

THE NORTH DAKOTA **Soybean** GROWER MAGAZINE

VOLUME 3 • ISSUE 2
APRIL 2014

INSIDE
Managing Soybean
Cyst Nematode



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On the Cover: Dr. Sam Markell, NDSU Extension plant pathologist, demonstrates how to dig plants to look for cysts. The plant was heavily infected with cyst, but not yellowed yet, and came from the field behind him. The field behind him had multiple hot spots of cyst indicated by the stunted areas. Markell was demonstrating that you can't always tell when and where you have cyst. Often, growers may have up to 30% yield loss before plants prematurely yellow.



Milnor Farmer Sees the Value of Membership

After nearly 3 years serving as a member of the North Dakota Soybean Growers Association's (NDSGA) Board of Directors, Kasey Lien from Milnor, N.D., sees the very good value of membership. "Now knowing, being on the board, what we do and try to accomplish is, I think, very important," says Lien. "Just going into Washington or Bismarck and trying to put things in senators' ears about what we want to get

accomplished."

Prior to serving on the NDSGA, Lien says he had no idea what was involved with the board. He calls it an "eye opener." Lobbying is the biggest priority of the board, says Lien, "And getting the bills passed that we want passed."

Lien is still studying the 2014 farm bill but says that, as long as the government helps reduce the cost of his crop insurance, he'll be happy. He says the American Soybean Association, of



Kasey Lien

which every North Dakota Soybean Growers Association member is also a member, worked more than 2 years on the new farm bill. "It's nice to have a voice."

Lien took over his dad's land in 2008. He farms with his uncle and his cousin. He raises corn and soybeans. "We haven't raised wheat since 2008, I believe it was."

Lien and his wife, Kali, have a 15-month-old son, Hunter.

CHECKOFF RESEARCH SUCCESSES IN NORTH DAKOTA

"Soybean cyst nematode is a growing problem for soybean farmers in North Dakota. The North Dakota Soybean Council (NDSC), which administers the soy checkoff, works to stay on the forefront of the issue with projects to help farmers better understand this pest and how to manage it. This includes research to test varieties and seed treatments to determine what products may be resistant to the pest and help farmers minimize yield and profit losses."



- Tyler Speich, farmer from Milnor and NDSC Research Committee Chair

NDSC funds a variety of projects each year to increase the profit potential of your soybean operation. Take a look below at some of the areas in which NDSC funds research on behalf of soybean farmers in North Dakota.



PUTTING YOUR MONEY WHERE IT MATTERS

Spring is finally here, and we are anxiously awaiting the arrival of our first day in the field for the year. The cold days and the long nights of the winter are soon to be a distant memory as we turn our attention to the excitement of spring. We are fully armed with new data and techniques that we gathered from the winter meeting season, and we can't wait to put our new knowledge into action. But where did all these new ideas come from? How do we know that they will work? The answer is the theme for this issue of our magazine. The answer is Research.

As farmers, we are always interested in learning more about ways that we can improve the things we do. We also like to confirm that some of what we do is right. We put a tremendous amount of faith and trust in NDSU's data. We depend on the unbiased methods and the replicated trials that NDSU researchers provide. We make decisions about seed treatments, populations, row spacing, herbicide treatments, fungicide applications, etc. based upon what the researchers' data show. We are thankful to have such a well-respected university do all this local research. Although we are thankful for the data, we often overlook the backbone of this research.

When I first became involved with the North Dakota Soybean Growers Association, I had assumed, like most of you, that NDSU's vast amount of research was funded through the state. Although this assumption is partially true, I had never understood the huge role that the commodity groups play. The North Dakota Soybean Council is truly a leader when it comes to funding research at the university level. Using your checkoff dollars, the Council funds an enormous amount of research that we can apply directly to our operations. We can trust that the data we are given are free of any company bias and will translate into field success. We would like to commend the Soybean Council for all the work it does for our growers. For the Association, the Council does even more.

Research is an area where the North Dakota Soybean Growers Association and the North Dakota Soybean Council have a great amount of synergy. We can work very closely on issues and projects that are important to all of us. For example, the Soybean Council has funded high-quality research on transportation, roads and bridges. The Association has used the vast amount of data that were gathered to help secure funding from Bismarck for our rural roads and bridges. We are proud of the things that can be achieved when we work together on these issues.

As we begin another year, I hope you are sincerely excited about the fresh start and new opportunities that await us. As planting begins, I hope you are fully prepared to use all the data that are available to make this your best crop. You have done your research, and we have done ours. I hope that, by working together, we can all make this year a profitable one. Stay safe and Happy Planting!



Jason Mewes,
President
North Dakota Soybean
Growers Association



The *North Dakota Soybean Grower* is published four times a year by the North Dakota Soybean Growers Association, 1555 43rd St. South, Suite 103, Fargo, ND 58103, Website: www.ndsoygrowers.com.

To update subscription information, please email info@ndsoygrowers.com or call 701-640-5125.

Send editorial and advertising materials to Don Wick or Mike Hergert, Ag Information Services, Inc., 1407 24th Avenue So., Suite 235, Grand Forks, ND 58201, don@rrfn.com or mike@rrfn.com. Publication of editorial or advertising material in the *North Dakota Soybean Grower* magazine does not imply endorsement by the North Dakota Soybean Growers Association. Check agronomic advice with local sources and always read and follow product labels.

Six Management Tips Before You Plant

You have to be a little careful about where you look at plant-population data. According to DuPont Pioneer field agronomist Zach Fore, “If you go very far south of us, you’ll start to see some pretty low recommended populations, planting rates of 120,000, something like that. As you go north, we need more plants.”

Fore says that it takes more plants to get canopy closure, which is essential for maximum yield potential as well as good weed control. Looking at soybean plant populations, you’ll see a relatively flat curve, so anywhere along that curve, Fore says, it might be difficult to tell the difference. Growers need to look at where the optimum return is, where they’re getting at least a one-to-one payback for the additional planted seed.

“For my money, in this northern zone (north of the North Dakota-South

Dakota border), what I shoot for is 140,000 plants per acre, established,” says Fore. “That would be in any row spacing. Seth Naeve, from the University of Minnesota, has done a lot of work on population up here, and he does not change his recommendation for row spacing.”

Greg Endres, NDSU Extension area agronomist, uses a standard recommendation of an established stand of 150,000 plants per acre, which he says is an optimum stand. As far as the seeding rate, Endres’ work, where he used planting rates of 100,000 to 130,000 pure live seeds per acre, resulted in a yield loss compared to the more typical 150,000 to 175,000 pure live seeds per acre.

Endres says that the rule of thumb is a 10 to 15 percent loss, or that much pure live seed that doesn’t produce a plant. “So, it’s really important that growers get out a few

weeks after planting and determine what the actual stand is. That will help them determine what their planting rate should be in the future.”

If people just go by the amount of seed they drop at planting time, Endres says, they probably should add at least 5 percent to those numbers, in other words, 15 to 20 percent extra. A common planting rate is 175,000 seeds per acre. At the Carrington Research Extension Center (REC), Endres managed 21 trials where he compared a planting rate of 150,000 to 175,000 pure live seeds per acre with a planting rate of 100,000 to 130,000 pure live seeds per acre. “That (higher) level of planting rate gave us a 5 percent yield advantage compared to the 100,000 to 130,000 pure live seeds per acre,” according to Endres.

Using the goal of 140,000 established plants per acre, Fore recommends you back-calculate from there to see how many

seeds you need to plant. “If you calculate a normal 90 percent germ rate, you’ll lose more seeds if you’re planting with an air planter than if you’re planting with a row-crop planter. You’ll have more mortality with a grain drill than you will with a row-crop planter.”

With a row-crop planter, Fore says that you can drop (plant) somewhere around 160,000 seeds and get 140,000 plants. With an air seeder or a grain drill, you might need to drop 170,000-180,000 seeds to get 140,000 plants.

Fore points out that this conclusion is not his opinion. This information is based on the most current and best research he has reviewed.

Endres prefers to have the canopy fill as quickly as possible, preserving soil moisture, capturing more sunlight and helping beans compete with weeds. “It’s more of a function of row spacing versus plant population,” says Endres. “The



narrower the rows, the better. In our work, comparing 14-inch to 28-inch rows, the canopy fill was completed a month earlier with the 14-inch rows."

PLANTING DATE

Endres has conducted 4 site years of work, in 2011 and 2012, on the soybean planting date. He planted soybeans the last week of April or the first week of May, and compared those results to the normal planting time. "The average over the 4 site years," says Endres, "showed there was a 13 percent yield increase with the early planting."

Preserving soil moisture by planting early can be critical in certain years. In the last 12 years, the average rainfall at the Carrington REC during August was 2 inches. Endres says that, in half of those years, rainfall was below 2 inches, and the other half, it was above 2 inches. "We gained 9.5 bushels per acre in years when we had above normal rain (in August)," according to Endres, who says there are other factors, such as carryover moisture from the previous fall and if precipitation for the entire growing season was above normal.

Asgrow and Dekalb territory agronomist Jerad Liedberg recommends planting earlier. "You have

to be aware of soil temperatures, but soybeans are a lot more frost tolerant than you might think. Earlier planting means more potential for node development, which are more potential sites for pods."

Endres acknowledges the risks of planting soybeans early. If farmers plant before the initial planting date, they lose crop insurance for replanting, and there is a risk of frost. If the soil is really cold, farmers can expect more than the normal 10 to 15 percent stand loss.

The late spring in 2013 interrupted plans to continue the planting-date research at the Carrington REC. Endres went to Plan B, developing a database to compare last-half of May versus June planting. "The data we generated last year, as well as from previous years, showed a yield loss of 5 to 8 percent with the June planting. That was across a number of databases versus just looking at the range trial by trial."

INOCULATION

Fore says that DuPont Pioneer recommends inoculants on all soybeans that are planted. "It's a low-cost input. If you go to southern Minnesota and further south, they don't use a lot of inoculant," he

says. "Our soils have had fewer years of soybeans, and the universities have tested inoculants. North Dakota State University and the University of Minnesota, their recommendation up here, is to use inoculants every year."

Fore says that soybeans planted in a field for the first time, for the first time in 4 to 5 years or more, or on former CRP ground definitely need inoculants; in fact, he likes to see an extra dose of inoculant. Whether it's a double application of a liquid inoculant, a liquid in addition to a dry inoculant, or a seed inoculant along with an in-furrow inoculant, all of them are good ways to get additional inoculant applied in those cases where there's not a long soybean history.

Endres agrees, saying inoculation is a given for ground that has not had soybeans before. On ground that has not had soybeans within the last 4 years, it is strongly recommended. "The debate is should it be a regular practice even if we have soybeans every second or third year?" says Endres. "We have 7 trials where we knew the seed inoculation was done on ground that previously had soybeans, and when we averaged the yield on those 7 trials, the yield was the same with the

inoculated versus not inoculating."

On the other hand, Endres says that, with the trials where he conducted seed inoculation work, if the ground had not had soybeans for a long time, or never had them, statistical yield increases were consistently seen. With larger databases, there is a 1- to 2-bushel increase with inoculation as a standard practice, typically enough to pay for the inoculation.

Liedberg says, "Do it," when asked about inoculating soybeans. "A new soybean grower certainly would want to consider double inoculation," he continues.

Soybeans fix their own nitrogen symbiotically with rhizobia bacteria, and the inoculant is live bacteria. Live bacteria is in close proximity to the seed, so there's enough bacteria to infect the roots, develop nodules and fix enough nitrogen for the crop's needs. "Last year," says Fore, "where we had CRP coming out, even in some cases where they did inoculate but didn't put an extra dose on, when it's not working, you'll see some yellow beans; they're actually nitrogen deficient."

