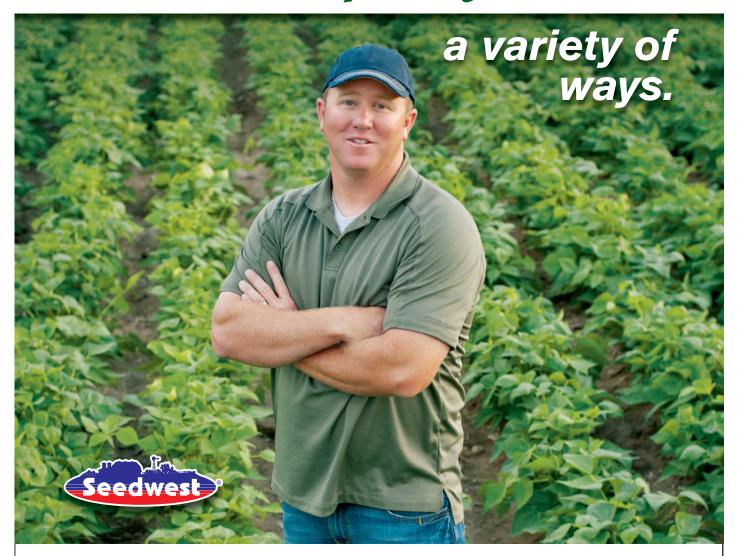


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^{**} Cowboy is Patent Pending.

^{***} Yield depends on a variety of factors beyond ADM's control, such as weather conditions, etc.

Pearer Northarvest

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The Northarvest Bean Grower is published five times a year by the Northarvest Bean Growers Association, 50072 E. Lake Seven Road, Frazee, MN 56544, Phone: (218) 334-6351, Website: www. northarvestbean.org, Email: nbbean@loretel.net.

Send editorial materials to Don Wick, Ag Information Services, Inc., 997 47th Avenue, So., Unit 2, Grand Forks, ND 58201, don@rrfn.com. Send advertising materials to Marlene Dufault, MLD Communications, 2604 Wheat Drive, Red Lake Falls, MN 56750, 218-253-2074, mdufault@gvtel.com. Publication of editorial or advertising material in the Northarvest Bean Grower magazine does not imply endorsement by the Northarvest Bean Growers Association. Check agronomic advice with local sources and always read and follow product labels.

VOLUME 25 ISSUE 3

STARTING POINT

LOOKING FORWARD TO SPRING

After a long, long winter, I think we're all anxious to move forward with the 2019 crop. Our patience was tested this winter with the extreme cold and the never-ending snow. Hopefully, this growing season will be better.



In this issue of *BeanGrower*, you'll find a recap of 2018 production and an update on some of the latest research projects. Northarvest also takes an active role in promoting dry beans to the consumer, and you'll learn about a few of those unique projects.

Trade is critically important to those of us in the specialty crop business. NAFTA 2.0, which is now known as the U.S.-Mexico-Canada Agreement is still in limbo. The leaders of the three countries have approved the deal, but it still needs to be ratified in Congress and the legislative bodies in Canada and Mexico. With the political turf battles in Washington, that's not a slam dunk. The tariffs on steel and aluminum are also influencing normal trade patterns, including the European Union.

At Northarvest, we will continue to monitor government policy and make sure the dry bean business is at the table.

Wishing you much success in the season ahead!

Sincerely,

Tom Kennelly, President
Northarvest Bean Growers Association





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Coverage and Velocity – A Balancing Act

By Jessie Topp-Becker

With any fungicide application, good coverage is paramount for effective disease control. To achieve acceptable coverage, the recommendation has been to use relatively fine droplets because smaller droplets result in more coverage. In addition to proper coverage, velocity is also an important consideration for fungicide applications. Velocity also plays an important role in ensuring that the fungicide gets inside the plant canopy.

While smaller droplets result in greater coverage, larger droplets have greater velocity and drift less, which improves canopy penetration. For dry bean growers dealing with white mold, which develops inside the plant canopy, balancing the two factors can be a bit of a challenge.

