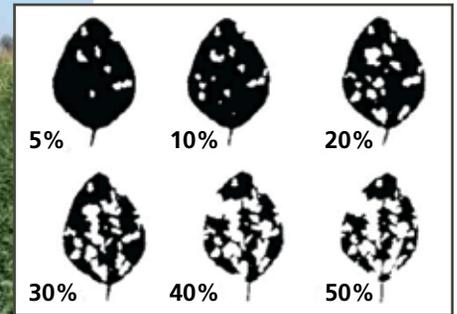


Figure 2: Soybean defoliation levels.

The best strategy to minimize insect-pest damage in soybean fields is routine scouting, an important part of

Integrated Pest Management (IPM). The basics of scouting include 1) sampling in a W or Z pattern in the field; 2) checking multiple sampling sites, at least 5 per field and 3) inspecting 10 to 20 plants per sampling site for insects or damage (defoliation). Avoid scouting only the field edges because insect populations may be higher near field edges. A weekly field check is usually sufficient, but field checks should be increased to two or three times a week if the number of pests is increasing rapidly or if the number approaches an eco-

nomic-threshold level. If you follow these basics, you can calculate the average insect-pest densities and can determine if they are near or above the economic threshold level when management decisions are needed.

Knowing how to identify the insects that are present and understanding their life cycles are keys to good field scouting and IPM. Economic-threshold levels and control measures vary for different insects, so accurate identification is crucial. In addition, there are many beneficial insects that may help to reduce the numbers of injurious insects; it is important to recognize which insects are pests and which ones are beneficial. Insect pests that

can impact soybeans include armyworms, bean-leaf beetles, cutworms, foliage-feeding caterpillars (green cloverworm, loopers, velvetbean caterpillars, thistle caterpillars and alfalfa webworm), grasshoppers, potato leafhoppers, seed-corn maggots, soybean aphids, spider mites and wireworms. Fortunately, during most years, there are only one or two insect pests on soybeans. The growing-season calendar (Figure 1) shows when scouting should be conducted for the soybean insect pests in North Dakota.

In soybeans, field scouting to assess insect populations is based on the number of insects per plant, the number of insects per foot of

row, or the level of defoliation. For the percentage of defoliation, visually estimate the amount of leaf-tissue loss over the entire plant (Figure 2). It is easy to overestimate defoliation, so use the handy guide in Figure 2 to estimate the loss for individual leaflets. Sweep nets are also useful to monitor fast-moving insect pests, such as grasshoppers or potato leafhoppers. When using a sweep net, take 180-degree sweeps in a pendulum motion as you walk into the wind, and get the net down into the canopy to capture insects.

The soybean plant's growth stage is important when making pest-management decisions. Under most conditions, moderate defoliation early in the season has little effect on the final bean yield. As plants reach the flowering and pod filling stages, defoliation poses a greater threat to yield. For example, research indicates that the soybean plant can sustain a 35 percent leaf loss prior to the pre-bloom period. From pod-set to maturity, the plant can only tolerate a 20 percent defoliation level.

—Story, photo and graphs by Dr. Janet J. Knodel, NDSU Extension



NDSU IPM Scout Kyle Aasand scouting soybeans. (Photo by G. Endres, CREC, NDSU)

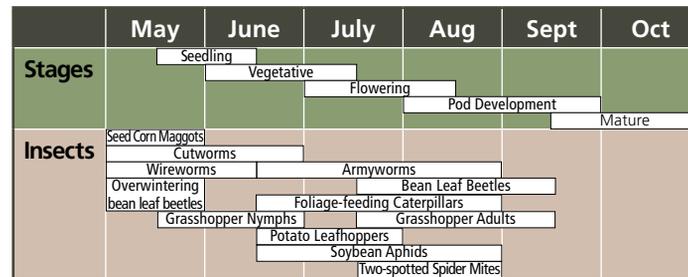


Figure 1: A growing-season calendar indicating the soybean insect pests' occurrence time. (Source: NDSU Extension Service's A1172 Soybean Production Field Guide for North Dakota and Northwestern Minnesota)

For more details about insect identification, biology, thresholds and controls, see the NDSU Extension Service's A1172 Soybean Production Field Guide for North Dakota and Northwestern Minnesota.



Getting off the Ground

Soaring hundreds of feet overhead, unmanned aerial systems (UAS), or drones, give farmers and agronomists

a perspective unlike what's visible from the ground.

For several years, drones have been touted as a tool that will transform agriculture. At this point, "their use is still pretty limited," says John Nowatzki, North Dakota State University (NDSU) agriculture machine systems specialist.

That's not to say that drones aren't being used or that their potential is limited. Researchers are working to refine and enhance what is possible.

Farm Use

Jay Myers of Colfax, North Dakota, has used a drone for several years. It took a few tries to find a model with the battery life and

capabilities that he needed. Now, he uses the system to check plant emergence and to look for drainage issues following rain. He even used it to help spot a mechanical problem at the top of a grain bin so that he knew what tools were needed to make repairs.

"It (the drone) saves me time scouting fields, and I can fly it when I can't be in the field," Myers says.

Myers says that taking drone video and images of the fields provides faster results and better-quality images than satellites can offer. That timely information can help him make better management decisions.

"They've (drones) done what I expected them to do," Myers says. "I ordered another one with a case so that I could carry it around in my pickup."

Monte Peterson of Valley City, North Dakota, also bought a system several years ago. He's used the system to take photos of fields, to scout plant stands across different varieties and to check for drainage issues following major rain events.

He admits that he's not used it like he thought he would, but the drone has still provided value.

"I think there is a lot of potential," Peterson says. "With different filters and optics like infrared imaging, we can see some plant stresses. There are all sorts of possibilities being refined and manufactured in cost-effective ways. I think there's no end to the opportunities."

Nowatzki says that he sees wider UAS use by consulting agronomists who utilize the technology to scout for their clients.

"Some farmers are hiring agronomists to get maps they can use to manage better," Nowatzki says. "Ranchers are interested in real-time video feedback that saves them time checking on their herds."

Nowatzki says that a Federal Aviation Administration requirement that small, unmanned aerial systems must be flown in the operator's line of sight has limited their use. He believes that a rule change, which could come as soon as June, would make a big difference for UAS usage.

Expanding Technology

Hovering above crops provides a platform for applying a wide range of developing technologies. Infrared and color imagery can provide a vegetative index to show a crop's

relative health. Nowatzki says that NDSU is conducting research on a computerized system for taking stand counts to help farmers make replanting decisions. Work is also being done to identify iron deficiency chlorosis (IDC). Currently, IDC is a visual observation, but researchers are hoping to use remote sensors to detect the problem before the human eye can see it.

Other aerial research possibilities include soybean yield estimates, in-season fertilizer need determinations for corn and wheat, and insect impacts.

"I see a lot more use of remote sensing because of UAS," Nowatzki says. "Data can be brought back and analyzed much more quickly than it could be with satellites."

Bigger View

NDSU is currently partnering with Elbit Systems of America, an Israeli-based company, for a research project that involves an unmanned craft with a much larger wingspan. The 35-foot craft can cover as much as 50,000 acres per hour, taking images with 2-inch ground definition from 8,000 feet. Flying from Hillsboro, the plan is to fly a 4-by 40-mile corridor eight times during the growing season.

"Flying over a large acreage will help the whole industry," Nowatzki says. "If we could fly a whole county in a day and farmers could clip out information from their land, that would allow for entirely different economics."

While not expected to replace the smaller UAS, larger systems could offer some advantages once the vehicles are allowed to fly beyond the operator's line of sight.

—Story by Daniel Lemke, aerial photo courtesy of NDSU





See-for-Yourself Attendees Discover Biodiesel Use from Coast to Coast

The North Dakota Soybean Council (NDSC) hosted a group of fuel distributors on a See-for-Yourself trip to the National Biodiesel Board's Conference and Expo in Tampa Bay, Florida, in January. The theme for this year's conference was "Coast to Coast," and it didn't take long for the attendees from North Dakota to find out why. From the Bioheat success story in the northeast to the high biodiesel production states in the middle of the country as well as the Low Carbon Fuel Standard in California, biodiesel is truly taking hold from coast to coast. The United States consumed 2 billion gallons of biodiesel in 2015, setting another record. A major engine manufacturer, PACCAR, announced that more of its engines are approved for use with B20. The announcement means that there are nearly 1 million Peterbilt and Kenworth medium- and heavy-duty trucks that have

been approved for biodiesel blend use, up to B20, operating from coast to coast.