On fields that do not have a recent history of soybeans, the inoculation should take place shortly before planting.

U.S. Soy Exports Break Value Record in 2013

U.S. soybean farmers exported 1.7 billion bushels of U.S. soy in the 2012-13 marketing year. The value of these exports set a new record of \$28 billion, a 19 percent increase from 2011-2012.

These figures illustrate farmers' commitment to supplying reliable, quality products to customers around the world. According to the U.S. Census Bureau, this total includes more than 1.3 billion bushels of whole U.S. soybeans, the meal from 454 million bushels of U.S. soybeans and the oil from 186 million

bushels. All told, these exports represent 56 percent of U.S. soybean production from 2012.

"The reliability and quality of the U.S. soy supply are just a few reasons that customers keep buying U.S. soybeans, meal and oil," says Jared Hagert, soybean farmer from Emerado, N.D., and United Soybean Board (USB) farmer-leader. "Continuing to meet our customers' needs is very important to U.S. soybean farmers, and these numbers prove we are doing that."

Soy exports for the

2013-2014 marketing year are off to a good start as over 100 percent of the total 2014 export forecasts were already sold, halfway through the marketing year.

Top buyers of whole U.S. soybeans in 2013 include:

- China: 772 million bushels of U.S. soybeans
- Mexico: 98 million bushels of U.S. soybeans
- Japan: 63 million bushels of U.S. soybeans

Top buyers of U.S. soybean meal in 2013 include:

- Mexico: meal from 59 million bushels of U.S. soybeans
 - Philippines: meal from 47 million bushels of U.S. soybeans
 - Canada: meal from 43 million bushels of U.S. soybeans
- Top buyers of U.S. soybean oil in 2013 include:
- China: oil from 37 million bushels of U.S. soybeans
 - Mexico: oil from 35 million bushels of U.S. soybeans
 - India: oil from 21 million bushels of U.S. soybeans

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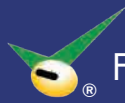
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DEAR VALUED SOYBEAN PRODUCERS:

It is my pleasure to share the top-priority decisions for soybean production this year.

VARIETY SELECTION. Select varieties based on a combination of these factors:

- Proven yield potential: Use the variety trial information from several locations to select the varieties that are consistently top yielding.
- Maturity group: Select based on the desired length of the growing season as well as drought and pest avoidance potential.
- Tolerance to herbicides; resistance to nematodes and diseases.

TILLAGE. Strive to use the minimum amount of tillage that will provide the best seedbed, minimize erosion and minimize soil-structure damage.

SPRING WEED BURNDOWN. Apply the proper mix of spring burndown herbicides. This is the initial phase of herbicide-resistant-weed management. Add residual herbicides in fields with known herbicide-resistant weeds. Use herbicides with different modes of action in applications.

PLANTING DATE. Select the date based on the following factors:

- Early planting allows soybeans to maximize vegetative growth for earlier row closure to reduce weed competition.
- Estimated last spring frost date.
- Harvest schedule.

SEED TREATMENTS. Select and apply seed treatments based on the following factors:

- Select materials that control diseases, insects, and nematodes that are prevalent in your area.
- Early season pests that need to be minimized to ensure a good stand.

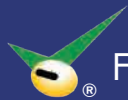
EARLY SEASON WEEDS. Manage for early season weed escapes, especially herbicide-resistant species. Control them soon after planting to avoid competition with soybean plants.

CONTROL INSECTS AND DISEASES. This step is especially important after the R1 growth stage in high-yield environments. Use thresholds for treatment decisions.

SAMPLE THE SOIL FOR NEMATODES. This step determines the presence and species in order to determine the control measures. Best practices include sampling in the fall shortly after harvest. Use the results to select varieties with known resistance to the species and races you find. Plan a rotational cropping system to avoid yield reductions.

SAMPLE FOR SOIL-FERTILITY LEVELS. To maintain high fertility levels, sample in the fall after harvest. Consistently high yields will remove significant amounts of nutrients that must be replaced to maintain high yields.

I wish you much success and good fortune with spring planting!



Vanessa Kummer Receives 2013 Agriculture Future of America's Leader in Agriculture Award

Because of their commitment to agriculture and young leaders, Agriculture Future of America (AFA) selected Vanessa Kummer (photo right) and Bob Stallman (photo left) as the 2013 Leader in Agriculture Award recipients. With this award, AFA honors individuals whose personal accomplishments and professional careers have distinguished them as mentors to young leaders and others in the agriculture industry.

Kummer, a North Dakota farmer from Colfax, is a past chair of the United Soybean

Board. She was the first female to serve in this capacity and has held numerous other positions on the board. Kummer and her family raise soybeans, wheat, corn and sugarbeets.

"Both Kummer and Stallman have distinguished themselves as leaders and spokespersons for American agriculture," said Russ Weathers, AFA president and CEO. "The Leader in Agriculture Award embodies the vision of AFA student leaders and honors their role models. We look forward to the Leader in Agriculture Award Dinner where these



two leaders will share their personal visions for agriculture with our student delegates and dinner guests."

Kummer and Stallman were officially recognized at the Leader in Agriculture Award Dinner on November 8, 2013, at the Sheraton Kansas City Hotel at Crown Center. This dinner was held in conjunction with the AFA

Leaders Conference. AFA creates partnerships that identify, encourage and support outstanding collegiate and young professional men and women who are pursuing careers in the agriculture and food industry. With program participation increasing 70 percent in the last 5 years, AFA leader-development programs have impacted 9,000 college leaders and young professionals from more than 200 colleges and universities throughout 42 states since its inception in 1996. AFA has awarded more than \$8 million in academic and leader-development scholarships.



The North Dakota Soybean Council educated over 3,500 fourth graders in Bismarck, Fargo and Lisbon in February, March and April about the importance of soybeans to the state, including how soybeans are grown and the array of products made from this "miracle bean." The Living Ag Classroom events are collaborative efforts by many North Dakota agriculture and commodity groups to teach fourth-grade students how their food gets from the farmer's field to the grocery store shelves.



Funded by the **North Dakota** soybean checkoff.

North Dakota Soybean Council Offers 2nd Annual “See for Yourself” Program

JULY 14-18, 2014

The North Dakota Soybean Council invites North Dakota soybean farmers to apply for this

year’s “See for Yourself” program, set for July 14–18. Sixteen interested North Dakota soybean farmers

will be selected to participate in the program and will have the opportunity to visit

NDSU’s Commodity Trading Room in Fargo; North Dakota’s Port Services and train yards in Minot; the shipping terminal at the Port of Grays Harbor in Aberdeen, Wash.; and an aquaculture facility in Washington State.

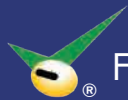
If selected, airfare, lodging and most meals will be reimbursed by the North Dakota Soybean Council. Applications to participate in this program are open to all North Dakota soybean farmers and are due by 4:00 p.m., April 30, 2014. To apply, fill out an application by logging on to the NDSC’s website at www.ndsoybean.org.



Last year’s North Dakota Soybean Council’s “See for Yourself” group toured the Export Grain Terminal (EGT) in Longview, Wash., and saw firsthand how EGT loads bulk cargo ships bound for markets in Asia with soybeans, corn and wheat.

For the 2013 Holiday Season, the North Dakota Soybean Council donated over 200 SOYSILK® Plush Pals (Tofu Bears and Bunnies) to babies and children in Fargo, Bismarck and Grand Forks hospitals. SOYSILK® brand fiber is a cutting edge fiber made from the waste produced during the manufacture of tofu. Along with Santa Claus, NDSC visited Sanford Health and Essentia Health in Fargo on December 18th for personal donations of SOYSILK® Plush Pals to children and babies. A special thank you to Scott Sinner, husband of NDSC’s Director of Marketing Stephanie Sinner, for playing the part of Santa Claus during the visits to Fargo hospitals. This photo was taken at Essentia Health in Fargo.





North Dakota Soybean Council Funds Over \$1.3 Million in Soybean Production Research for FY 2015

The prosperity of soybean production depends upon a healthy and effective research program. Soybean research continues to be a major focus of the North Dakota Soybean Council (NDSC). During its

December 2013 board meeting, NDSC approved 31 soybean research proposals, a total of \$1,321,246, for FY 2015.

“The primary objective of the North Dakota Soybean Council’s investment in research is

to increase soybean farmers’ opportunities for increased soybean quality, greater yields, better pest and disease control, and expanded market options,” says Kendall Nichols, NDSC Director of Research Programs.

“NDSC feels these funded projects will definitely help with the challenges soybean farmers face today.”

The list of approved funded soybean research proposals:

- Soybean Response to Nitrogen Inputs Under Tile-Drained Conditions – Hans Kandel, NDSU
- Soybean Productivity on Raised Seedbeds – Hans Kandel, NDSU
- In-Field Crop-Sensing Technology Applications to Soybean Production – John Nowatzki, NDSU
- Demonstrate the Effectiveness of Unmanned Aircraft Systems (UAS) in Soybean Crop Management – John Nowatzki, NDSU
- Soil Water Use Shift in Soybeans – Jay Goos, NDSU
- Visual Ratings for Iron-Deficiency Chlorosis – Ted Helms, NDSU
- Breeding of Glyphosate-Resistant Soybean Cultivars – Ted Helms, NDSU
- Breeding of Improved Non-GMO Cultivars and Germplasm – Ted Helms, NDSU
- Employing Fall and Spring Herbicide Treatments to Combat Glyphosate-Resistant Kochia in Central

North Dakota in Soybeans – Mike Ostlie, NDSU Carrington REC

- Utilizing Winter Rye to Suppress Kochia Emergence Prior to Soybean Planting – Mike Ostlie, NDSU Carrington REC
- Evaluating the Effects of Soybean Plant Stand by Planting Date – Mike Ostlie, NDSU Carrington REC
- Optimizing Soybean Plant Population for Ideal and Late Planting Dates – Yvonne Lawley, University of Manitoba
- Impact of Selected Establishment Factors on Soybean Production – Greg Endres, NDSU Carrington REC
- Management of Soybean Root Diseases in Multiple Planting Dates and Environment of North Dakota – Pravin Gautam, NDSU Langdon REC
- Optimizing the Use of Row Spacing, Partial Host Resistance and Fungicides for the Management of





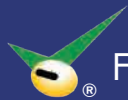
Sclerotinia in Soybeans – Michael Wunsh, NDSU Carrington REC

- Managing Sclerotinia in Soybeans with Contans – Michael Wunsh, NDSU Carrington REC
- Screen Breeding Lines for Resistance to Diseases, Identify New and Virulent Strains of Soybean Pathogens and Determine Causes of Unknown Diseases – Berlin Nelson, NDSU
- Virulent Types of Soybean Cyst Nematode in North Dakota – Berlin Nelson, NDSU
- Effect of Soil Salinity on Disease Resistance of Soybean – Berlin Nelson, NDSU
- Controlling Volunteer Roundup Ready (RR) Canola with PRE Herbicides – Richard Zollinger, NDSU
- Impact of Tillage System, Previous Fertility and Previous Crop on Rhizobia Population, Nitrogen Credit and Soybean Production – Ezra Aberle, NDSU Carrington REC
- Maximizing Soil Warming and Health Under Different Tillage Practices – Aaron Daigh, NDSU
- Soybean Responses to Conservation Tillage Practices Under Tile-Drained Conditions – Amitava

Chatterjee, NDSU

- Field Demonstration of Different Insecticide Strategies for the Management of Soybean Aphids – Janet Knodel, NDSU
- Increasing Awareness of Soybean Cyst Nematode in North Dakota – Sam Markell, NDSU
- Novel, High-Performance, Soy-Based Materials for Composites and Coatings – Bret Chisholm, NDSU
- Seeding Date, Cultivar and Location Influence on Soybean Performance and Phenology in Eastern North Dakota – Burton Johnson, NDSU
- Commercial Evaluation of Novel Soy-Based Resin in Wood Composites – Dilpreet Bajwa, NDSU
- Digital Imaging Technique to Detect and Count Aphids in Soybeans – Sreekala Bajwa, NDSU
- Improving the Soil Health and Productivity of Sodic Soils – Tom DeSutter, NDSU
- Soil-Salinity Gradients' Damage to Soybeans and Pest Infestations – Abbey Wick, NDSU
- Research and Extension Efforts at the SHARE Farm – Abbey Wick, NDSU





Dr. Ted Helms Continues to Provide North Dakota Producers with Soybean-Variety Options

In 1986, Dr. Ted Helms came to NDSU as the soybean breeder in the plant sciences department. The program works to develop both non-GMO and GMO soybean varieties for the general-use and specialty-export markets, and also to test private-company varieties to aid farmers in choosing the best variety for their farm. The North Dakota Soybean Council is a funding partner with NDSU for Helms' breeding program and research.