"To get inside the canopy you need a big enough droplet size to have velocity," explained Dr. Michael Wunsch, plant pathologist at North Dakota State University's Carrington Research Extension Center. "But if you go too big, you lose all your coverage. So, there's this fine balancing line between coverage and velocity."

During the 2019 Northarvest Bean Growers Association Bean Day, Wunsch updated growers on ongoing research



Wunsch speaks to growers at the 44th Annual Bean Day.

that examines optimizing fungicide applications in dry beans. The study looked at the impact of spray droplet size across four market classes of dry beans – navy beans, black beans, kidney beans and pinto beans.

For navy beans (Table 1), there was a "very, very

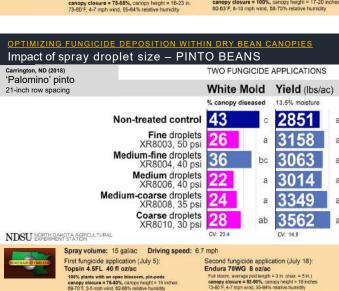
strong" response to droplet size from fine (39 percent of canopy diseased) to medium (31 percent) droplets. Disease control also worsened with coarse droplets (38 percent). Yield response in navy beans followed the same pattern: fine (2,468 lbs/acre), medium (2,778 lbs/acre) and coarse (2,411 lbs/acre).

"With the exact same fungicide applied, you get a much better response to fungicide when you get your droplet size right," Wunsch said. "There is a very impressive response to just getting your droplet size right."

The results were similar with black beans (Table 2). When using fine drop-



OPTIMIZING FUNGICIDE DEPOSITION WITHIN DRY BEAN CANOPIES Impact of spray droplet size - BLACK BEANS TWO FUNGICIDE APPLICATIONS rrington, ND (2018) 'Eclipse' black beans 21-inch row spacing White Mold Yield (lbs/ac) % canopy diseased 13.5% moisture 44 2051 Non-treated control Fine droplets XR8003, 50 psi Medium droplets XR8006, 40 psi Coarse droplets 29 XR8010, 30 psi NDSU NORTH DAKOTA AGRICULTURAL Spray volume: 15 gal/ac Driving speed: 6.7 mph First fungicide application (July 18): Second fungicide application (Aug. 1): Topsin 4.5FL 40 fl oz/ac Endura 70WG 8 oz/ac Full bloom, average pod length 2.5 in. (max. 4.0 in.) canopy closure = 75-85%, caropy height = 16-23 in 73-80°F, 4-7 mph wind, 55-84% relative humidity



lets, 32 percent of the canopy was diseased, compared to 27 percent and 29 percent with medium and coarse droplets, respectively. "We're maximizing our response to the fungicide when we're using medium-size droplets," said Wunsch.

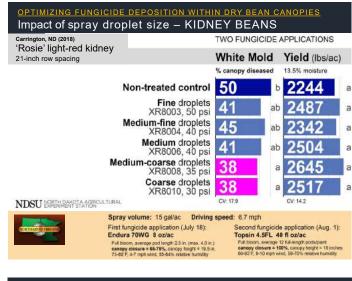
In the kidney bean treatments (Table 3), control and yield were maximized with medium-coarse (38 percent; 2,645 lbs/acre) and coarse (38 percent; 2,517 lbs/acre) droplets, compared to fine (41 percent; 2,487 lbs/acre) and medium-fine (45 percent; 2,342 lbs/

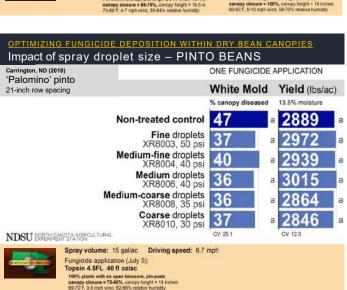
acre) droplets.

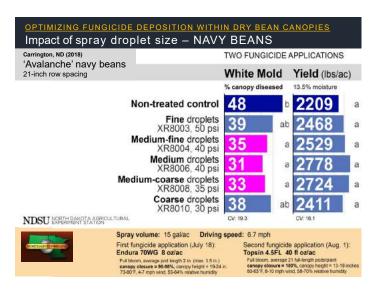
In the pinto bean treatments, Wunsch had both a one and two application strategy. "I don't know that we have as conclusive of a story in pintos," he said.