The conference offered interesting educational sessions on a variety of topics about biodiesel, such as federal policy, market opportunities, research and infrastructure. General sessions highlighted industry accomplishments and challenges. Brought back this year, by popular demand, was a panel discussion with former congressmen that included biodiesel champion and former U.S. Senator Byron Dorgan. When asked about his thoughts about the RFS, Dorgan said that he had helped write the RFS back in 2005 and that it had been around for 11 years. Dorgan compared it to flying an airplane by saying, "I think we really have some lift with respect to biodiesel."

Fuel distributors are the key to making biodiesel more readily available in North Dakota, the rea-

son that NDSC chose to bring this group to the conference. The goal was to help fuel distributors learn about biodiesel, to get comfortable with it and to see market opportunities. The See-for-Yourself group had two fuel distributors who were very experienced with promoting and selling biodiesel and two individuals who were not. Long-time biodiesel promoter Kent Satrang, CEO of PetroServe USA, was very excited to learn about new market opportunities, such as using up to B20 for home-heating oil. Kent remarked, "The petroleum industry paints a bleak picture for biofuels, but when I came here, I heard all about opportunities." Dirk Lenthe, owner of Stamart Travel Centers, has sold biodiesel since 2007. He found the conference to be very helpful. He discovered marketing ideas and learned more about the economics and the federal policy for biodiesel.

James Thornton, general manager of the Energy Department at Allied Energy, who has not sold biodiesel, said, "Customers have been asking for it." He came to the conference to "see what they could do with it." Chris Fitterer, the owner of Fitterer Oil in southwest North Dakota, said that he came to learn more. The supply was limited in his area, "but there is interest in the west." Both Thornton and Fitterer left with confidence about the quality of biodiesel because of all the testing and research that had been done. When asked what they would tell farmers about using biodiesel, they both said that farmers should use it, citing that it is their product, that it is a quality fuel and that it is good for the environment.

—Story and photo by
Lisa Pedderson, MEG Corp



Biodiesel Facts!

- Biodiesel is renewable, sustainable and domestically produced.
- Biodiesel is naturally low sulfur, high cetane and high lubricity.
- Biodiesel meets the EPA definition for Advanced Biofuel, meaning that reduces greenhouse-gas emissions by more than 50 percent versus petroleum diesel.
- Biodiesel has the highest energy balance of any fuel, producing 5.5 units of energy for every 1 unit utilized.
- The United States used a record high 2.1 billion gallons of biodiesel in 2015!
- An economic study commissioned by National Biodiesel Board found that biodiesel production of 1 billion gallons supports:
 - More than \$2.1 billion in household income.
 - 39,027 jobs across the country
- According to the United Soybean Board, biodiesel has helped increase soybean prices by 64 cents per bushel.
- A 2% blend in all U.S. on-road diesel could use the soybean oil from nearly 500 million bushels of soybeans.

—Story by Lisa Pedderson of
MEG Corp and the
United Soybean Board,
photo by Greg Wanbaugh



NDSC Director of Market Development Stephanie Sinner (middle in purple) accompanied North Dakota fuel distributors (pictured around table) to the NBB's Conference and Expo to learn more about biodiesel and the new market opportunities.

COVER STORY



PRODUCTIVE CONSERVATION

In many ways, Nick Vinje's farming experience is different than most North Dakota farmers.

Vinje farms in Cass County near Hunter, North Dakota. While his parents hailed from nearby Gardner and his grandfather farmed, farming was not a part of his daily life.

Vinje grew up near Tacoma, Washington. When his grandfather passed away in 1975, the family rented the land to neighboring farmers. As a kid, Vinje came back during the summers to help a family friend because he'd been bitten by the farming bug.

"The farming bug must have skipped a generation from my grandfather to me," Vinje says. "Neither my dad or my uncles farmed, or even lived in North Dakota. Even as a little kid, I knew I wanted to farm."

After graduating from college, he moved back to North Dakota, rented his grandfather's land and started farming. He moved back in 1997 and traded labor with neighbors for the use of equipment. By 1998, he was on his own.

Low Frills, No-Till

Vinje farms about 1,700 acres; most of the land is in no-till and has been for as many as five years. He raises a diverse selection of crops, including soybeans, wheat, corn, field peas, winter wheat, rye and sunflowers. He also incorporates cover crops, such as turnips and radishes, into his plant mix in order to enhance soil health and to reduce erosion.

Vinje admits that the first seasons of no-till farming were a learning experience. The decision to go to no-till is one that he didn't make lightly.

"I have to feed my family, so I had to make this work. This isn't a hobby," he says. "The first couple of years were kind of tough because I was still trying to figure it out."

Even though Vinje says that he was tempted to cheat and to incorporate conventional tillage back in his operation during those difficult early days, he resisted and was rewarded for it.

Vinje share crops one field that utilizes standard, full-surface tillage, giving him a way to compare yields between the two practices. The first two years, the field with standard tillage produced better yields. The third year, the results were about even.

"The fourth year was the first time no-till did better," Vinje says. "It's encouraging to have your best fields be no-till."

Vinje says that the idea to shift to no-till farming came from doing research, attending meetings to learn and talking with the Natural Resources Conservation Service (NRCS). He knows that he still has plenty of things to discover about incorporating cover crops, managing fertilizer and controlling weeds for a no-till system, but he's excited to learn.

Profitability

Vinje calls himself a low-cost

producer. He uses older machinery in order to minimize equipment expenses. No-till farming reduces his time and fuel expenses by requiring fewer passes across the field than standard tillage.

While he's not likely to go to the local coffee shop to brag about his yields, Vinje says that he will put his per-acre profitability up against anyone.

"There's a change in mindset to not be looking for the highest bushel per acre yields but to look at profit per acre, which is way more important," adds Vinje. "There's also a change in attitude that comes with conservation: doing things smarter and looking for a better profit margin."

Seeing fields with cover crops growing year round instead of being black and smooth takes some adjustment for farmers, as it did for him. Thanks to what he calls a "no-till support group,"



Nick Vinje (top right), his wife Heather and sons Jake and Owen were recognized for their conservation achievement.



Most of the land Vinje farms is under no-till management.

Vinje has been able to make a system change that he hopes will be good for long-term soil health and farm profitability.

“People assume that no-till and cover crops won’t work here, so they don’t try it. Amazing things happen when they try,” he says.

While he doesn’t recommend jumping into new tillage practices such as no-till farming with both feet, he does encourage farmers to learn from others who are doing it, and to connect with researchers and NRCS staff to learn more. Then, if it seems like the right thing, take incremental steps to incorporate the conservation practice at their farm.

Conservation Award

In 2014, Vinje; his wife, Heather; and their sons, Jack and Owen, received the North Dakota

Association of Soil Conservation District’s Achievement Award for Cass County. The award recognizes farmers and ranchers who have made an outstanding effort to conserve soil resources. The Vinjes received the award because of their commitment to no-till farming and the use of cover crops.

While feeling unworthy of the recognition, Vinje says that farmers need to be willing to share the good things they are doing.

“A lot of people don’t have a clue about modern agriculture,” Vinje says. “It’s really important for conservation-minded farmers who are doing good things to bridge that gap and tell non-farmers what we are doing.”

—Story and photos by Daniel Lemke, aerial photo courtesy of Cass County Soil Conservation District

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matt@richlandifc.com
www.richlandifc.com

TELLING YOUR STORY

North Dakota soybean farmers can tell their conservation stories and apply for the American Soybean Association’s Conservation Legacy Award.

The Conservation Legacy Award program showcases farm-management practices used by U.S. soybean producers that are both environmentally friendly and profitable. Three regional winners and one national winner are selected. All U.S. soybean farmers are eligible to enter to win a Conservation Legacy Award. The entries are judged on soil management, water management, input management, farmstead protection, and conservation and environmental management. Winners are selected from three regions: the Midwest, the Northeast and the South. One of these award recipients will be named the national winner during the American Soybean Association’s Awards Banquet at the Commodity Classic.

The application deadline for 2016 has not been announced. Farmers can learn more about the award and the application process at www.soygrowers.com/award-programs/conservation-legacy/.

Keeping Soil Covered

Dennis Haugen inspects radish seeds.

Dennis Haugen is passionate about soil health.

“The healthiest soils have something growing on them all the time,” the Hannaford, North Dakota, farmer says.

Haugen has been no-till farming for 30 years. He also works a blend of cover crops, such as turnips, radishes and cereal rye, into his cash-crop rotation that includes soybeans, wheat, barley and sunflowers.

Six years ago, Haugen first grew a radish with a small, but deep-running, tap root. He was so impressed with its effect on soil health that he patented the seed as the Jackhammer Radish. Haugen now markets the seed across the United States, Canada and Australia.

Haugen began using cover crops to improve soil health. Specifically, he uses them to help manage soil compaction, erosion and the increasing problem of soil salinity.