NDSU's soybean breeding program develops cultivars that are tolerant to disease and insect pests, and environmental stress factors that occur in North Dakota. The breeding program identifies experimental lines for release that 1) have major gene phytophthora root-rot resistance, 2) have iron-deficiency chlorosis (IDC) tolerance, 3) have lodging resistance, 4) are of suitable maturity and 5) have a high yield in North Dakota conditions.

The choice about which cultivar to grow is an important decision. The NDSU Soybean Breeding and Production Research Project tests both public and privately developed

cultivars, providing growers with an unbiased source of information. Growers can increase soybean production and profitability by identifying those cultivars tolerant to disease and insect pests, along with environmental stress factors, on their farm.

"Production experiments are necessary to enhance the decision-making process of soybean growers to increase profit," says Helms. "Because the soil and weather factors in North Dakota are different than other geographical regions, production studies conducted in other states are not as useful in making management decisions."

Private companies have typically relied on universities to provide improved breeding methodology. Private companies are dedicated to bringing new products to the marketplace and do not have time to refine and improve the breeding

theory and methods. Improved breeding methods aid soybean growers by making private companies' breeding processes more efficient and by increasing the rate of genetic gain.

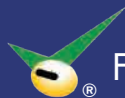
An important objective of Helms' breeding

CONVENTIONAL (NON-GMO) VARIETIES

Council	Walsh	Sheyenne
Danatto	Sargent	Cavalier
Traill	Nornatto	Ashtabula
Jim	Nannonatto	ND1005T
Daksoy	LaMoure	ND1100S
Norpro	Pembina	
Barnes	ProSoy	

ROUNDUP READY 1 VARIETIES

RG200RR	RG600RR	RG604RR
RG405RR	RG601RR	RG607RR
RG6008RR	RG603RR	RG7008RR



program is to test varieties for soybean companies.

"Annually, I compare both public and private varieties and provide information on maturity, yield, iron chlorosis scores, phytophthora genes, and protein and oil content, so soybean producers can make informed planting decisions," explains Helms.

For some upcoming results from Helms' breeding program, an early, conventional experimental line, called ND09-5604, could be

released in January 2015. ND09-5604 yields 4 bushels per acre more than "Cavalier," and is one day later maturity than "Cavalier." It has good phytophthora root-rot resistance and is lodging resistant.

ND09-5798 is 2 bushels per acre higher than "Sheyenne," has good phytophthora root-rot resistance and could be released in January 2016. This variety matures 1 day later than "Sheyenne," and has good iron-deficiency chlorosis and lodging resistance.

Helms' Roundup Ready 1 (RR1) Breeding Program began in 2010, and a new and improved RR1 variety could be released in 2017. "Planting NDSU developed RR1 types will save growers money by reducing seed costs," says Helms. "This will be especially beneficial and important on marginal

ground."

In the summer of 2013, Helms had numerous variety trials throughout North Dakota, totaling 18,698 plots. In looking at IDC, Helms conducts extensive trial evaluation for different varieties that are tolerant to iron-deficiency chlorosis, totaling 6,880 hills.

Taiwan Passes New GMO Tolerance Regulations

Taiwan's government recently passed a law which, when implemented, will set some new tolerance regulations for food containing genetically modified organisms (GMOs). This law will require all foods containing GMO ingredients to carry a label and will also set the tolerance of GMO content for which ingredients must be labeled at 0.9%, similar to regulations in the European Union (EU).

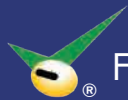
The Taiwan Food and Drug Administration (FDA) is currently drafting the implementation regulations for this new policy. These regulations are expected to be published in May or June of 2014 and are anticipated to stipulate

that menu items and food sold at fresh markets will also require labels for GMO content.

At this time, it is unknown if the regulation will cover the testing bodies that will be authorized to certify the GMO content of imported foods/ingredients and if certifications from the country of origin will be allowed. After the Taiwan FDA publishes the new regulations, there will be a 30-day comment period.

Taiwan consumes over 8 million bushels of soybeans used in soy foods. Of that amount, 95% currently originate in the United States; 7.2 million bushels of those soybeans are GMO soybeans from the U.S.





Stored Grain Poses Danger

GRAIN-BIN SAFETY REMINDERS

Anyone working around grain bins needs to be aware of the dangers with stored grain warns Dr. Ken Hellevang, NDSU Extension agricultural engineer.

"A lot of wetter-than-normal corn went into storage last fall, and wet corn is more prone to crusting or creating a wall of grain near the grain-bin wall," he says. "This

increases the potential for bin unloading problems and getting trapped by the grain."

People can become trapped in three ways: flowing grain, the collapse of a vertical wall of grain and the collapse of bridged grain.

Bridging occurs when the kernels stick together and form a crust. A cavity will form under the crust when grain is removed. However, the crust isn't strong enough to support a person's

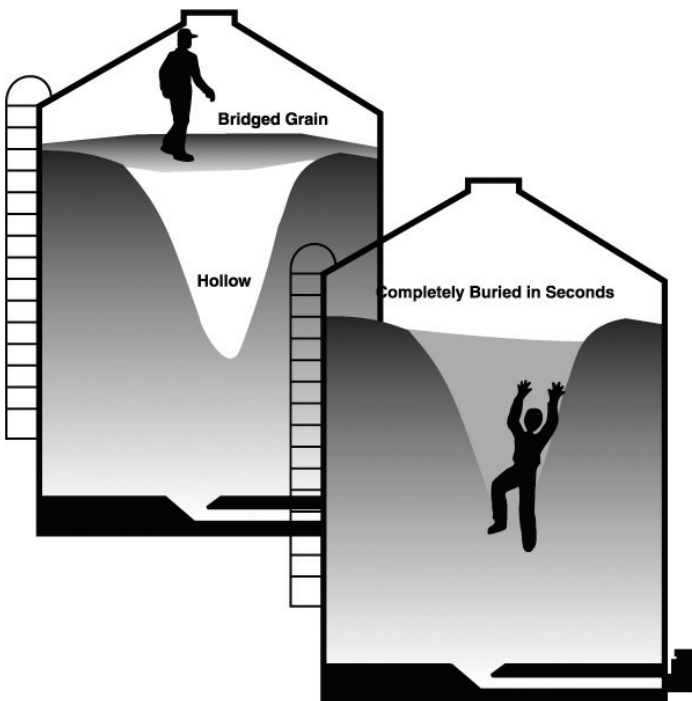
weight. Bridging also transfers more of the load to the bin wall, which may lead to bin failure as the bin is unloaded.

Hellevang offers these tips to help keep farmers and elevator personnel safe:

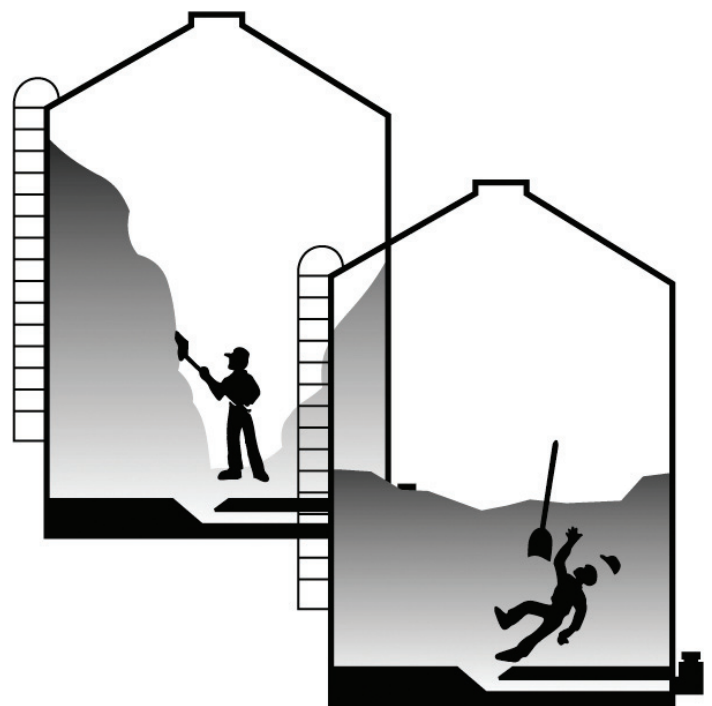
- Never enter a bin while unloading grain or to break up a grain bridge. A wall of grain can collapse without warning and cover a person. Flowing grain will pull a person into the grain mass, burying the individual

in a few seconds.

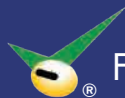
- Look for a funnel shape on the surface of the grain mass after some grain has been removed. If the surface appears undisturbed, the grain has bridged, and a cavity has formed underneath.
- Stay outside the bin and use a pole or other object to break the bridged grain loose. Attach the pole or other object to the bin with a rope so that you can retrieve the pole or object if you drop it.



Grain kernels may stick together in a grain bin, forming a crust. When grain is removed, a hollow can form under the crust, creating a bridge. That bridge can collapse under a person's weight, burying the person in seconds.



After some grain has been removed from a bin, some of the remaining grain can stick together and form a pile or wall. Trying to break this grain loose can be risky.



- Try breaking up a grain wall or other large mass from the top of the bin or through the bin door with a long pole on a rope. Do not remove more of the wall in the door than necessary to insert the pole because the grain may crash into the wall or flow out the door.
 - Do not unload grain from an opening in the grain bin door or the sump on the side of the grain bin. Unloading grain from the side can damage the bin and cause it to collapse.
 - Do not allow people to work around stored grain until they are warned about the hazards.
 - Never enter a grain bin without stopping the auger and using the “lock-out/tag-out” procedures to secure it. Use a key-type padlock to lock the auger switch in the “off” position.
 - Never enter a grain bin alone. Have at least two people at the bin to assist in case of problems. Use a safety harness or line when entering a bin.
- Here is what to do if someone gets trapped:
- Shut off all grain-moving machinery to stop the flow of grain.
 - Contact your local emergency rescue service or fire department.
 - Ventilate the bin using the fan.
 - Form retaining walls around the person with plywood, sheet metal or other material to keep grain from flowing toward the person. Then, remove grain from around the individual.
 - Don’t try to pull out anyone who is engulfed in grain up to the waist or higher. The grain exerts tremendous pressure on the body, so pulling a person out could damage his or her spine.
 - Cut holes in the bin’s sides to remove grain if the person is submerged. Use a cutting torch, metal-cutting power saw or air chisel to cut at least two V- or U-shaped holes on opposite sides or more holes equally spaced around the bin. A tractor bucket can also open holes rapidly. Grain flowing from just one hole may injure the trapped person and cause the bin to collapse.