With two fungicide applications of Topsin and Endura, a yield increase was observed as the droplet size increased (Table 4). In the case of a single fungicide application of Topsin, the only treatments with a yield greater than the control were with fine to medium droplets (Table 5).

"I suspect what's going







on in the pinto beans is that the first application, which was made when the canopy was quite open. We needed probably a medium size droplet," said Wunsch. "And the second application, which was made when the canopy was really sealed up. I bet we needed a coarse drop-Continued on Next Page let.

"If you look at the end yield data, you'll see that there is a general trend as the droplet size gets coarser. We're getting higher yields in the end."

Across all market classes, Wunsch thinks canopy denseness has a significant impact on the droplet size needed.

"The take home that I see from this is that as the canopy gets denser, you need to use a coarser droplet size," he said.
"Navy and pinto beans appeared to do very well with the medium size droplets. And those are kind of small bush types; they don't have quite the density of a canopy."

He supported the dry bean study findings by sharing results of parallel studies in soybeans. In the soybean study, disease was minimized with medium droplets when applied to a canopy that wasn't fully closed. In the case of a fully closed canopy, coarse droplets were needed to minimize disease.

"If we got the wrong droplet size, we didn't get any disease control at all in some of those trials," Wunsch explained. "With the right droplet size, we got acceptable control. "The yield response parallels that perfectly. It's the difference between making your money on that fungicide or not."

While the results of the dry bean research are exciting, Wunsch said they aren't ready to make a final recommendation yet. "Hopefully this provides some idea of how you might be able to improve your applications for better disease control."

U.S. Dry Bean Production Up in 2018

For 2018, United States dry edible bean production was at 37.4 million hundredweight (cwt), up 4 percent from 35.9 million cwt in 2017. Harvested area was reduced less than one percent from the previous year, while the average yield, at 1,860 pounds per acre, increased 82 pounds.

North Dakota's 2018 dry bean crop was at 10.8 million cwt, which is 12 percent less than the previous year. The average yield of 1,760 pounds per acre is down 3 percent, which is 50 pounds less than 2017. Harvested acres are down 70,000 from the previous year.

Minnesota's final production increased 10 percent from the previous year to 3.9 million cwt. The average yield of

U.S. DRY BEAN PRODUCTION BY CLASS COMPARISON (Source: USDA)

	2017	2018	
Navy	4,161,000	4,085,000	-2%
Great Northern	1,403,000	1,168,000	-17%
Pinto	13,617,000	8,792,000	-35%
LRK	899,000	901,000	+ less than 1%
DRK	1,099,000	1,529,000	+28%
Black	5,120,000	5,195,000	+1%

2,360 pounds per acre is 170 pounds above 2017. Harvested area increased 5,000 acres from the previous year in US-DA's final crop summary at 168,000 acres.

USDA estimates the 2018 pinto bean crop at more than 8.7 million cwt, 35 percent less than the previous year. For the fourth consecutive year, black bean production exceeded navy production. Farmers grew 5.1 million cwt of blacks, one percent more than the previous year, while the navy bean crop de-

creased 2 percent, to just over 4 million cwt.

Production of Great
Northern beans declined 17 percent in
2018 to 1.1 million cwt,
while light red kidney
bean production grew
less than 1 percent from
2017. The dark red kidney bean crop increased
28 percent from the previous year.

North Dakota growers produced more than 5.3 million cwt of pinto beans in 2018, 36 percent less than the previous year. The average yield decreased

from 1,840 cwt per acre in 2017, to 1,710 cwt in 2018. Black bean production rose 3 percent, and navies decreased less than 2 percent.

Minnesota's pinto bean crop declined 40 percent from 2017, while black bean production rose 10 percent and the navy crop rose just 1 percent. For Minnesota growers, light red kidney bean production declined 20 percent in 2018, while the dark red kidney bean crop rose 30 percent.