“In the prairie pothole region of North Dakota, we’ve been in a 20-year wet cycle,” Haugen says. “We’re facing some difficult salinity problems.”

North Dakota State University Assistant Professor of Soil Health Dr. Abbey Wick is conducting research on salinity in soybeans. The preliminary results aren’t pretty.

“With high salinity, soybeans essentially go into drought stress,” Wick says. “Cover crops can be an effective alternative for managing salinity on small patches within

the field or (on) field edges where salts can accumulate and soybeans won’t grow.”

Cover crops can reduce soil salinity by using excess soil moisture through transpiration rather than letting evaporation pull salt to the surface.

Haugen uses cover crops on about 35 percent of his cropland. His main cover-crop blend is a mix of radishes and turnips that he seeds into small-grain fields following harvest. The turnips, radishes, and volunteer wheat and barley keep the soil covered through the winter. Those crops are terminated after the cash crops have been planted.

Haugen has also experimented with flying cereal rye into standing corn about six weeks prior to harvest. His tactic allows the rye to become established and then to flourish and grow once the corn is harvested. He then no-till plants his soybeans into the cereal rye before terminating.



Dennis Haugen ships his Jackhammer radish seed for cover crops to farms across the U.S., Canada and Australia.

2016 Soil Health Tour

Researchers from NDSU and the University of Minnesota are conducting a Soil-Health Bus Tour

June 29-30, 2016. The event includes a bus tour through Richland and Sargent Counties.

The tour will showcase commodity-funded projects, including conservation tillage, salinity management, using cover crops in rotation and many other research project updates. The tour will also feature insights from the region's innovative farmers and industry leaders.

"We'll show farmers the latest and greatest in commodity-funded, soil-health research so that they can take the information back to their farming operations," says NDSU Assistant Professor of Soil Health Dr. Abbey Wick.

Registration is limited. More information, including registration details, can be found at www.ndsu.edu/soilhealth.

"I think cereal rye is the next big thing in cover crops," Haugen says. "I'm seeing some good demand."

In addition to farming, Haugen operates General Grain from a grain elevator in Karnak, North Dakota. General Grain provides mobile seed-cleaning and grain-salvage services as well as certified seed. Haugen custom blends cover-crop seed mixes for farmers across the United States. Haugen says that he sees more interest in cover crops based on the demand for that portion of his business.

"We process rye for the cover-crops market. Last year, we did eight semi loads. This year, we've done 40," Haugen says.

Haugen points to research from Illinois, Indiana and Iowa that shows a per-acre soybean-yield increase in fields where the soil has been improved by using cover crops.

"If growers are seeing benefits on their own farms, they're going to keep using (cover crops) if it's profitable and improves the soil," he adds.

Haugen encourages farmers who are interested in cover crops to contact their local USDA-Natural Resources Conservation Service office or NDSU for more information.

—*Story and photos by Daniel Lemke*

Outgoing NDSGA Directors Recognized



Three outgoing North Dakota Soybean Growers Association (NDSGA) directors were recognized for their contributions and dedication to the organization. Dennis Renner (left) of Mandan and Luke Kuster (center) of Grand Forks were presented with plaques from NDSGA President Craig Olson (right) during the 2016 Northern Soybean Expo in Fargo. Kasey Lien (not pictured) of Milnor was also honored for his years of service to North Dakota's soybean farmers and the industry. All three directors have completed their terms of service on the NDSGA board. Congratulations and thank you for your valuable contributions.



Soil Health Bus Tour

June 29-30

Come see your soybean checkoff dollars at work by visiting soil-health research and demonstration

sites during the June 29-30 Soil Health Bus Tour through Richland and Sargent Counties. This two-day tour will highlight commodity-funded projects related to salinity management and crop response, sodic-soil remediation, conservation tillage, cover crops, economic decision-making tools, pest and disease pressures, and weed management.

Thirteen research and extension faculty from North Dakota State University (NDSU) and the University of Minnesota (UMN) will be there to discuss valuable information for on-farm management. Plus, Ed Anderson with the Iowa Soybean Association and North Central Soybean Research Program and Nick Goeser with the National Corn Growers Soil Health Partnership will be joining the tour. Equipment from Amity, Dawn, Hagie and Montag will be on site to demonstrate inter-seeding cover crops into corn.

On June 29, buses will depart the AmericInn in Wahpeton and head to the Soil Health and Agriculture

Research Extension (SHARE) Farm in Mooreton, North Dakota. Attendees will learn about saline-soil management by seeing where the salts are distributed within the soil profile and then discussing salt leaching and tile drainage with Dr. Frank Casey and Nate Derby (NDSU). Soil temperature and moisture conditions under strip till, vertical till and chisel-plow tillage on clay soils from a collaborative NDSU/UMN project will be covered by Dr. Aaron Daigh (NDSU) and Jodi DeJong-Hughes (UMN). Attendees will also have the opportunity to kick the tires on inter-seeding equipment that is used to establish cover crops in standing corn. While people are looking at the equipment's seed placement, they can talk with equipment representatives and visit with Dr. Abbey Wick (NDSU) about getting cover crops into the rotation.

The afternoon of the 29th will be spent at the Langseth Farm in Barney, North Dakota. The crop's

NDSU Assistant Professor Dr. Abbey Wick will be among the researchers leading the Soil Health Tour.



response to salinity and the bottom line is one topic that will be covered by Dr. Tom DeSutter and Dr. David Ripplinger (NDSU). This session will incorporate three years of NDSU research to establish soybean, corn and wheat tolerance thresholds that are specific to the salts found in the region. An economic tool that can be used to help with on-farm decisions when it comes to salinity will also be introduced. Linkages among disease and pest pressures, and saline soils will be covered by Dr. Phil Glogoza (UMN) along with Dr. Jason Harmon and Dr. Berlin Nelson (NDSU). DeJong-Hughes and Dr. Daigh will continue the discussion about conservation tillage on loam soils by visiting plots on-site.

The day will conclude with a social event at the Bagg Bonanza Farm in Mooreton before the buses head back to the AmericInn in Wahpeton.

On June 30, attendees will depart the AmericInn and travel to DeLamere, North Dakota, where attendees will visit research plots for sodic-soil remediation (Speich Farm), cover crops on saline soils and crops seeded into cereal rye (Wehlander Farm). NDSU's Dr. Tom DeSutter and Dr. Amit Chatterjee will cover sodic-soil management using amendments such as gypsum and spent lime. They will use a soil pit to explain sodium distribution in the soil profile and will cover the soil's biological activity in salt-affected soils. Seeding crops

such as soybeans and sunflower into cereal rye is something that farmers in the region are trying, so Dr. Wick and DeJong-Hughes will discuss options with attendees; people will get to see a field where this has been done. Chandra Langseth (NDSU) will talk about saline-soil management with cover crops and perennial grasses as well as the results from a three-year demonstration where these approaches have been used. Liz Stahl (UMN) will start a discussion about weed management using cover crops and effective approaches.

Please visit the NDSU Soil Health Webpage for more information and to register (www.ndsu.edu/soilhealth). Registration is free

and is limited to 100 people. Attendees should plan to attend both days. ALL attendees are required to ride the bus. No additional vehicles will be permitted. Lunch and dinner on the 29th, lunch on the 30th, and water and snacks will be provided. Please email Dr. Abbey Wick (abbey.wick@ndsu.edu) with any questions.

The tour is being hosted by NDSU and UMN Extension. The tour is funded by the N.D. Soybean Council, N.D. Corn Council, N.D. Wheat Commission, Minnesota Soybean Research and Promotion Council, and Minnesota Corn Growers Association.

—Story by Dr. Abbey Wick, NDSU, photo by Staff

2016 Soil Health Tour Agenda

June 29th

SHARE Farm, Conservation Tillage and Cover Crops

The SHARE Farm, Mooreton, N.D.

Salt Leaching and Tile Drainage
(Frank Casey, NDSU; Nate Derby, NDSU)
Conservation Tillage on Clay Soils
(Aaron Daigh, NDSU; Jodi DeJong-Hughes, UMN)
Equipment for Inter-seeding Cover Crops
(Amity, Dawn, Hagie, Montag; Abbey Wick, NDSU)

Langseth Farm, Barney, N.D.

Crop Response on Saline Soils and the Bottom Line
(Dave Ripplinger, NDSU; Tom DeSutter, NDSU)
Disease and Pest Management on Saline Soils
(Phil Glogoza, UMN; Berlin Nelson, NDSU; Jason Harmon, NDSU)
Conservation Tillage on Loam Soils
(Aaron Daigh, NDSU; Jodi DeJong-Hughes, UMN)

Social:

Bagg Bonanza Farm, Mooretown, N.D.