The North Dakota Soybean Council participated in the CommonGround Grassroots 2014 Conference, Jan. 29-31, in St. Louis, Mo., along with four volunteer farm women. During the conference, these women learned how to better educate North Dakota consumers with the real facts and stories of American agriculture, and to help consumers make food choices based on facts, not fear. From left to right, North Dakota Soybean Council Communication Director Suzanne Wolf; Michele Bartholomay, a farmer and rancher from Sheldon, N.D.; Karolyn Zurn, a farmer from Callaway, Minn; Sarah Wilson, a farmer from Jamestown, N.D.; and Katie Pinke, advocate and speaker about food, family, farm and rural life from Wishek, N.D.



Rotation, Resistance Keys to Managing Soybean Cyst Nematode

Soybean cyst nematode (SCN) was first discovered in the United States in 1954 when it was seen in North Carolina. It was found in southern Minnesota and Iowa in 1978. Iowa State University professor and Extension nematologist Dr. Greg Tylka has been working on SCN since 1990. "It probably was there much longer," says Tylka. "One of the things farmers need to be aware of is that, especially when soybean cyst nematode first appears in a field, the soybeans are not going to look sick."

Tylka says it might take 10 or more years before the nematode builds to high enough levels that it's apparent to the naked eye. During that time, it is causing yield loss and building its numbers.

Tylka says a key management strategy that North Dakota farmers could do that many Iowa farmers can't is be vigilant, checking their fields, and they might discover they have it when numbers are relatively low. "It's easy to keep low numbers low, and it's hard to drive high numbers back down."

Tylka recommends farmers use soil sampling to scout for SCN. "NDSU has a plant disease lab

that processes soil samples for farmers, and Agvise does nematode sampling." Fall is always a better time to collect samples than spring because it gives you more time to plan and adjust, but sampling can be done when the ground thaws in the spring.

NDSU Extension plant pathologist Dr. Sam Markell was part of a concerted soil-sampling effort in North Dakota and Minnesota's Red River Valley in 2013. Funding from both states' Soybean Council paid for reimbursing growers who sampled. "When we got all that data back," says Markell, "we've got some really hot areas, especially in the southern Valley but we also have some low

counts pretty far north; all the way to the Canadian border, there have been confirmations."

In North Dakota, Markell says soybean cyst nematode is as far west as Emmons County. "So the southeast quadrant of North Dakota is where we're starting to see it." Markell thinks the best time to pull soil samples is right before or after harvest. "The key is to get into where you think cyst might be, and a lot of times that's field entrances because anything that moves soil moves cysts, and of course, equipment is the big culprit here," says Markell. "And then when you're sampling, aim for the roots. Go right at where the cyst is."

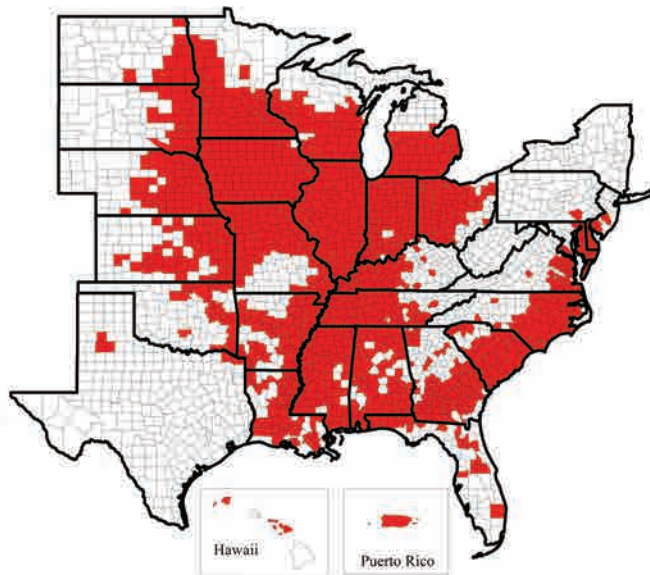
Markell says Agvise

Laboratories, Minnesota Valley Testing, the University of Minnesota and NDSU all charge about the same for analyzing samples. Agvise President and soil scientist Bob Deutz says the number of samples his lab has analyzed in each of the last three years has been fairly steady in North Dakota, around 565 per year. The number of SCN eggs also appears to be steady.

Of the 547 samples from the four southeastern North Dakota counties in 2013, 47 percent had no SCN eggs in 100 cc of soil. Twenty-four percent of the samples had between one and 200 eggs; 6 percent of the samples had more than 10,000 eggs per 100 cc of soil.

If the soil sample is positive for SCN, manage it! "I say having a little bit of soybean cyst nematode is like being a little bit pregnant; there's no such thing," says Tylka. "If you have a little bit of SCN, you're going to very quickly have a lot of SCN because it reproduces very quickly."

Managing soybean cyst nematode is a little harder for North Dakota farmers than Iowa farmers, according to Tylka. "The two ways that are kind of the foundation of



SCN can be found throughout the United States

managing SCN are growing non-host crops and using resistant soybean varieties. And that's where I think it gets a little difficult for North Dakota farmers in that you don't have a ton of SCN-resistant varieties to pick from, but hopefully that situation will improve in the future."

NDSU plant pathologist Dr. Berlin Nelson says that most major seed companies, and even some of the smaller companies, have SCN-resistant cultivars. "There is a choice out there; I don't know how many there are the further north you go in that double-zero category," says Nelson. "Certainly, there's good resistance types out here, and most of the resistance is based on the standard resistance source we use in most cultivars."

"The growers in the southern Valley have some pretty good choices out there," according to Markell. "In the northern Valley, there's not as many varieties available, but they will come."

DuPont Pioneer field agronomist Zach Fore says that SCN keeps spreading north, but as you get to Group I and later maturities, growers have a lot more cyst varieties. Fore, whose territory is mostly north of Highway 2, says that, as SCN continues to spread, northern growers will have more SCN-resistant varieties. "We continue to

see it spread up here, to the north, and there's no reason to believe it won't continue to spread in this area, particularly as we grow more and more acres of soybeans.

Consequently, we are doing a lot more breeding with cyst varieties, so I think all companies, certainly Pioneer is, incorporating more cyst resistance into our genetics, and we're beginning to bring more cyst varieties into the marketplace in some of those early maturities."

Asgrow and Dekalb territory agronomist Jerad Liedberg says growers used to have to take a yield hit by planting an SCN variety but were willing to

take that risk. "But now, we have varieties that we've been selling for 2 or 3 years. It's a variety that just happens to have SCN resistance; there's no yield drag whatsoever," according to Liedberg.

Depending on the seed company, there may be some holes in some maturities, says Liedberg. "From an Asgrow perspective, we've got things in the double zeroes, in the mid-zeroes, and we've got a lot of our later beans from .9 and on; we have pretty much cyst resistance in every one of them."

Fore says that, if growers do not have SCN pressure, they don't have to restrict their choices to varieties

that have just SCN. The most important thing is to know if you have cyst. Fore recommends that growers and seed sales reps keep their shovel with them and, whenever they enter a soybean field, dig up plants and examine roots. "Soil sampling is great. I just think it's easy during the growing season to inspect for cyst, and we can do a whole lot more of that than we're likely to do with just soil sampling."

Soybean cyst nematode is an introduced pest, so Tylka says it's still going to spread through North Dakota into new fields. "When an introduced pest shows up in a new field, its reproduction is almost

Continued on Next Page



It may take 10 or more years before SCN builds up to high enough levels that it can exhibit above-ground symptoms.

limitless because there are no natural enemies in that field because it's never been there before. We've seen this in lots of different states; when fields that have never had SCN before get infested, numbers become very high very quickly."

Another management issue for North Dakota farmers is the fact that soybeans are not the only host for SCN. A lot of edible beans are also very good hosts. NDSU's Nelson thinks multiple hosts is something about which growers need to be concerned for a number of reasons. "In general, navy beans and pinto beans are not quite as susceptible as soybeans," he says.

"However, the nematode still reproduces on them, and it will cause a yield loss at certain egg densities, depending on what the environment is. (In) kidney beans, we find that the nematode produces to very high levels, but we don't know a lot about the yield losses."

Based on good research, Nelson also says that SCN will most likely increase root-rot problems in dry beans. He recommends that dry bean growers who know that SCN is in the area should get out, sample those fields and start monitoring those populations.

Does the dry bean acreage base in North Dakota increase the risk of SCN problems for soybeans? According to



NDSU Extension hosted SCN training clinics in 2013

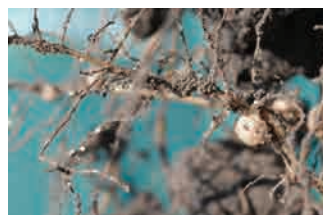
Nelson, "Only in the sense that if you plant dry beans, depending on what class it is, it might drive the egg levels back up. Part of our overall strategy is to keep the egg levels low in fields. We don't want to drive them too high because even resistant cultivars can have some yield loss if the nematode populations get too high." If soybean growers are growing dry beans, they'll want to keep an eye on those populations, and obviously, if they have SCN, they need to keep an eye on the dry beans, Nelson adds.

Sugarbeet cyst nematode is a "kissing cousin" of soybean cyst nematode, according to Tylka. The sugarbeet nematode won't affect soybeans, and soybean cyst nematode won't affect sugarbeets. Those two nematodes

interbreed, and researchers don't know what the offspring will do.

According to Nelson, there is good research that shows how the sugarbeet and soybean cyst nematodes will hybridize. "But, we don't know a lot about those particular hybrids; there hasn't been a lot of work done on them," says Nelson. "And we don't know a lot about what that means for the future when we have multiple susceptible crops in similar rotations like we have here in North Dakota."

Nelson says that sugarbeet cyst nematode also reproduces quite well



SCN Nodule

on canola and that it's not known exactly how it will affect canola production. "We have tested it on canola, and it does reproduce quite well, so that's a real concern in canola production once the nematode gets into canola rotations."

Tylka says that it's important for farmers in northwest Minnesota, North Dakota and South Dakota to take a sharp look at some of their fields that don't look sick. "They might discover something that has potential to be really harmful, and the good news is, if they do that, and they catch it, it's really easily manageable."

Tylka says potential yield losses, with non-resistant soybean varieties in a dry year, could range from 50 to

70 percent.

There are things farmers can do to slow down the spread of SCN. Tylka says that it all starts with checking the fields and pulling soil samples. "In the fields that have it, getting into a good rotation with non-host

crops and resistant soybeans; cleaning farm equipment and managing movement of soil on farm equipment will provide some benefit to slow the spread," says Tylka. "But it won't prevent the spread. Wind erosion, surface water erosion are things

that move SCN around as well."

Markell is telling farmers they're most likely going to get SCN. They won't see above-ground symptoms until they've already taken the yield hit, so they need to get out there, sample and

try to find it. "This is a manageable disease," says Markell. "We can deal with this. If you have this (SCN), you can manage it with resistance and rotation. And finding it early is really important."

In heavy clay soils, Nelson says it takes longer for soybean cyst nematode to build up, but it will reproduce. It just takes a little longer for populations to get very large. SCN likes the lighter loam, or sandier soils, and SCN likes it when it's warm. Nematodes don't do as well in cool, wet years.

Soybean cyst nematode has been detected in all but one Iowa county. Farmers in north-central Iowa with one particular glacial, higher pH soil type have hit a ceiling. They cannot get more than 50-bushel beans, compared to 65- or 70-bushel beans on other soils.

Tylka offers some hope for North Dakota soybean growers. "Soybean cyst nematode is not a death sentence for soybean production, and you're way better knowing about it than not, so it's not one you want to ignore and hope you don't have. If you find out you've got it, your neighbors have probably got it as well. It has nothing to do with whether you're a good or a bad farmer. It's just luck of the draw."