From the Archives of the Northarvest Bean Growers Association

5 YEARS AGO: SPRING 2014

New Farm Bill is Signed:

Four months plus a week after the expiration of the one-year extension of the 2008 farm bill, the 2014 farm program was signed into law. According to Dale Thorenson of Gordley Associates, direct payments are eliminated for all program crops, except for cotton. The Counter-Cyclical Program (CCP) and the Average Crop Revenue Election (ACRE) are eliminated. Instead, growers will have a one-time choice on a commodity-by-commodity basis between two new options,

Price Loss Coverage (PLC) or the Agricultural Risk Coverage (ARC) programs.

Slow Darkening Bean on the Horizon: Bean growers who attended Bean Day in Fargo were told they may be able to plant new, slow-darkening pinto bean varieties as early as 2015. North Dakota State University dry bean breeder, Dr. Juan Osorno, said he is increasing seed of four advanced lines this year and hopes to have some choices for growers next year. Osorno's efforts to produce slow-darkening pinto bean varieties has been facilitated

thanks to a USDA Specialty Crop Block Grant he received a few years ago.

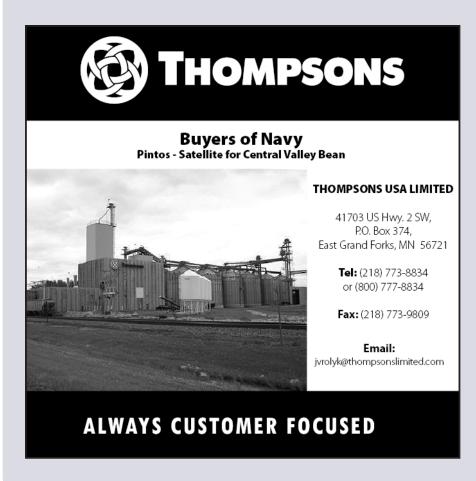
ND Included in Ghana Food Initative: North Dakota Dry Bean Council member Grady Thorsgard was part of the recent North Dakota Ghana Food Initiative, organized by the North Dakota Trade Office (NDTO) and Praxis Strategy Group. One of the objectives was to introduce North Dakota's healthy food ingredients to the Western African market, in a rural and urban setting.

10 YEARS AGO: SPRING 2009

New Plot Combine: North Dakota State University researchers have a new Wintersteiger Classic plot combine to harvest plots. This \$170,000 combine replaces a 25-year-old soybean combine that had been modified for dry beans. The new combine was funded by the Northarvest Bean Growers Association, the North Dakota Dry Edible Bean Seed Growers Association and the North Dakota Agricultural Experiment Station.

Turkey: An Emerging Mar-

ket: The Northarvest Bean Growers Association is working with the U.S. Dry Bean Council to identify and develop emerging markets. Turkey has a young and growing population and a rapidly growing economy. A recent trade mission found potential for U.S. pinto beans in both the canned and dry packaged markets.





Myrdal Hired as Director of Domestic Marketing and Communications

Megan Myrdal joined the Northarvest Bean Growers Association as the director of domestic marketing and communications in January. In this role, Myrdal will lead Northarvest's work to promote the use and consumption of dry edible beans.

"The Northarvest Bean Growers Association is very happy to welcome Megan Myrdal as the new director of domestic marketing and communications," says NBGA



MEGAN MYRDAL

Executive Vice President Tim Courneya. "Megan's background in nutrition, agriculture and communications is a great fit for our organization and will be an asset to sharing the benefits of the bean."

Prior to her hire with Northarvest, Myrdal was the family nutrition program agent with NDSU Extension – Cass County and the project manager for the Cass Clay Food Partners. Megan is an active member of Fargo's local food community as the co-founder of Food of the North and the Red River Market. She's also a former adjunct instructor for Concordia College and NDSU.

"I'm excited and grateful for the opportunity to
work for and represent the
bean growers of North Dakota and Minnesota," says
Myrdal. "As a registered
dietitian, it's hard to find a
food that has a more positive message to share than
beans. I look forward to
being a bridge between the
growers and consumers to
help people understand
the bean industry and find
more ways to enjoy beans."

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Contact Alan at (701) 543-3773

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Wilton Farmers Union Elev.,
Washburn, ND
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The Northarvest Bean Growers Association will be offering two, \$1,000 scholarships to the children and grandchildren of a Northarvest member in 2019. Northarvest is comprised of dry bean growers from North Dakota and Minnesota.