June 30th

Saline and Sodic Soils

Wehlander Farm, DeLamere, N.D.

Planting Soybean and Sunflower into Cereal Rye
(Abbey Wick, NDSU; Jodi DeJong-Hughes, UMN)
Using Cover Crops and Perennials on Saline Acres
(Chandra Langseth, NDSU)

Speich Farm, DeLamere, N.D.

Sodic Soil Management
(Tom DeSutter, NDSU; Amit Chatterjee, NDSU)
Weed Management
(Liz Stahl, UMN)

A block of rooms has been reserved at the AmericInn (701) 642-8365 and the Baymont Inn (701) 642-5000 in Wahpeton, N.D.

We request that all attendees plan to attend both days and all attendees are required to ride the bus. No additional vehicles will be permitted.

2016 Project Safe Send Set For July

Agriculture Commissioner Doug Goehring says farmers, ranchers, pesticide dealers and applicators, government agencies and homeowners should bring any unusable pesticides to any of the 10 Project Safe Send collections in July. The program accepts old, unusable or banned pesticides, including herbicides, insecticides, rodenticides and fungicides. A maximum of 3,000 pounds of pesticides per participant will be accepted. Pesticide rinse water and empty containers are no longer accepted.

The collections will run from 9 a.m. to 3 p.m. local time at the North Dakota Department of Transportation facilities in the following cities:

July 13	Lidgerwood	25 4th Ave. SE
July 14	Medina	3682 55th Ave. SE
July 15	Beulah	205 Hwy. 49 S.
July 18	Dickinson	1700 3rd Ave. W. Ste. 101
July 19	Williston	605 Dakota Parkway W.
July 20	Stanley	8250 62nd St. NW
July 21	Fessenden	1570 43rd Ave. E.
July 26	Devils Lake	1905 Schwan Ave. NW
July 27	Cavalier	9398 138th Ave. NE
July 28	Grand Forks	1951 N. Washington

The Crisis Facing Rural EMS in North Dakota

Imagine calling 911 for a medical emergency and being told, “I’m sorry...there’s no one available to get to you right away...”

In North Dakota, rural areas are currently served by a network of Emergency Medical Services (EMS) that can respond promptly to medical emergencies throughout the state, but the scenario above could become a reality in the not-too-distant future if the current trends for rural EMS continue.

One significant piece of the current challenges facing rural EMS is a decline in volunteers, which is leading to serious staffing shortages for EMS agencies across the state. Currently, rural EMS systems rely on volunteers to staff ambulances, a model that is proving to be unsustainable in the long run for a number of reasons.

Many current EMS volunteers are nearing retirement age, and the number of young volunteers available to fill their ranks is declining significantly. The number of individuals who work in rural communities

declines as young people move to larger areas for employment opportunities. The number of employers that are willing to allow employees to leave during the workday for an ambulance call has shrunk, too.

In addition, to become an EMT or paramedic requires extensive training; it can take up to two years for a paramedic to complete certification. Plus, to retain certification, EMTs and paramedics must complete 40-60 hours of training each year. That’s a lot to ask of a volunteer.

Curt Halmrast, immediate past president of the North Dakota EMS Association, says that, without enough volunteers, ambulance services that are not adequately staffed can experience burnout, excessive response times, call failures and ambulance-service closures. He says that, in the last three years, three ambulance services have closed, and of the 128 ambulance services currently serving North Dakota, 17 are at risk of closing. If additional EMS services fold, Halmrast says that longer

wait times can result in dangerous health risks for the individuals who live in the state’s rural areas.

“If you’re having to wait longer for some of those time-sensitive conditions—like someone having a

heart attack or stroke—time is of the essence, so you don’t want to wait,” Halmrast says.

Fortunately, high-priority ambulance runs, which are those situations that require time-sensitive responses, such as cardiac arrest, severe hemorrhage, heart attack or stroke, account for a small percentage of the EMS run volumes.

“Rural EMS systems are responding to a call using an ambulance, which is our most expensive asset. Could there be a more



Troy and Bobbie Uglem

Troy Uglem currently sits on the North Dakota Soybean Council as treasurer. Along with his wife Bobbie, Troy volunteers with the Northwood Ambulance and Fire Department. The Ugles understand the importance of volunteering for the rural EMS systems.

“It’s getting harder and harder to find good volunteers to cover call as an EMT (emergency medical technician),” says Troy. “Many good volunteers have been retiring after years of service, and volunteerism has changed over the years making it difficult to find replacements. There is definitely a concern and need for new volunteers in the rural EMS system.”

Juggling life, farming and family is a personal struggle for both Troy and Bobbie. They have four children, and they farm soybeans, corn, wheat, dry peas, edible beans and spearmint in rural Grand Forks County.

Says Troy, “We know firsthand how difficult it is to find time and energy to commit to volunteering. But both Bobbie and I experience a lot of pride and personal satisfaction in helping those in need and saving lives. We realize how important it is to know someone is going to come when you dial 911. So we highly encourage people to consider getting involved in their local community as EMS volunteers.”



EMS personnel, system stakeholders and members of the public meet in Bismarck on April 12 to discuss the future of North Dakota’s EMS systems.



cost-effective method or a tiered response system that provides the same—or a higher—level of service?” Halmrast asks. “Ultimately, in these time-sensitive conditions, a rescuer should be to the patient in less than 10 minutes of the 911 call activation. Attaining this goal is what all EMS systems need to strive for.”

In addition to the staffing challenges, the rural EMS systems face a number of additional challenges, including transport reimbursement, regulations, training and education. Funding the EMS is another significant challenge. In the past, rural EMS systems were financed through a combination of grants along with state and local tax dollars. With changes on the horizon

with how ambulance services can recover costs for patient transports, fewer dollars in the state oil impact grants and tighter state budget dollars overall, rural EMS services face a significant financial challenge.

The North Dakota Department of Health’s Division of EMS & Trauma, the state EMS medical director, the North Dakota EMS Association and the American Heart Association have convened a series of statewide meetings to address the future of North Dakota EMS and to discuss some of the current challenges that EMS services face. There will be eight meetings across the state from March 1 through July 19 to discuss system development, workforce challenges,

trends in healthcare finance, the regionalization of healthcare and the future of state EMS dollars.

The meetings’ primary purpose is to gather input about the challenges facing rural EMS providers. In addition, the meetings are a valuable way to educate members of the public and other EMS system stakeholders about the current challenges to the EMS system.

“North Dakota is not alone in these challenges,” Halmrast said. “However, North Dakota does have an opportunity to become a trailblazer in addressing these issues and could potentially serve as a model for other rural states.”

Right now, no one has identified a solution that addresses all of the

challenges facing North Dakota EMS systems. Halmrast says that these meetings are the first step in a process that includes data gathering, stakeholder input and public education. Members of the public are invited to attend the meetings to hear from a panel of experts and stakeholders as well as to add their input to the discussion.

Information about the series of meetings, including the upcoming dates and locations, is available online at www.heart.org/NDEMS. In addition, individuals can also register to stay up-to-date on the progress toward a solution.

—Story and photo by Chrissy Meyer,
American Heart Association



Making a Difference: Electrical Lines and Pesticide-Application Equipment

The Situation

Each year, tens of thousands of pesticide applications are made on North Dakota farms and ranches. Often, they are made without incident, but in June of 2013, a 19-year-old applicator tangled with an overhead electrical line on a farm near Mott. He lost his life. His family and the farmer (employer) were devastated. The young man’s father contacted the NDSU county extension agent in Adams County and asked if the agency could develop training materials to educate applicators about the dangers of sprayers touching high-voltage electrical wires.

Extension Response

County agents across the state regularly train and certify over 11,000 farmers and ranchers in safe application techniques. State specialists also work with about 3,000 commercial applicators who apply pesticides on agricultural lands. Thus, it was logical that this issue should be incorporated with the curriculum. The local agent worked with the father to develop a detailed, written story that was provided to the extension pesticide specialist. Research discovered that excellent resources were available from Fortis Alberta, the primary utility for the Canadian province of

Alberta. Permission to use the company’s recommendations and video footage was obtained; then, they were incorporated into a presentation. In addition, the story about the incident, which was provided by the father, was edited and narrated by an extension communication specialist.

Impacts

Tragedy can cause extreme sorrow for a family, especially when the accident cuts a promising life short. In this case, extension agents were contacted because they have the venue and the expertise to provide a meaningful warning to others. Instead of only having

regrets and sadness, the family has reclaimed a sense of purpose and encouragement.

The story is somber, and the message is stark. While the lesson tells about the incident, it also provides techniques to avoid power lines; if the lines arc, applicators are given specific instructions about how to disengage and how to carefully exit the equipment.