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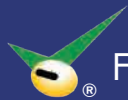
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Getting There from Here

OVERSEAS SOYBEAN MARKETS ARE STRONG, DEPENDENT ON TRANSPORTATION

Growing international economies and a desire by populations around the world to eat more protein are fueling strong global demand for soybeans. For soybean farmers in North Dakota, Minnesota and South Dakota, market growth in Asia is of particular interest because most soybeans from the upper Midwest are destined for that region of the world.

North Dakota ships about 71 percent of its soybeans overseas (see Figure 1); more than 50 percent of Minnesota's soybean crop is exported; and South Dakota exports more than 60 percent of its crop. Because Asia is the region's primary market, most bulk soybeans head west via rail to the Pacific Northwest (PNW).

Under ideal conditions, shipping soybeans from the Midwest through the Gulf of Mexico is a lengthy proposition. It generally takes 3 to 4 days to ship cargo via rail from Minnesota to the Gulf. If soybeans are sent down the Mississippi River to the Gulf via barge, that trip can take 2.5 to 3 weeks. Once loaded onto a bulk-carrier ship, it takes

DESTINATIONS FOR SOYBEAN SHIPMENTS, 2012-13

Crop Exporting District • All North Dakota

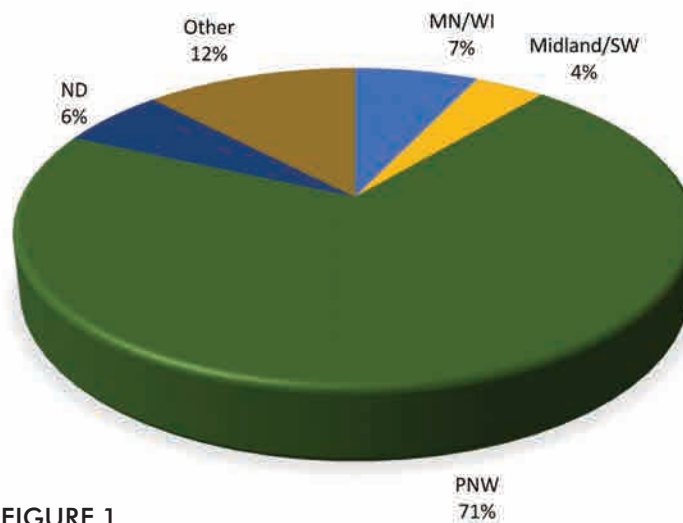


FIGURE 1

another month to get to Asian markets such as China. Therefore, it can take from 34 to more than 50 days to ship soybeans to their final destination.

"Twenty years ago, Minnesota and the Dakotas were at the end of the line because so much went out of the Gulf," says John Baize, president of Baize and Associates, an agricultural trade consulting firm. "Because of the growth in Asia and improvements in the West Coast, we're at the front of the line. That makes a big difference in the prices farmers are getting."

Conversely, under ideal conditions, it takes

approximately 3 days to ship soybeans via rail to the Pacific Northwest, including AGP's port of Grays Harbor at Aberdeen, Wash., and Bunge's port in Portland, Ore. From there, it's a 2-week trip on a bulk-carrier ship to reach buyers in places such as China or Indonesia. In 18 to 20 days, soybeans can go from a local elevator to a customer half-a-world away when shipped through the Pacific Northwest.

TRANSPORTATION COMPETITION

The Gulf still carries the bulk of the nation's

soybean and meal shipments, handling over 31.2 million metric tons in 2013. Ports in the Pacific Northwest handled more than 12.7 million metric tons of beans and soymeal during that same period. Improvements to facilities operated by Bunge and AGP in the past few years have them ready to handle additional soybean, corn and wheat shipments.

Growth in Asia is important to farmers in the upper Midwest because shipments leaving the PNW are closer to Asia than any other part of the U.S. Statistics from the United States Soybean Export Council (USSEC) indicate that markets for soybeans and soymeal in Northern Asia, which includes Japan, Korea, China and Taiwan, continue to grow. The U.S. supplies about 37 percent of the soybeans and 11 percent of the meal to that region. Southeast Asia, which includes Vietnam, the Philippines and Indonesia, is also a growing market for beans. The U.S. market share, the bulk of which originates in the Dakotas and Minnesota, is 55 percent for soybeans and 12



percent for meal.

The ability to deliver soybeans and meal to Asian customers in a timely fashion is vital to continuing those relationships.

Competition for rail capacity is putting the pinch on some shipments.

The boom in North Dakota's oil production is taxing available rail capacity as crude oil is shipped to refineries in other parts of the country. This winter, weather challenges and increased competition for rail cars meant the cost of getting

rail cars went up, as did the length of time it took for cars to become available. Midwest Shippers Association Executive Director Bruce Abbe says that the delay and demand raised the cost of shipping by as much as \$30 to \$40 a ton.

Abbe says, "If rail capacity isn't there to deliver products in a predictable way, it's a problem."

Abbe adds that, if rail challenges persist, it could fuel a shift back to more barge shipments, primarily for Minnesota

soybeans.

LONG-TERM ISSUE

"We work very hard to cultivate international trade relationships," says Scott Gauslow, chairman of the North Dakota Soybean Council from Colfax, N.D. "We don't want to jeopardize those relationships if we don't deliver the product when we say we will."

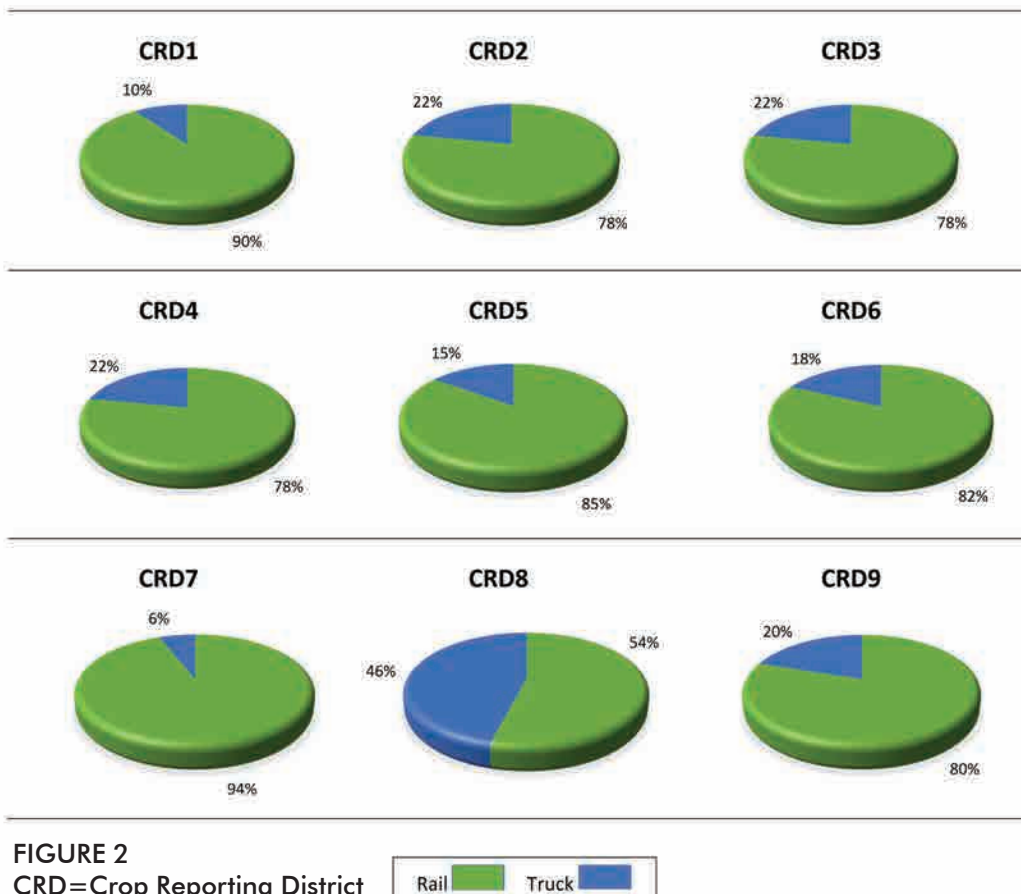
BNSF Railway is one of America's leading freight-transport companies with over 32,500 miles of track in 28 U.S. states and two Canadian provinces. In

2012, BNSF handled more than 1 million carloads of agricultural products. The company pledged \$5 billion in capital expenditures in 2014, including \$2.3 billion for its rail network; 5,000 new rail cars and an additional 500 locomotives.

Soybean production in North Dakota, South Dakota and Minnesota has remained strong, and acreage is creeping higher. Exporting increased soybean production while sharing rail space with other industries, such as oil and coal, means the issue isn't likely to go away anytime soon. Rail transportation is critical to moving North Dakota agriculture, as Figure 2 shows results from each crop reporting district.

The North Dakota Soybean Council works closely with the Soy Transportation Coalition (STC), Midwest Shippers Association, Upper Great Plains Transportation Institute (UGPTI), and North Dakota Ag Rail Business Council to address transportation challenges our soybean producers are facing. A recent report by UGPTI gives a more detailed look at transportation of grain and oilseed in North Dakota. Log on to <http://www.ugpti.org/pubs/pdf/DP268.pdf> for full report.

All Grain and Oilseed





The Weird World of Natto, Part II

A FIRST-HAND REPORT

By R. Jay Goos

Many cultures have strongly flavored foods that old people love and that young people try to avoid. Foods such as sauerkraut, pickled herring, gamalost and lutefisk would be examples familiar to many North Dakotans. In Japan, natto is such a food. Natto is made by cooking small soybean seeds, inoculating them with a specific kind of bacteria and incubating for a day. The result is a stringy, slimy mass of soybeans that have an unusual odor (Figure 1). Even though natto is a traditional Japanese food, most soybeans used for natto



Figure 1. Natto's stringiness is a result of slime produced by the natto bacterium.

production in Japan come from the Red River Valley of North Dakota and Minnesota.

Natto is a common breakfast food in several

regions of Japan that is thought to provide many health benefits. The natto bacterium, *Bacillus subtilis*, is commonly found in soil, on plants and in the human digestive tract. A serving of natto contains billions of living bacteria and spores. Many people eat natto as a "probiotic" for healthy digestion, just as others eat yogurt for the same purpose.

Natto is a food with a high level of vitamin K2. Vitamin K2 is thought to be involved with building and maintaining strong bones. For example, the regions of Japan with the highest levels of natto consumption are the same

regions that have the lowest rates of hip fractures.

I have had an interest in soyfoods for over 30 years, so when a friend began growing natto soybeans commercially, I became curious about natto as a food. I decided to enter the weird world of natto with two objectives. Could I acquire a taste for natto, and could I learn how to make natto?

To begin my quest, I went to an Asian food market in Fargo. I found that the store sold two brands of natto (Figure 2).

Not being able to read Japanese, I tried the brand with the white packaging first. Natto is sold as a 3-pack of individual servings in styrofoam packaging. Each serving comes with a small packet of mustard, and fish or soy sauce (Figure 3).

My first impression of natto, even while opening the package, was a strong, unfamiliar odor. I was able to eat it, but I didn't like it very much. I persevered and discovered that, each day that I ate natto, the odor seemed less strong. My nose was less sensitive to the smell. I then tried the



Figure 2. Two brands of natto that are sold at an Asian market in Fargo.



brand in the brown packaging. I found that this brand was much milder in odor and much more enjoyable to eat. I have been eating a serving of the brand in the brown packaging on toast for breakfast every morning for about 3 months, and I think it's OK. I mix the natto with the mustard and fish sauce provided, spread it on toast and

make a sandwich with it.