Northarvest Bean Growers Association is excited to offer this scholarship opportunity to two (2) individuals who meet the following requirements:

- 1. A parent or grandparent must be a current participating grower-member of the Northarvest Bean Growers Association.
- 2. Applicant must be enrolled or plan to be enrolled in their first year of college or technical college.
- 3. Applicant must have at least a 3.0 grade point average from high school.

If the above criteria can be met, applicant must compete an application to apply for the scholarship. Application must be received no later than June 1, 2019.

DAIE:						
NAME:						
ADDRESS						
CITY:			STATE:	ZIP:		
TELEPHONE:			DATE OF BIRTH:			
EMAIL ADDRES	S:					
NAME AND ADDRESS OF PARENTS/GRANDPARENTS:						
		DLLEGE/UN	NIVERSITY P	LANNING ON OR		
CURRENTLY AT	rending:					
COURSE OF STU	אטן:					

Please type/print responses to the following questions on a separate sheet(s) of paper and attach to this page along with your reference letters. Please keep each response to 200 words or less.

- 1. Please list your scholastic achievements (GPA, Academic awards, Scholarships, etc.) Include current grades or transcript.
- 2. Demonstrated Leadership (Offices held in school, projects directed, athletic involvement, band, choir, FFA, student council, boys/girls state, etc.)
- 3. Service to Community (Volunteer work, theater groups, coaching and any other activities which have contributed to the betterment of your community)
- 4. Describe the benefit(s) of being involved with dry bean production for you and your family.
 - 5. Career Plans?
 - 6. At least two references must be attached
- **Northarvest scholarship winners are asked to attend "Bean Day" January 2020
- ☐ Check if are willing to attend
- **Enclose a recent wallet size photo that can be used with an announcement story if you are selected.

 ** Mail application to Northarvest Bean Growers Association, 50072 East Lake Seven Road, Frazee, MN 56544, or email nhbean@loretel.net, no later than June 1, 2019.

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MINIMALLIBE:		

Decades of Dedication

Frayne Olson's Extension program aids producers in making informed marketing decisions.

By Jessie Topp-Becker

NDSU Extension Crop Economist and Marketing Specialist Dr. Frayne Olson is well-respected by farmers in the Northarvest region, and across the country, for his expertise. His insight is highly sought-after and is used by many producers to make informed marketing decisions.

A North Dakota-native, Olson was raised on his family's farm near Buxton. He attended North Dakota State University, where he earned a bachelor's and master's degree in agricultural economics in 1984 and 1987, respectively.

Upon graduation in 1987, he worked for NDSU Extension on a seasonal basis as a farm management specialist for 16 years. During that time, he also farmed with his dad and brother before returning to school to earn his doctorate.

Olson earned a doctorate in agricultural economics from the University of Missouri. After this, he worked at Iowa State University, where his work focused on farm management and cooperatives, before returning to NDSU in September of 2008.

The education component of his position as an Extension economist is something Olson thoroughly enjoys. "I enjoy research, but really like to work with people to help solve problems," he says. "I also enjoy seeing the 'lightbulb' go on for people when discussing a problem or issue."

Olson's core responsibilities in Extension have not changed since returning to NDSU in 2008; however, he has enjoyed the



FRAYNE OLSON

addition of the NDSU Commodity Trading Lab at Barry Hall. "It has significantly enhanced the depth and breadth of the issues and topics I can cover," says Olson.

In addition to his position with NDSU Extension, Olson also serves as director for the Quentin Burdick Center for Cooperatives; a position he's had since October 2016. Also, he previously served as the center's assistant director.

As director, Olson is responsible for leading the center's research and outreach efforts. He also teaches a senior/graduate level course on cooperative management.

"It has been fun to get back in the classroom and work with the students," Olson says. "The structure of a class allows me to get into more details on topics and issues than my Extension education."

Over the course of his decades-

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long career, Olson has observed many changes in the areas of trade and grain marketing.

"Trade has been a significant part of U.S. agriculture for many years,

but the importance of global trade continues to increase," he says. "In other words, U.S. agriculture, and specifically grain markets, are completely integrated into the international marketing system.