A video of the presentation is available here: <http://tinyurl.com/electrical-hazards>

—Story by Andrew Thostenson,
NDSU Extension,
photo by Mary Morken



Freezingly Fun Time

with CommonGround North Dakota

What could be more fun for moms on a Friday night than hands-on cooking, food that freezes easily,

and family and farm talk while creating new friendships? Combine them together, and CommonGround North Dakota launched its first-ever Freezer Food Party.

CommonGround North Dakota volunteers, North Dakota food bloggers and local Fargo moms came together with Sarah and Tony Nasello, both area food writers,

recipe developers and chefs, for a “Freezer Food Party” on April 29 at Sarah and Tony’s former Sarello’s restaurant building in Moorhead, Minnesota.

The purpose of the party was to gather foodie-conversation influencers in North Dakota and to connect them with CommonGround’s farmer volunteers while preparing family friendly recipes that everyone could take home, place in their freezers and use on a busy night to feed their families. The event was kept small to allow conversations and to give the freezer-food concept a try. Fourteen participants had their own food-preparation stations.

Tony gave a demonstration about Comforting Mac and Cheese, Baked Ziti Casserole and Gio’s Meatballs with Easy Tomato Sauce. Sarah demonstrated made-from-scratch cranberry, lemon scones. Additionally, each attendee was given a party packet that includ-



Dr. Susan Mathison, owner of Catalyst Medical Center in Fargo, as well as a writer, speaker and blogger about health and well-being, cooks and learns more about food and agriculture with her young son.



Attendees enjoy cooking, visiting and learning more about food as well as North Dakota agriculture with fun recipes, courtesy of Tony and Sarah Nasello.



ed basic freezer-food guidelines; customized CommonGround labels for them to use on future food projects at home; Tony and Sarah's cookbook, *Party on the Prairie*; a CommonGround freezer bag to take the food items they prepared home and a book with all the demonstrated recipes as well as Bacon Wrapped Meatloaf and Stuffed Chicken Tricolore. The North Dakota Beef Commission and North Dakota Pork Council provided aprons for each attendee; the North Dakota Beef Commission also gave meat thermometers.

Attendees watched the food-preparation demonstrations and then tried making the recipes at their own cooking station which

was set up with the necessary ingredients and tools to prepare the recipes. Each final product was placed in a disposable pan and covered for easy transport. Detailed CommonGround labels for each item were placed on the pan covers. Between the food preparations, the attendees visited while enjoying Tony's Edamame Salad, North Dakota Bean with Barley Salad, Bacon Wrapped Meatloaf and Gio's Meatballs with Easy Tomato Sauce.

CommonGround North Dakota hopes to build on this event in the upcoming year and to incorporate a mix of hands-on cooking, recipe demonstration and the assembly of featured recipes using North Dakota-grown ingredients. The

value of trusted conversations about how food is grown and the farming practices while preparing and sharing food proves to be a valuable connection. Bloggers then write and share pictures about the people, food prepared and questions answered; the coverage utilizes a broad range of social media: Twitter, Instagram, Facebook, Snapchat and Periscope.

Relationships from CommonGround North Dakota activities extend beyond the event and lead to friendships. The more advocates that North Dakota farming, ranching and food agriculture have to carry the message of food and farming choices, the stronger modern agriculture is.

CommonGround North Dakota is working with nearly 30 active volunteers from Halliday, Manning, Underwood, Jamestown, Esmond, Grafton, Monango, Wishek and other rural locations; the volunteers engage in dialogue from their farms and also actively participate in major towns' and cities' events to bring farm experiences to non-ag groups. CommonGround North Dakota plans to expand with more freezer-food parties that have a broader attendee base in the coming year; the organization could expand the events to more North Dakota locations, too.

—*Story and photos by Katie Pinke*



Foodies and farmers at the CommonGround North Dakota freezer food party. Attendees included a doctor, engineer, doula, news anchor, writer, banker, non-profit director, sales representative, farmers and others.

Soy's Versatility Celebrated During April Soyfoods Month

To celebrate April's National Soyfoods Month, the North Dakota Soybean Council (NDSC) showed

media and consumers how versatile the mighty soybean is: low in saturated fat, cholesterol free, and packed with high-quality protein. As Americans aim to make every meal a healthy one, soyfoods can play an integral role in any well-balanced diet.

Linda Funk, executive director of The Soyfoods Council, partnered with the North Dakota Soybean Council (NDSC) to promote Soyfoods Month by talking to North Dakota media. Hosted by NDSC on April 26, Funk conducted a cooking demonstration for North Dakota media and presented the

health benefits of soy. Reporters and media representatives enjoyed a delicious lunch made with soyfoods. Tofu was the main ingredient for most of the lunch.

"Tofu is made from soybeans and water, curdled and made into either silken tofu or firm tofu," says Funk. "Silken tofu works best in recipes that require a creamy finish, such as salad dressings, dips or desserts. Water-packed tofu works best when used in slices or cut into cubes to hold its shape for sautéing or stir frying. The great thing about tofu, besides its high nutritional value, is the way it takes on (the) flavors of other ingredients like marinades and seasonings. Tofu is available in nearly any grocery store, so have some fun and give it a try."

The Soyfoods Council is a non-profit organization, created and funded by Iowa soybean farmers, that provides the resources to educate and to inform healthcare professionals, consumers and the foodservice market about the many benefits of soyfoods. The Soyfoods Council represents nearly all facets

of the food industry, including soyfood product manufacturers, ingredient suppliers, state and national soybean checkoff boards, food retailers and distributors, and health and foodservice professionals. For more information, log on to www.thesoyfoodscouncil.com.

—Story and photos by staff



KFGO Ag Director Sarah Heinrich talks to Linda Funk about April Soyfoods Month.



Linda Funk provides Agweek TV's Rose Dunn with soyfood cooking tips.



NDSC visited KFGO's News and Views show with Joel Heitkamp on April 28, promoting April Soyfoods Month. Aaron Skyberg (far left) of the Northern Food Grade Soybean Association (NFGSA) accompanied NDSC Communications Director Suzanne Wolf (middle) to chat with Heitkamp (far right) about soyfoods and the state's food-grade soybean industry; Heitkamp was given soy treats to try on the air. To learn more about NFGSA, visit www.nfgsa.org



Lazy Days of Summer: Add a Little Soy Protein to Your Favorite Snacks

Summer is the season to which we all look forward! It cures up memories of vacations, warm-weather activities and spending time with family and friends. Whatever the activities, baseball games, outdoor grilling, or maybe just sitting on the porch and reading a good book, make healthy drinks and snacks part of the enjoyment.

It is incredibly easy to include soy protein with a variety of drinks and snacks. Take a look at some delicious ways to sneak some soy protein into drinks or snacks. The following ideas hardly need a recipe; be creative and add the flavors

you enjoy.

Brew your favorite coffee; add ice cubes to make an iced coffee; then, add vanilla soymilk to add some sweetness, a smooth texture and a little creaminess. Everyone's serving them from fast food to upscale coffee shops. Save some money and make your own whenever you need a pick-me-up!

Smoothies are easy and fun to experiment with. In your blender, add soft, silken tofu (1/2 box), your favorite in-season fruit or frozen fruit, and 1 cup of ice; blend until smooth. If the mixture is too thick, add a little soymilk or orange juice.

Be creative or sneaky, and add a little fresh spinach or kale (about a handful); blend the ingredients together.

Shakes are great to serve with burgers or sandwiches. In a blender, add about 1/2 cup vanilla or chocolate soymilk, about 2 cut-up bananas, 2 to 3 tablespoons of chocolate syrup, and 1 cup of soy ice cream or dairy ice cream; blend and serve. This could also be a great snack for kids after swimming or a baseball game, or even after a long day in the field.

Why not make cookies a little healthier by adding dry, textur-

ized soy protein (TSP or TVP)?

Take your favorite oatmeal-cookie recipe; if the recipe calls for 3 cups of oatmeal, use 1 1/2 cups of oatmeal and 1 1/2 cups of texturized soy protein for a healthier cookie that is protein packed. Try the cookie recipe below, and be amazed at all the compliments you receive. The cookies freeze perfectly, too, so you can make them ahead and have them on hand.

Enjoy the long-awaited summer days with some healthy soy-protein drinks and snacks.

—Story and recipe by Linda Funk, The Soyfoods Council, photo by staff

Best Oatmeal, Soy, Apricot, Cranberry 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
- 1 1/2 cups oatmeal
- 1 1/2 cups Texturized Soy Protein
- 1 cup chopped, dried apricots
- 3/4 cup dried cranberries
- 3/4 cup coconut
- 3/4 slivered almonds, toasted

Preheat oven to 350° F

1. In a large mixing bowl, beat the butter and sugars until creamy.
2. Add the next 7 ingredients, and mix until just blended.