The second half of my quest, my attempt to make natto, was a complete failure. I am good at making tempeh, another incubated soyfood, so I thought I would be able to make natto. I tried four times, using natto soybeans provided by my farmer friend. To inoculate the soybeans, I twice tried using natto

from the Asian market as a starter, and two times, I tried using dried spores imported from Japan and sold specifically for making natto at home. In all four cases, my natto smelled awful, like ammonia, and had none of the stringiness that commercial natto has (Figure 4). I wasn't able to bring myself to eat it.

I entered the weird world

of natto. I was able to acquire a taste for a milder brand of natto, but I also learned that I shouldn't try to make it myself.

Goos is a professor of soil science at NDSU. A video with a man eating natto can be viewed (<http://tinyurl.com/natto-video>), and a free e-book on the history of natto can be downloaded (<http://tinyurl.com/natto-book>).



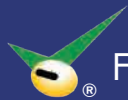
Figure 3. The contents of an individual serving of natto: the fermented beans, a packet of mustard, and a packet of fish or soy sauce.



Figure 4. Commercial natto (left) and my homemade "natto" (right).

The 2014 Northern Soybean Expo was held on Feb. 18, 2014, at the Holiday Inn in Fargo. The event brought in over 320 attendees and was hosted by the North Dakota Soybean Council. Educational and informative presentations were highlighted throughout the day, including guest speakers Peter Zeihan (featured right) who highlighted strategic intelligence on global business, economic and geopolitical affairs; John Phipps, Managing Editor and Television Host of U.S. Farm Report; and Drew Lerner, Senior Agricultural Meteorologist of World Weather, Inc. Mark your calendars for next year's Northern Soybean Expo on Feb. 17, 2015, at the Holiday Inn in Fargo.





North Dakota Soybean Council Promotes U.S. Soybeans to Remain on Top

The Philippines and Vietnam are two of the largest-growing international markets for U.S. soybeans and soy products. To ensure this connection remains strong, North Dakota Soybean Council board member Art Wosick of Minto, N.D., and past chairman Monte Peterson of Valley City, N.D., visited those countries Nov. 29-Dec. 10, 2013. They met with government officials, met with representatives from large soybean-buying companies, and toured port and loading facilities.

According to the U.S. Department of Agriculture, North Dakota ranked

ninth in soybean production in 2013, and the U.S. currently leads the world in soybean production and in soy exports. Recently, the U.S. has faced stiff competition for soy exports, specifically from Argentina and Brazil. According to the USDA, the U.S. produced 89.5 million metric tons of soybeans in 2013. Brazil is expected to produce 88.5 million metric tons this year. The USDA also projects that Argentina's crop at 54 million metric tons for its harvest.

"The North Dakota Soybean Council has been making visits to the Philippines and Vietnam

annually for the last few years and understands how important these international trade missions are," says Wosick, "It's vital that we make these international connections and discuss how our beans are superior and more dependable than South American beans."

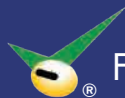
"The international companies with whom we visited are experiencing

tremendous growth and increased demand for soy," says Peterson. "We have a great trade relationship with the Philippines and Vietnam. Many of the soybean and meal buyers in that region use mostly U.S. soy. It's important to not take their business for granted and continue to foster that great working relationship."



North Dakota Soybean Council board member Art Wosick (top group photo – far left) of Minto, N.D., and past chairman Monte Peterson of Valley City, N.D. (photo, right), visited the Philippines and Vietnam Nov. 29-Dec. 10, 2013, to promote U.S. soybeans.





Solution for Long-Term Profitability Could be Found in High-Oleic Soybean Varieties

It isn't every day that farmers in one state get excited about soybeans grown in another state. Nationwide, excitement continues to build around new high-oleic soybean varieties, and farmers are already talking about how they could help to secure and expand U.S. soybean oil demand. These varieties also have the potential to increase long-term, on-farm profitability for all U.S. soybean farmers.

North Dakota farmer Jared Hagert says that these varieties could make a significant impact throughout his state and across the country by increasing the demand for all U.S. soybean oil.

"Farmers in states that aren't growing high-oleic soybeans still need to

know that our customers want the high-oleic oil, but, right now, they are using competing oils," says Hagert, a soy checkoff farmer-leader from Emmerado, N.D., and treasurer of the United Soybean Board. "We need to preserve and expand our food-oil demand, and high-oleic soybeans are an opportunity to do that and earn back some of a lost market."

The soybean industry has set a goal for farmers to plant 18 million acres of high-oleic soybeans by 2023. A recent analysis from the soybean-industry board QUALISOY reports that, if that goal is met, each U.S. soybean farmer could gain 66 cents per bushel, a total increase of \$3.8 billion each year for all soybean farmers. That

amount is over the price each farmer would receive if the market does not adopt high-oleic soybeans and if food demand for soybean oil continues to decrease.

"High oleic will only add to our overall profitability," says Hagert. "Regardless of whether or not I can grow high oleic on my own farm, the demand for the oil produced by high-oleic soybeans helps increase the value of all soybean oil, and that means increased profits for U.S. soybean farmers."

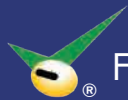
A broader introduction of high-oleic soybean varieties could impact every U.S. soybean farmer, regardless of whether they grow these soybeans on their farms.

"Customers are looking

for a widely adapted soybean oil that works well in their applications," says Hagert. "As an industry, we can offer them a solution with high oleic."

By growing more acres of a quality product that end users want, all U.S. farmers could find a solution for long-term profitability with high-oleic soybeans.

"With the checkoff taking the initiative to help fund high-oleic soybean technology, we've been able to expand the growing area, and that will help meet the goal of 18 million acres," says Hagert. "It speaks directly to the checkoff's mission to increase profit opportunities for all U.S. soybean farmers. The cost of doing nothing is too great to ignore."



April is Soyfoods Month

CELEBRATE THE MANY WAYS YOU CAN ENJOY SOY PROTEIN!

Many time soyfoods are thought to be just for vegetarians or vegans and meat-eating people should not eat soy. The Soyfoods Council is here to let you know that is not the case, soy protein can be enjoyed by carnivores, vegetarians, vegans, flexitarians and more.

Let's take a look back in history to see when soy protein started to be recognized by mainstream consumers. In 1999, the FDA gave soy protein a health claim that states, if you consume 25 grams of soy protein in the context of a healthy diet, it may reduce the risk of heart disease. This was a big breakthrough for soy protein! Since then there has been lots of research done on soy protein and many exciting health benefits (for more health benefits go to www.thesoyfoodscouncil.com).

It is fascinating to see and hear the reactions, when people are asked what do they think when they hear the word soyfoods. Most the time the first response is tofu, then you see a lot of wrinkled noses and hear "I don't eat that"! To show that there are more products that have soy in them, not just tofu, the

Soyfoods Council funded an analysis of new products to find out how many new products had soy in them. It looked at meat, meatless, beverages, entrees, sides and snacks. Soy-based products accounted for 21% of all

new product launches in 2013, compared to 12% in 2008. Good news for soy protein. The breadth and depth was revealing. Soy flour has shown steep growth in the past year, with cakes, breads and sandwiches fueling much

of the growth. Products such as Great Value Chili Cheese Hot Dog and Tastykake Crunch Mini Donuts include soy flour. Soy grits, protein concentrates and textured soy protein can be found in Kashi Go Lean cereal,

BLACK SOYBEAN SALSA

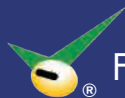
1 15 ounce can of black soybeans, drained and rinsed
1 small tomato, diced
 $\frac{1}{4}$ small, yellow onion, minced
2 large cloves of garlic, minced
1 tablespoon of cilantro, chopped
 $1\frac{1}{2}$ jalapeños, minced
 $1\frac{1}{2}$ limes
Salt to taste
Blue chips or crackers

In a medium bowl, add black soybeans, tomato, onion, garlic, cilantro and jalapeños. Mix. Juice limes, and add to soybean mixture. Salt to taste. Mix gently. Let set for 2 hours before serving.

Serve with chips or crackers.

Yield: Approximately 2 cups





South Beach Cereal Bars, Campbell's Home Style Potato Soup, Lean Pockets and Seasoned Crust Meatballs and Mozzarella Sandwiches. Soy is found in approximately 40% of all meat and seafood products. Soy provides functionality to products such as the ability to keep products moist, to keep products crispy as well as providing more lean protein, less carbohydrates and fewer calories. The next time you are shopping, look at the ingredients listing to see where soy is. You will be amazed.

A trend that is ever increasing is snacking. Along with snacking can come lots of empty calories, so make calories count and look at soy health bars, soynuts, soy crisps as well as canned soybeans. Canned soybeans (black and tan) are shelf stable and easy to use. Use like any other bean but the benefits are lots more protein per can and a heart healthy protein. Stock up with canned soybeans so when a great tasting and a protein-packed snack is needed, make Black Bean Salsa. It is perfect for everyday eating as well as for entertaining. Just don't tell your family or guests that they are eating soybeans, until they say how delicious it is.

Jared Hagert and Joel Thorsrud Re-Appointed to United Soybean Board

Jared Hagert, a soybean farmer from Emerado, N.D., and Joel Thorsrud, a soybean farmer from Hillsboro, N.D. were re-appointed by U.S. Agriculture Secretary Tom Vilsack to serve a 3-year term on the United Soybean Board (USB). Hagert was also elected as the USB Treasurer. Also representing North Dakota on the USB is Jay Myers, a soybean farmer from Colfax, N.D. Myers has completed 1 year of a 3-year term.

"We extend our congratulations to Jared and Joel on their appointments and wish

them continued success with their work on USB," says Diana Beitel-spacher, CEO of the North Dakota Soybean Council. "They, along with Jay, have been outstanding representatives for North Dakota soybean producers. We respect and admire their leadership and dedication to enhancing and strengthening our industry on a state, national and international level."

The 70 farmer-directors of the USB oversee the soy-checkoff investments to maximize profit opportunities for all U.S. soybean

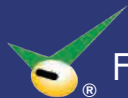
farmers. These volunteers invest and leverage checkoff funds to increase the value of U.S. soy meal and oil, to ensure U.S. soybean farmers and their customers have the freedom and infrastructure to operate, and to meet the needs of U.S. soy's customers. As stipulated in the federal Soybean Promotion, Research and Consumer Information Act, the USDA Agricultural Marketing Service has oversight responsibilities for the USB and the soy checkoff.



Jared Hagert



Joel Thorsrud



Northern Food Grade Soybean Association Boosts Marketing and Communication Efforts

The Northern Food Grade Soybean Association (NFGSA) can add “award-winning” to its marketing and communication efforts after taking home an American Advertising Federation of North Dakota’s Addy award in February. The Digital Branding award was received for the new video about the benefits of growing food-grade soybeans.

The NFGSA video showcases the economic value of food-grade soybeans to northern-region farmers as well as the value of export opportunities. The video puts a face to NFGSA, showcasing members and the need that member companies have to increase the demand for food-grade soybeans.

“As a member company of the Northern Food Grade Soybean Association, we are actively promoting non-GMO, identity-preserved food-grade soybeans, and we are working very hard to find a non-GMO soybean producer within this region who has the drive to succeed,” said Aaron Skyberg of SK Food International in NFGSA’s promotional video.

NFGSA started planning a marketing effort last spring by partnering with Katie Pinke, a marketing consultant from Wishek, N.D. They are in the first year of implementing a marketing communication plan that focuses on engaging farmers about food-grade soybeans making food-grade soybeans a part of their crop rotation. In addition, NFGSA’s effort is showcasing the northern

region’s strength as a food and ingredient supplier to the world.

Last July, NFGSA applied to the North Dakota Department of Commerce for an Agriculture Products Utilization Commission (APUC) grant. The APUC grant has assisted NFGSA to start showcasing advocates for northern food-grade soybeans with the branding video that has farmers share why

they grow northern food-grade soybeans.