3. Stir in the remaining ingredients until blended.
4. Drop by rounded tablespoons, 2 inches apart, on an

ungreased cookie sheet.

5. Bake 14-15 minutes or until tops are golden brown. Cool cookies on wire racks.

Yield

Approximately 4 1/2 dozen cookies.



BACK ON TRACK

From the fall of 2013 to the spring of 2014, many North Dakota farmers were concerned that their train

service had gone off the rails. A harsh winter, bumper crops and competition for rail space from oil and coal contributed to increased rail-car costs and delays in rail service.

The picture looks very different for 2016.

Rail officials say that many of the challenges have been or are being addressed to ensure timely pickup and delivery of agricultural products. John Miller, BNSF vice president for agricultural products, says that the rail company set a

record for soybeans moved to the Pacific Northwest from September 2015 to March 2016.

“The overall velocity for railcars, trains and locomotives remains strong, and each continues to exceed their respective averages,” Miller says. “In fact, the average train speed for all BNSF trains continues to be one of the fastest among all the Class I railroads.”

“Rail service has been very good,” agrees Stuart Letcher, executive vice president of the North Dakota Grain Dealers Association.

Because the vast majority of North Dakota soybeans are exported, transportation is critical to accessing overseas markets. Letcher says that investments by the rail companies have helped to loosen most bottlenecks and to develop improved infrastructure for heavier shipping times.

BNSF plans a capital-expenditure program of more than \$100 million in North Dakota this year; the dollars are primarily focused on maintenance projects, including more than 740 miles of track surfacing; replacing about 55 miles of rail and close to 240,000 ties; and signal upgrades for federally mandated, positive, train-control systems. This year’s capital projects in North Dakota also include continuing the installation of signaling projects along the Dickinson and Jamestown subdivisions, which will help manage rail traffic while improving train flows. Miller says that this work follows more than \$1.1 billion invested by BNSF in its North Dakota network over the past three years.

With low commodity prices through the fall and winter, and with ample on-farm storage throughout much of the state, Letcher thinks many farmers are

still holding onto their crops, so grain shipments weren’t as heavy through the fall and winter. Even so, he says that rail providers have reacted to the farmers’ concerns.

“I think with the rail investments, a lot of issues have been rectified,” Letcher says. “There could be issues if there is a spike in movement that tests the system.”

“In our current buyer’s market for agricultural products, international and domestic buyers are clearly buying large quantities of soybeans, corn, wheat and products because they can,” Miller says. “As a result, BNSF is seeing our agricultural customers and others buying freight two- to four-weeks out in the non-shuttle markets, and being careful about forward-bookings freight. We understand that, and while we have the resources to meet surges, we are watching and listening to market-demand signals carefully, trying to understand how demand will come three to nine months in the future.”

To address the anticipated demand for the summer and fall harvest seasons, Miller says that BNSF has been and will continue to offer shuttle trains through October.

—Story and photos by Daniel Lemke



Investments have reduced rail bottlenecks and improved service to agriculture.

OKAY TO SPRAY

Jeremiah Lien's goal is to make sure that farmers and others who handle pesticides don't find themselves on the wrong side of an inspection.

Since 2010, Lien has served as the pesticide outreach specialist for the North Dakota Department of Agriculture (NDDA). In this non-regulatory position, he helps pesticide users, dealers and repackaging facilities stay in compliance with state and federal regulations by pointing out the shortfalls that pesticide regulators look for so that issues can be addressed before any potential visits from inspectors.

"There was a need for this service," Lien says. "It's for people who weren't comfortable calling inspectors to find out if they were doing the right things."

Private Applicators

Most farmers are considered private applicators. They can apply restricted-use pesticides on personal property, on leased or rented property, or on others' property without compensation once they have been certified. Private applicators need to be certified every three years.

While private applicators have fewer requirements than commercial applicators, there are still regulations that the farmers must follow. The rules include keeping a record of all restricted-use and Sec-

tion 18 (emergency-use) pesticide applications. Those records must include

- Location where the pesticide was applied
- Time the pesticide was applied
- Trade name of the pesticide and the EPA registration number for restricted-use pesticides, and the identification of the pesticide's manufacturer
- Amount of pesticide used, including pounds or gallons per acre and total amount applied
- Specific crops, commodities and total acreage to which the pesticide was applied
- Applicator's certification number and signature

Follow the Label

Proper pesticide application and handling are becoming increasingly important and challenging for farmers. Lien says that North Dakota has approved labels for over 12,000 pesticides. Each label has its own requirements. While a number of the products are for general use, many pesticides are labeled as restricted use.

Restricted-use pesticide labels may have specific agricultural-use application requirements, including the wind speed at which products can be applied and on which plants the pesticide is allowed. Having

proper labels present during application is one potential violation that Lien frequently sees when meeting with farmers.

"That's an issue I see a fair amount," Lien says. "The label of what's being applied has to be on site, and it has to be affixed to the container it came in; it can't be ripped off."

Restricted-use pesticides also contain information about worker protection standards (WPS). This is also applicable for general-use products that have information regarding WPS. Private applicators are required to provide personal protective equipment based on the product's label.

Lien says that, in addition to protective equipment, a decontamination kit must be located within a quarter mile of the applicator, so carrying the kit on the sprayer is a good idea. That kit should contain at least 3 gallons of clean water, paper towels, soap, a change of clothes and eye rinse. If the label requires eye protection, farmers need to have at least one pint of non-saline eye rinse. Labels also require one gallon of water for each worker, even if people are not handling the pesticides. Detailed information about the requirements can be found at www.epa.gov/pesticides.

Private applicators don't need to have safety data sheets present unless hired workers are applying the pesticides. Those workers need to be trained about proper application by the farmer unless they are also certified. Private applicators are not

required to have a spill kit, however, it's a good idea to have absorbents, an empty container and adequate cleanup tools available.

Water and Bees

Lien says that two growing topics regarding pesticide applications are spraying near surface water and pollinators.

"We definitely want farmers to be careful around water and not spray over water," Lien says. He adds that spraying over surface water, including field potholes, is a violation of the Clean Water Act.

The NDDA has developed an interactive map that identifies the location of beehives so that farmers know if there are pollinators near where they intend to spray. The system is designed to help pollinators and farmers peacefully coexist.

Some labels now carry additional instructions about how the products can be used, even what sprayer nozzles have to be utilized when applying the chemicals. Lien says that following the label directions and applying products properly is in the farmer's best interest.

"No one wants more regulation," Lien adds. "We want to avoid cases where violations have occurred."

As a pesticide outreach specialist, Lien is available for large or small group presentations or for one-on-one consultation. He can be reached at (701) 425-3016 or jjlien@nd.gov.

—Story by Daniel Lemke,
photo by Mary Morken



Pesticide applications are no simple matter.

Farmers have a wide range of variables to consider in order to make certain that their applications are effective for the pest that they're trying to control without causing any unwanted consequences.

Fortunately, technology and other resources are giving growers the tools to make effective applications and good decisions.

"Some of the key changes in sprayer technology have come in our ability to control spray down to the individual nozzle," says Jason Dannelly, AgSpray Equipment site manager in Fargo. "We could do sections before; now, it's even more of an exact science."

Nozzles

For years, farmers were able to get by using roughly the same flat-fan nozzle to apply most herbicides or

Care and Cleaning

for Effective Applications

pesticides. Now, because of the array of products and technologies and even government regulations, accurate and effective treatments require more attention to detail.

The proper nozzle determines the per-acre application rate, droplet size and coverage pattern, all factors that impact effectiveness and economics.

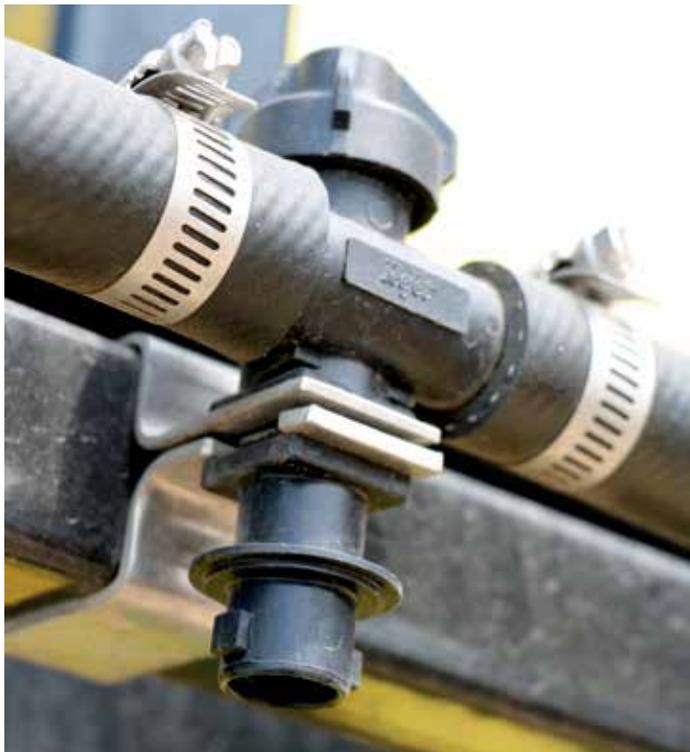
"If you don't use the right nozzle and apply at the right rate, you could run out of product before you are done or have some left over," Dannelly says.

Dannelly says that there are mobile-phone apps that help determine which spray tips to use based on variables such as the product being used, application rate, row width and ground speed.

Product Labels

Pesticide users are required by law to comply with all the use directions and instructions included on an approved product label. In North Dakota, over 12,000 products have been approved for use. The label is the main method of communication between the pesticide manufacturer and the end user.

In addition to identifying which crops the product is to protect, the pests it is designed to control and the rate at which it is to be applied, some product labels contain additional directions. For example, the Environmental Protection Agency now includes information about which spray tip to use to minimize



Proper tips and nozzles are important for effective application.



Jason Dannelly says technology gives farmers spray control.



New technology is improving the sprayer cleaning process.

drift and unwanted contact from herbicides. While it has not yet been approved for use on soybeans or cotton in the United States, the product label for dicamba will contain some specific directions.

“The nozzle requirement is new,” says Susan Curvey, technology development manager for Monsanto. “In the draft label, EPA is proposing one nozzle. We are working with others that support on-target ap-

plications to reduce driftable fines. There’s a lot of work being done by manufacturers to engineer new tools to make application improvements.”

Curvey says that Monsanto, as well as retailers and academics, has been conducting educational sessions with applicators and farmers to help them understand what’s required for application and cleanup once the technology is approved.

Even if they are not specified on

the label, the right spray tips are an important piece of the spraying process. Spraying a post-emerge herbicide will have completely different requirements than when applying a fungicide.

“You want to know that what you’ve paid for is landing on the plants you are treating and doing what it’s supposed to do,” Curvey adds.

Clean Up

Because most farmers raise different crops that require different pesticides, effective sprayer cleanup is an important part of the application process. “In some cases, cleanup is more important than anything else,” Dannelly says.

The primary role of spray-tank cleanout is to dilute the active ingredient below damaging levels, to deactivate the herbicide or to totally remove the herbicide from the sprayer system. Some products can be safely cleaned by simply rinsing the tank. Others may have

specific cleanout instructions on the product label. Curvey says that the Roundup Ready II Xtend system will require farmers to triple rinse their tank and components.

“Some products leave residue. Depending upon what product is sprayed next, it could draw out active ingredients left in hoses or tanks,” Dannelly says. “You could end up spraying something you don’t want.”

Unwanted spray can cause crop damage or even environmental impacts.

Some newer spray equipment comes with cleanout components, such as built-in pumps and separate rinse water tanks, to help make the process easier. Experts advise farmers to pay attention to potential bottlenecks where dry or active ingredients could collect. Cleaning or replacing used filters and screens is also recommended.

—*Story and photos by Daniel Lemke*

Ericson Graduates from ASA Leadership Program

Wimbledon, North Dakota, farmer Joe Ericson (front row holding sign) was among the farmers from 15 states who graduated from the 2015-2016 American Soybean Association’s Leadership at Its Best program. The Leadership at Its Best program is sponsored by Syngenta and develops leadership, communication and advocacy skills for farmers who have already shown potential to be strong leaders through the positions they hold on their state soybean association boards. Ericson serves as secretary for the North Dakota Soybean Growers Association.

This select group of farmer-leaders participated in the first part of the Leadership at Its Best training last summer in Minneapolis, Minnesota. In March, their training focused on how to advocate for

issues that are important to soybean farmers; class participants concluded this training in Washington, D.C., with a day of Capitol Hill visits.

The Leadership at Its Best pro-

gram participants are nominated by their state soybean association.

—*Story by staff, photo courtesy ASA*



Programs Offer Farm Conservation Options

Biologists from the North Dakota Game and Fish Department work with landowners across the state on an almost-daily basis. Mostly, that interaction takes place with producers who want to participate in the agency's Private Land Open to Sportsmen (PLOTS) program. On other occasions, the agency provides assistance to producers who are interested in conservation practices for their land.

Conversations at the 2016 Northern Soybean Expo and Trade Show involved a little of both topics. However, the overall theme at the Game and Fish booth, according to private-land section supervisor Kevin Kading, was about ways that agricultural producers and conservation organizations can work together.

"Many of the producers I speak to are hunters, and they enjoy wildlife," said Kading, who attended the expo along with private-land biologist Renae Heinle, whose territory covers the southeastern part of the state. "Many of the producers who stopped by to visit were interested in learning more about ways that conservation programs could help their operations. We find out very quickly once we start visiting with

each other that we have a lot more in common than we realize."

Kading said that he was excited about the invitation to visit with producers and get their perspective. "Some of the NDSGA directors thought it would be a good opportunity for us to interact with landowners, and it was."

Kading said that Game and Fish's goal for the day wasn't to hard-sell its PLOTS program but, rather, to make soybean growers aware of the different options that Game and Fish has to fit a conservation program into an operation. "A lot of people associate our programs with large areas of CRP (Conservation Reserve Program) grasslands," Kading noted, "but we can work with small areas of less-productive cropland within larger fields as well."

The PLOTS program can provide financial and technical assistance to private landowners for habitat protection, enhancement and development. The program

structure, payment types and agreement lengths vary, depending on the type of agreement and land use. The agreement lengths can vary from 2 to 30 years, and a cost-share for developing or enhancing habitat is also available.

Major Game and Fish programs are listed below, and more information about each one is available on the department's website: <http://gf.nd.gov/private-land-programs>.

- Wildlife Food Plot Program
- Wetland Reserve Program Incentive
- Private Forest Conservation Program
- Habitat Plot Program
- CRP Access Program
- Working Lands Program
- Shrub and Tree Planting Cost-Share Program

Kading said that Game and Fish understands how some landowners might want to incorporate a



conservation project, but they aren't interested in the public access that comes with a Game and Fish PLOTS agreement. Even in those cases, Game and Fish private-land biologists can help a producer connect with other conservation partners that can assist with state or federal options that do not require the accompanying public-access agreements.

"We were there to start some conversations," Kading said. "We're not always going to agree, but at least we can sit down and discuss these things. It was a real positive day for us. We thank the Soybean Growers for the invitation."

—*Story and photo by North Dakota Game and Fish Department*



Game and Fish programs can work with large areas as well as small areas of less-productive cropland within larger fields or along waterways that aren't easy to farm.



ASA Joins Monarch Collaborative

The American Soybean Association (ASA) and other ag stakeholders have joined the Monarch Collaborative, headed by the Keystone Policy Center, which focuses on the conservation and recovery of the Monarch butterfly. The effort also works to establish best practices for farmers and landowners to assist with the conservation and sustainability of the butterfly population.

In April, Cornell University released a study that illustrated how a lack of nectar sources, habitat loss and weather were affecting the dwindling Monarch butterfly population. Researchers found problems in the butterflies' migration from the United States and southern Canada to Mexico in the fall, rather than with a lack of milkweed—the only food source for caterpillars—in the summer.

Monarch populations have declined about 90 percent in the past two decades; the World Wildlife Fund's 2013 report from Mexico showed that the number of Monarch butterflies wintering there was at its lowest in 20 years. The number is measured by the amount of forest the butterflies occupy, and in 2013, the number of butterfly acres decreased from approximately seven to three.

The Monarch Collaborative has undertaken initial actions to benefit Monarch butterflies on the agricultural landscape. In February, the collaborative rolled out several documents to help the advocacy efforts to preserve the Monarch butterfly.

Proposed Revisions to Biotech Regulations

The American Soybean Association (ASA) submitted comments regarding the Animal and Plant Health Inspection Service's (APHIS) proposed revisions to biotech crop regulations.

In February, APHIS announced its intent to conduct a programmatic, economic-impact study as part of a comprehensive review of its regulations for biotech crops.

ASA commends APHIS for undertaking this initiative. ASA supports the goal of updating the regulations to reflect changes in the environment to develop and commercialize biotechnology. ASA is particularly concerned about the potential for changes in the regulatory system that could disrupt international trade. The U.S. government and ag industry are actively encouraging foreign trading partners to adopt product-based, regulatory review systems for biotech traits that are similar to our own.