NFGSA has used the APUC funding to redesign its original website. The new website ties the look and feel of the northern food-grade soybean messaging from the video into the newly designed trade-show booth. Important for growers, NFGSA added a calculator tool to the website so that they can compare the costs and benefits of growing food-grade soybeans.

Social media plays a role in building relationships for NFGSA. The organization is using its YouTube channel to showcase their video. The NFGSA has added a Facebook page to build connectivity with current food-grade soybean growers, to build relationships with potential growers, to share current trends in the food-grade industry, to share grower testimonials about the benefits of growing food-grade soybeans and to promote trade show events.

Connect with NFGSA on its website at www.nfgsa.org where the video is posted. There are also links to the YouTube and Facebook pages.



Tom Trautman, food grade soybean farmer from Jamestown, N.D.



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Proposed Constitutional Amendment Costly

Proponents of the Clean Water, Wildlife and Recreation constitutional amendment proposal want to take 5 percent of North Dakota's oil-extraction tax revenue to fund projects over the next 25 years. Based on current oil production, North Dakota Soybean Growers Association Legislative Director Scott Rising says this rate would collect an estimated \$120 to \$150 million per year that is required to be spent immediately.

According to Rising, these collections are

projected to grow from \$200 to \$225 million per year, or more, during the next 6 to 8 years, then perhaps decline over time. Rising says conservative estimates project total expenditures to exceed \$4.8 billion over the 25-year life of the constitutional proposal.

Rising wonders what crisis the state has that a constitutional amendment is needed, and he says that the proposed governing committee and the measure's required spending process both have significant issues.

"The governing committee recommends project funding to what is essentially the current Industrial Commission, e.g., the governor, attorney general and agriculture commissioner," says Rising. "These decision makers must spend 75 percent of the money flowing into the fund every year, and they must choose only from the recommended project lists provided by the governing committee; they cannot choose projects from other sources."

Rising also points out that there is no proposed or functional oversight for the governing committee's processes or actions by anyone other than statewide voters until the

proposal sunsets in 25 years. He points out that we already have an Outdoor Heritage Fund, established during the last legislative session, which is designed to fund recreation and conservation projects at a maximum rate of \$15 million per year. It has legislative oversight and recommends project funding to the Industrial Commission.

Rising is urging people not to sign the petition. The North Dakota Soybean Growers Association has joined a coalition called North Dakotans for Common Sense Conservation to oppose the measure. The group has nearly two-dozen members.



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At the recent Northern Soybean Expo in Fargo, new and renewing members were entered into a drawing for \$500 sponsored by Asgrow. Tom Henry of Westhope was the lucky winner of the drawing.

Walcott Farmer Served NDSGA for 7 Years

Walcott, N.D., farmer Scott Hendrickson spent 7 years on the North Dakota Soybean Growers Association's Board of Directors, including 2 years as president in 2009 and 2010. He calls it a learning experience. "You kind of anticipate what you're going to be doing, but you don't really know until you're on the board. And then when you get on the executive committee, it gets to be even more."

Hendrickson says that it's difficult to get members to join NDSGA, similar to what the Eagles and the Elks deal with when recruiting. He always tried to spread the message about the importance of membership. "It gives us numbers when we go to Bismarck and visit with our legislators," said Hendrickson. "We're close now to that 800 number, and that's a magic number. If we get above 850 (members), then we'll add another director from North Dakota on the American Soybean Association board. That's our goal."

Hendrickson encourages other soybean growers to consider serving on the board of directors but says that it does take time. "If you're going to serve as a board member, then you've got to show up at the meetings. It's important



Scott Hendrickson

that everybody comes, and voices their opinion and especially the opinion of their geographical area."

The Richland County grower thinks the NDSGA board has had something to do with the expansion of soybean acres in western and northern North Dakota. "I don't know if the soybean association has had as much to do with it as the land roller. That's probably had as big of an impact on the soybean industry as anything."

Getting the chance to go to meetings with growers from other parts of the U.S. is a good way to exchange ideas about soybean production, according to Hendrickson. "If they're doing it in Iowa, we'll probably be doing it in 2 or 3 years down the road."

Hendrickson thinks the NDSGA is in good hands. Membership has

improved, which he thinks is an indication that people are seeing that directors and staff are working hard. "It's important for us to be in Bismarck to make sure everybody there understands that there is a need to continue to work on everything," says Hendrickson, "whether we've got it going good or not, we still have to improve it."

Hendrickson thinks there's room to expand North Dakota's soybean acres. "More people in the Canadian fringe counties are realizing that they can grow 40-bushel beans up there, and it gives them another crop in their rotation," according to Hendrickson. "And Roundup Ready isn't as

big up there as it is in southeastern North Dakota, so they aren't dealing with the weed resistance that some of us are starting to see now."

Scott is the fourth generation on the Hendrickson farm, and his two 11-year-old daughters are the fifth generation. He's been farming on his own since 1985. He's grown soybeans ever since his dad started growing them in the late 1970s.

Hendrickson's fishing hobby has recently become another business venture. He and his wife, Michelle, now own a fishing and hunting resort, Golden Hook Camp, in northwestern Ontario.



The North Dakota Soybean Growers Association was represented by four voting delegates at the recent American Soybean Association annual meeting. Policy for the coming year was set at the meeting held during the Commodity Classic. Delegates included (left to right) President Jason Mewes, Colgate; Ryan Richard, Horace; and Craig Olson of Colfax. Ed Erickson, Jr. of Milnor was also a delegate.

More Soybeans in Western North Dakota

In 2014, look for record-high soybean acreage in western North Dakota. North Dakota Soybean Council (NDSC) director Mike Appert, from Hazelton, says, "At the expense of corn acres, soybeans are really going to take off. By the time this is all said and done, there won't be many excess soybean seed supplies."

According to Appert, some challenges western North Dakota soybean growers face that growers in the east do not include inconsistent rain in late July and early August. "We don't have the yield consistency, but we do raise some pretty good soybean yields when we get the rains, but it's just not as consistent." Appert calls 2013 "fair," but 2012 was a really good year for

western growers.

"Control of volunteer canola is a serious issue for soybean growers in western North Dakota and throughout the state," says Kendall Nichols, NDSC's director of research programs. "Most canola is Roundup Ready and is difficult to control with other soybean herbicides. Even controlling canola in corn can be expensive."

"Some soybean growers are switching to liberty link soybeans and corn to get ahead of volunteer canola," says Nichols. "Canola growers are telling us that they are seeing better soybean yields after canola. In fact, the Canola Growers are funding a study to find out if this is a fact. NDSC has also received a request to collaborate on the study.



In late January and early February, the North Dakota Soybean Council sponsored "Getting it Right in Soybean Production" meetings in Wishek, Velsa and Mohall, along with the "Best of the Best in Soybean & Wheat Research" meetings in Grand Forks and Moorhead. Approximately 40 farmers attended each "Getting it Right" meeting, and approximately 220 farmers attended each "Best of the Best" event. Kendall Nichols, North Dakota Soybean Council Director of Research Programs, discussed research projects that the Council is currently funding with checkoff dollars.

NDSGA Reorganizes Board

The North Dakota Soybean Growers Association (NDSGA) held officer elections during its recent Board of Directors meeting. Re-elected NDSGA officers included President Jason Mewes of Colgate and Secretary Luke Kuster of Grand Forks. New officers were Vice President Craig Olson, Colfax and Treasurer Ryan Richard

of Horace.

During the association's annual meeting in February, the following producers were elected to serve on the board of directors: District 7, David Hartz of Cavalier and District 8, Dennis Renner of Mandan.

During the reorganization meeting, Robert Runck, Jr. of Casselton was re-appointed and

Matt Swenson of Kindred was appointed to at-large positions on the board. Aaron Brakke, Oxbox was appointed as the industry representative on the board.

Olson represents District 1; Richard represents District 3; and Kuster represents District 6. Other directors are District 2, Kasey Lien of Milnor; District 4, Eric

Broten of Dazey; and District 5, Brent Kohls of Mayville. Edwin Erickson, Jr. of Milnor will continue to serve as the American Soybean Association representative to provide a voice for North Dakota soybean producers on national farm policy. Joe Ericson, Wimbledon is the DuPont Young Leader on the board of directors.

ASA DuPont Young Leader Completes 30th Anniversary Class

During the two-part leadership program, the 30th class of ASA DuPont Young Leaders began their journey in November at Pioneer's headquarters in Johnston, Iowa. They concluded the program in February at Commodity Classic. Joe and Rachael Ericson of Wimbledon represented North Dakota.

Representatives from 22 states and Canada participated in training that included a communication workshop, DiSC (dominance, influence, steadiness and conscientiousness) workplace assessment, a soybean-issues panel discussion and a soybean pipeline update. The Johnston training session

was the first phase of a program designed to identify new and aspiring leaders as well as to provide them with opportunities to enhance their skills and to network with other growers.

"The ASA DuPont Young Leader Program is truly helping shape the future of the soybean industry," said ASA Chairman Danny Murphy, a soybean farmer from Canton, Miss. "By identifying new and aspiring leaders and providing participants with a training opportunity that enhances their skills while growing their peer network, the Young Leader Program builds a more collaborative

industry that better represents their local, state and national organizations and agricultural interests."

The 2014 class of ASA DuPont Young Leaders who participated in the first phase of training with the Ericsons was as follows: James Hereford, Ala.; Adam Cloninger, Ark.; Andrew and Savannah Moore, Ga.; Drew DeSutter, Ill.; Matt and Carla Schenk, Ind.; Tim Couser, Iowa; Gregg Rennie, Kan.; Quint and Leah Pottinger, Ky.; Matt Hinderer, Mich.; Michael Petefish, Minn.; Pierce Brown, Miss.; Kellen Bounous, Mo.; Matt and Brandy King, Neb.; Bryant and Courtney Jennings, N.C.; Jeff Adams, Ohio;

Cody and Ashley Sloan, Okla.; Charles Rogers, S.C.; Scott Biskeborn, S.D.; Jay and Alice Yeargin, Tenn.; Tyler Franklin, Va.; Johnathan Gibbs, Wis.; and Rob and Cindy Foster, Canada.

"Agriculture faces many challenges and opportunities as American farmers work to help meet the growing global demand for food. We are proud to support the Young Leader Program which is developing the future growers needed to capture those opportunities and meet those challenges," said Randy Wanke, Senior Manager Industry Relations at Pioneer.



The 30th Anniversary class of the DuPont Young Leader program met in Iowa for their first session. Joe and Rachael Ericson of Wimbledon represent North Dakota in this class. Rachael is second from the right in the front row and Joe is behind her to the right.



Andre Trepanier, DuPont Pioneer Sr. Manager Soybean Product Marketing and Intellectual Property along with Ray Gaesser, American Soybean Association President presented Rachael and Joe Ericson of Wimbledon with their DuPont Young Leader recognition plaque after completing part two of the program at Commodity Classic in San Antonio.

Maximizing Soybean Yield Potential

BY ERIC NELSON, TERRITORY AGRONOMIST, ASGROW DEKALB

Much of the discussion on soybean management centers around protecting yield from all of the pests and situations that rob yield instead of focusing on what makes yield. Soybean yield potential is primarily determined by genetics, so select products that perform well in yield trials over a wide geographical range and years. Additionally, managing fertility and other cultural practices can improve yield potential. Research has shown that planting considerations including early planting, narrower row spacing, and higher plant populations lead to quicker canopy closure, which can increase yield.