ASA expressed support for the proposed regulatory approach that

is product-based, regulates only products that pose a documented risk, and is consistent with APHIS's authority and intent to modernize its regulations. ASA called for oversight that is transparent, predictable and proportionate to the actual risk posed.

EPA Sends Renewable Fuel Standard (RFS) Proposed Rule to White House for Review

The Environmental Protection Agency (EPA) has sent its 2017 Renewable Fuel Standard (RFS) Required Volume Obligation (RVO) proposal to the White House's Office of Management and Budget (OMB) for review.

The rule covers overall RFS and total Advanced Biofuel requirements for 2017 as well as the 2018 volume requirement for biomass-based diesel. OMB is allowed a 90-day review period, which means that the proposed rule would be published by mid-July. By law, the EPA is supposed to finalize the overall RFS 2017 levels and the 2018 biomass-based diesel requirement by Nov. 30 of this year.

Last fall, the EPA issued a final rule for 2014-16 (and 2017 for biomass-based diesel) that invoked waiver authority to reduce the amount of corn which ethanol refiners must blend into the nation's fuel supply. Ethanol, biodiesel and oil interests have all filed suit, in federal court, about various aspects of the RVOs, but those cases aren't expected to be resolved until late this year or possibly next year, adding a layer of uncertainty to the existing and upcoming 2017-18 rule.

North Central Soybean Research Program Annual Report Available

The North Central Soybean Research Program (NCSRP) recently

released an annual report detailing its activities for 2015.

The report includes research updates for projects focusing on sudden death syndrome (SDS); soybean cyst nematode (SCN); emerging soybean diseases; iron deficiency chlorosis (IDC); multi-state, on-farm research and a look at the future of NCSRP research.

"Soybean farmers can increase their base knowledge and (can) enhance their management decisions and production practices based on reliable on-farm trials of products and practices as well as basic and applied information related to SDS, SCN, IDC, new and emerging soybean diseases and insect pest problems, and efforts to increase soybean yield potential," says Ed Anderson, NCSRP executive director.

NCSRP is a farmer-led organization that invests checkoff dollars into research with regional implications. Twelve state soybean associations actively participate and fund NCSRP: North Dakota, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota and Wisconsin.

Together, the member states combine their soybean checkoff dollars to fund research at universities across the region. The results are then shared via the Soybean Research and Information Initiative website and sent to the various states.

Opportunities for the coming year include emphasizing more on-farm research to evaluate input products and agronomic practices along with improving yields and yield preservation through genetics and trait discoveries that transfer to the private sector.

For more information about NCSRP, visit ncsrp.com.

— *Staff reports*



Getting to Know the Grower



Tyler Speich
Milnor, North Dakota

Tell us about your farm and family.

I farm with my dad and brother. We raise soybeans, corn, wheat, sunflowers, alfalfa and cattle.

What's your favorite food?

A good steak is my favorite.

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

Yes, I did.

What do you like best about farming?

The variability of work from day to day.

What's most exciting about the upcoming growing season?

It's always exciting looking forward to the results of the crop you planted.

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

An air compressor.

Has serving on the North Dakota Soybean Council been a benefit to you? Why?

Yes. It has helped me understand how research and marketing programs get initiated in the soybean industry using checkoff funds.

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

To make it more profitable.

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

Technology and market volatility.

What do you like to do outside farming?

I enjoy spending time with family.

Do you have a hidden talent that would surprise people?

I can roll my tongue.

Why are soybeans a part of your crop mix?

Soybeans are easy to rotate and consistently profitable.

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

I didn't know what I was getting involved with. I was at a local crop-improvement meeting and was nominated for the position. I have learned a lot the last few years on the Council.

— *By Staff*

Next Generation Leaders

Farmers who are interested in learning more about the soybean industry and cultivating their leadership skills are encouraged to apply to be part of the American Soybean Association's (ASA) DuPont Young Leader (DYL) program.

The DYL program is an intense course that is designed to enhance leadership skills for the benefit of the entire agricultural industry. Many program graduates assume

roles with their state and national soybean associations.

"For many years, the ASA DuPont Young Leader program has filled the critical role of identifying new and emerging leaders in the soybean industry, and then training them to be strong voices and advocates for agriculture," says ASA President Richard Wilkins. "We're grateful to DuPont Pioneer for their commitment to this program

and for helping secure the future of the soybean industry."

Greg and Monica Gussiaas of Carrington, served as North Dakota's DYL participants for 2015-2016.

The ASA DuPont Young Leader program is a challenging and educational two-part training effort. Phase I of the training takes place at the DuPont Pioneer headquarters in Johnston, Iowa. The program continues with training that is held in conjunction with the annual Commodity Classic Convention and Trade Show.

Grower couples and individuals are encouraged to apply for the program which focuses on leadership and communication, agricultural information and developing a strong peer network. ASA and its 26 state affiliates, select the top producers to represent their state as part of this program.

For more information on the 2016-2017 class or to apply, visit www.soygrowers.com/learn/young-leader-program.

— *By Staff*





Josh Gackle
Kulm, North Dakota

Tell us about your farm.

I farm with my dad, brother, uncle and grandpa on a third-generation farm where we grow corn, soybeans, wheat and barley.

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

I grew up on the same farm, working with the same people I farm with now. Yes, farming has always been in my blood. In the years that I was away from the farm, I looked forward to coming home to help during planting and harvest. It's good to be home and farming full time now.

What do you like to do outside farming?

I'm a bit of a sports junkie, so anything related to baseball, basketball, softball or golf is usually where I'll spend my time. I'm also working on obtaining my private-pilot license, spending time flying and studying how to fly the plane.

What would you change about the current farming environment?

Just one thing? Right now, I'd have to say finding a better balance between cost of production and current grain-market realities.

What did you do before returning to the farm?

Most of my career, prior to moving back in 2012, was spent as staff with the Minnesota state legislature and the Minnesota governor's office, where I worked on policy issues related to energy, ag, outdoors and environmental issues.

What did you learn from that experience?

A couple things stick out: First, most complex issues have more than one right answer, and second, that most elected officials and those in public service work hard to make things better for the constituencies they serve.

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

Definitely the biggest change has been in technology and data management/implementation. Not only machinery and operating technologies, but also in the areas of seed, fertility and pest management.

What's your favorite thing to do on a North Dakota summer night?

Spending time with friends and family somewhere on or near the water.

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

Right now, I think a visit to China would be my first choice. It's such an important place for us as farmers to understand, plus the culture and people would be great to experience firsthand.

What do you like best about farming?

I've always liked the work the best: running the planter, driving the combine or sprayer, delivering to the elevator. As technology and

data become more important to a farm's success, I also enjoy finding ways to successfully apply those tools to our farm.

What is the biggest challenge facing farmers right now?

There are near-term challenges and long-term challenges. In the near term, farmers—and especially young farmers—are going to have to

find ways to maintain a viable operation during a period of low prices and high costs. In the long-term, we will be challenged by competition from a global ag economy as well as weather extremes that will increase the uncertainty from year to year. But those challenges will bring opportunities for success as well!

— By Daniel Lemke

If You Farm Soybeans

You won't want to miss these informative events:

Soybean Market Outlook Seminar for ND soybean producers.

July 27, 2016 • 9 AM – 3 PM

NDSU Barry Hall, downtown Fargo (811 2nd Ave N)

Dr. Bill Wilson and Dr. Frayne Olson will talk about major soybean market events, price outlook, basis outlook and overall market strategy for 2016/17 market year.

Lunch provided • No registration fee • Pre-registration required

Contact Stephanie to reserve your seat: call (701) 239-7194 or email ssinner@ndssoybean.org

Registration deadline is July 20th

NDSU Summer Field Days Featuring Soybeans

July 18 • 5:30-8 p.m.

Agronomy Seed Farm, Casselton

July 19 • 9 a.m.-4 p.m.

Carrington Research Extension Center

July 20 • 9 a.m.-12 noon with lunch to follow
North Central Research Extension Center, Minot

For more information about Field Days, contact your local NDSU Extension Office.



NDSU

North Dakota Soybean Council • 888-469-6409 • ndssoybean.org

**NORTH DAKOTA SOYBEAN
GROWERS ASSOCIATION**

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Join the fun! Sign up for the NDSGA 13th Annual Golf Tournament on **August 23, 2016** at the Maple River Golf Club in Mapleton, N.D. Golf, lunch, social, dinner and prizes are included. Register yourself or

a whole team by August 1 by going to the Events tab at NDSoyGrowers.com. For more information, contact Nancy Johnson at (701) 640-5215 or nancy.johnson@ndsoygrowers.com.