NUTRIENT AVAILABILITY

Soybean can obtain 50 to 75% of its nitrogen (N) requirements from biological nitrogen fixation (BNF)¹. The remainder of the N must be supplied from soil mineralization or fertilizer. Seed inoculation with *Bradyrhizobium japonicum* can increase nitrogen fixation and may improve yield potential. When the supply of N from the soil and

nitrogen-fixing nodules is not adequate, benefits can be achieved from applying N fertilizer.

Because soil tests cannot accurately predict the need for N fertilizer in soybean, growers should consider these field conditions when determining the need for supplemental N:

- Crop does not have a uniform dark green color.
- Soil is acidic with a pH of less than 5.5.
- Soil is light colored/eroded/compacted.
- Soybeans have not been grown in the field for some time.
- Active nodules are absent from roots.
- The crop was not inoculated and N deficiency symptoms are present.²

If additional N is needed, application is recommended closer to early pod fill, the R5 to R8 stages, when N is in greatest demand by soybean plants.

WEED MANAGEMENT

The critical period of weed control (CPWC) is a period in the crop's



Eric Nelson

life-cycle when weed competition causes crop yield loss. The beginning of this period has been reported to be between the V1 and V3 soybean stage, depending on row spacing. A yield loss of 2% for each leaf stage of delay after the critical time for weed removal has been reported when weed removal has been postponed.³

Residual herbicides are a key component of early weed control. Consider rate, mode-of-action, tank-mixes, and timing when using residual herbicides. Early-season weed control is important for early

canopy development and maximizing yield potential in soybean. Plants that develop canopies early may have increased flowering time and number of main-stem nodes.

INSECT AND DISEASE MANAGEMENT

Soybean yield can be negatively impacted by insect pests, fungi, bacteria, viruses, and nematodes. In general, an integrated pest management (IPM) approach is the most economically sound way to protect yield potential while limiting input costs and environmental hazards. Management decisions are usually made on a field-by-field basis and control tactics will depend on the particular pests or diseases present.

Some soybean pests, such as soybean cyst nematode, cannot be eradicated from a field once established. To protect yield potential, nematode population densities can be controlled through crop rotation, soybean

SOURCES:

¹ Pedersen, P. 2007. Seed inoculation. Iowa State University Extension.

² Ferguson, R.B. et al. 2006. Fertilizer recommendations for soybeans. University of Nebraska, Lincoln. NebGuide g859.

³ Knezevic, S.Z. et al. 2003. Yield penalty due to delayed weed control in corn and soybean. Plant Management Network. <http://www.plantmanagementnetwork.org>.

⁴ SCN Management Guide, Plant Health Initiative, North Central Research Program. <http://www.planthealth.info>.

⁵ Pedersen, P. Row Spacing in Soybean. Iowa State University Extension.

resistance, and good agricultural practices⁴.

GENETICS

When selecting soybean products, it is important to choose those that perform well in yield trials over a wide geographical range and over several years. Besides increased yield potential, soybean products on the market can be selected for

maturity groups, standability, plant height, disease and insect resistance, and nematode resistance. Soybeans engineered with herbicide tolerance traits are also available. Consider the characteristics of the field, the planting history, and the history of disease and insect problems before selecting the next season's soybean products.

EARLY PLANTING

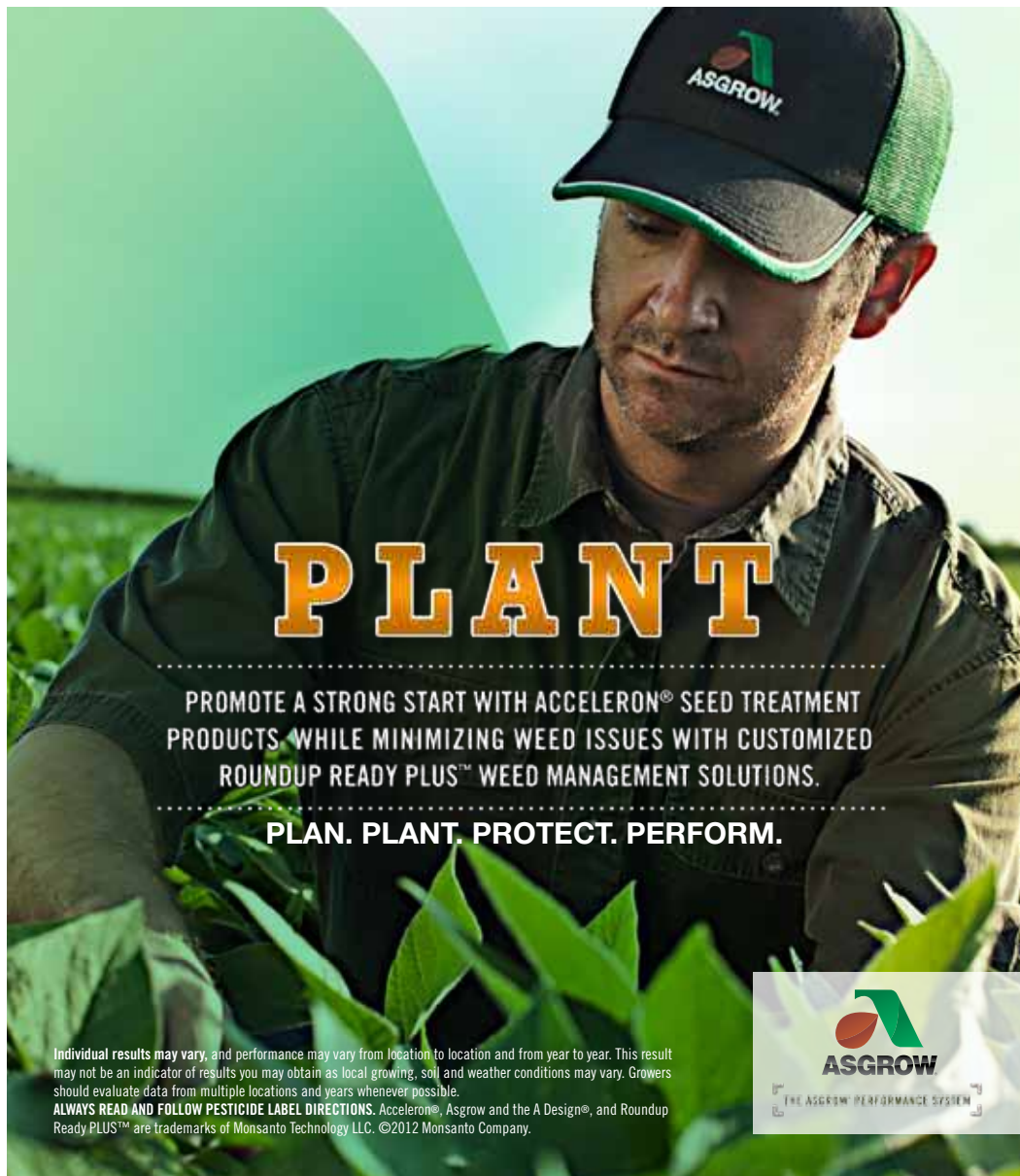
Planting soybeans earlier can help increase yield potential by allowing for earlier canopy closure that can maximize light interception during June. This can lead to an increase in the number of plant nodes, earlier flowering and a longer reproductive period, an increased crop growth rate during pod set

leading to a greater seed filling rate, and earlier harvest. In addition, early canopy development can help in conservation of soil moisture, which is critical during reproductive periods.

When planting early, it is important to wait until good soil and seedbed conditions exist. Planting when soil is too wet can result in compaction and poor seed placement and stand establishment. Planting soybeans in wet soils will likely negate any yield advantage from planting early.

ROW CONFIGURATIONS

Using narrow rows can improve yield potential. Research has shown that narrow rows (less than 30 inches) yield greater than wide rows (30 inches or greater). Narrower rows promote quicker canopy closure, which in turn improves light interception, weed control, and soil moisture retention. In Iowa, an average 4.5 bushels per acre increase can be expected when using 15-inch row spacing, compared to 30-inch row spacing.⁵ A Monsanto trial showed that 30-inch twin rows provided a yield advantage over conventional 30-inch rows. Twin rows also allow for an easier and more efficient harvest.



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HARVEY MORKEN
CASSELTON, N.D.

Tell us about your farm:

My wife, Mary, and I farm with our oldest son, Joe. We raise soybeans, wheat, sugarbeets and corn. Our son makes the third generation in Mary's family

to farm this land. With 2 grandsons, we have hope that there will be a fourth generation.

Why are you a part of the NDSGA? When were you first elected? I have been with NDSGA for 7 years, and I've found that, until you get involved with something, you never really know what it takes and how much it actually benefits all the growers. It's important for all farmers to be involved.

In what other organizations have you been active? Cass County Crop Improvement, Farmers Union Oil of Casselton, Casselton Township, and Elder and Deacon of

Westminster Presbyterian Church of Casselton.

Why are soybeans part of your crop mix? Soybeans produce well in a variety of conditions. They're not as fussy as some crops and are an easy crop to grow.

If you could add any new equipment or technology to your farm, what would it be? A new planter.

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

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

What hobbies do you

have? I enjoy the outdoors, being with my family, and I like to do a little traveling in the winter months.

What's your favorite meal/food? Hotdishes. I love church potlucks!

If you could win a vacation to anywhere, where would you go? Our son, Jason, has been to Ireland and really thinks Mary and I should go there. So, Ireland it is!

What's the best part of farming? The best part of farming is change, from planting to spraying, harvesting and then getting the equipment ready to do it all again the next year.



ART WOSICK
MINTO, N.D.

How long have you been farming? 40 years. I started in 1974. It rained all of May. I didn't go into my fields until June 10th, and it was 19 degrees on August 19th. My wheat went 22 bushels; my edible beans all froze; and I didn't get everything planted. I had a slow start, I guess, you could say. No insurance either on anything.

How long has your farm been in the Wosick family?

I'm the fourth generation. I'm living on the farm that was homesteaded in 1881 by my great-great grandfather who came to the United States from Poland.

Will there be a fifth generation to take over the farm? Yes, I have two sons. One is an engineer with Polaris right now; and one is farming in the area; but when I decide to quit, I'm sure they'll want to be around.

How long have you been raising soybeans? I think it was 1977 I had my first crop. It was dry, and I think they went 23 bushels or something like that. They were Clays, I believe. They've been a good, consistent crop. They're good for the rotation.

How long have you been on the North Dakota Soybean Council? As of April 1st, it will be 5 years.

What are you most

interested in as far as your work on the Council? I was on the research committee and I liked that, and I'm now on the marketing committee which I like, too. I've been traveling to Indonesia, Vietnam, China, Nicaragua and Guatemala.

You've had a chance to travel and see whether the checkoff dollars make a difference. Do you think they do? Oh, it's super. The feed-mill buyers love to meet with farmers; they ask every question you can think of. They love to talk to farmers; they feel they get a more honest answer, I think.

Do you have a favorite piece of equipment on the farm? My 2013 John Deere CCS planter: it probably did the most for my 2013 crop. The accuracy of this new planter, with the depth and the seed spacing, is far advanced compared to the new planter I bought in

1984. The spacing wasn't good at all compared to this new planter. My father told me you only have one chance to plant the crop; take your time, and do it right; and that is true.

Do you have any hobbies? Yes, I do. I collect toy tractors and farm equipment. I just got done building a nice, rustic, hickory display cabinet for my toys.

How many do you have? Probably 300.

If you could win a trip anywhere in the world, where would you go? Indonesia. I was there. The people are very smart. Don't underestimate that country because they're going to go up the ladder real fast. I was impressed with the people, the infrastructure, and the businesses we were at. The people all want to get ahead.

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FORE!

Mark your calendar for a new golf tournament on Wednesday, July 30. It will be hosted by the North Dakota Soybean Growers Association at the Jamestown Country Club. For more information about this outing, please contact Nancy Johnson at 701-640-5215.