"The futures markets have moved to electronic trading, with extended overnight hours to allow international buyers and sellers to use the U.S. markets," Olson adds. "An event in South America or Asia can have as large an impact on grain prices as a weather problem in the United States."

Another change Olson has observed is the way electronic trading has made it easier for the investment community to use agricultural commodities as a diversification tool. In the dry bean industry, one of the most significant challenges he has observed is the wide range of customer expectations that growers have to meet.

"Some customers are very price sensitive; a base quality is required, but price is what makes the sale," he explains. "Other customers are very quality sensitive. Price is important, but they are willing and able to pay for a very high quality or specific quality characteristics."

In addition, Olson says international buyers can have different expectations than domestic buyers. "Trying to meet the needs of this wide range of customer needs will continue to be a challenge."

Through his many years of hard work, Olson has built a well-respected crop marketing Extension program, which he says is the highlight of his career. "I know this seems a little underwhelming, but it takes a lot of effort to build a recognized program that people will continue to support."

Olson and his wife have three children. In his spare time, he enjoys camping with his family.



BEAN BRIEFS

DRY BEAN CONGRESS BRINGS TOGETHER THE INDUSTRY

Over 150 dry bean exporters, buyers and industry representatives participated in the 2019 International Dry Bean Congress, February 7-9 in Cancun, Mexico. The Northarvest Bean Growers Association was part of the discussion, meeting of key buyers from Mexico, Central America and South America.

Judd Keller, who is with Kelley Bean Company, delivered a presentation on U.S. dry bean production. Compared to 2017, this past year's pinto bean production was down 32 percent. Black bean production was up three percent; navies were down nine percent and Great Northerns were down 25 percent. Light kidney bean production increased 2.5 percent.

Keller projected an increase in demand for pinto beans and black beans from Mexico. The strong U.S. dollar continues to pressure export sales. Rebecca Bratter, executive director, U.S. Dry Bean Council, spoke at the International Dry Bean Council, highlighting the recent World Pulses Day. Bratter said the plant protein message is resonating with different parts of the world, and the trend



The Northarvest delegation met with international buyers at the Cancun event.



is only expected to grow. "Linking pulses with the 'plant protein' movement helps us amplify our messages," said Bratter.

Joe Mauch, Kevin Regan, Tom Kennelly and Tim Courneya represented the Northarvest Bean Growers Association at this year's Congress.

2019 DISTRICT ELECTION RESULTS

The Northarvest Bean Growers Association announced district director election results at the 44th Annual Bean Day held January 18 in Fargo. The district directors elected include:

• **District 2** - David Dickson of Gilby, North Dakota raises pinto

and black beans, wheat, soybeans and sugarbeets. Dickson serves as vice president of the association, as well as on the promotion, legislative, search, scholarship, and communication committees.

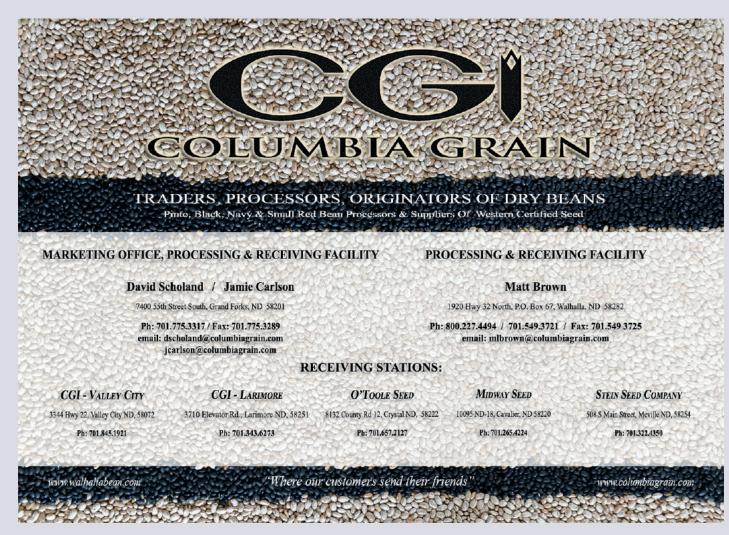
- District 5 Joe Mauch of Hankinson, North Dakota raises navy beans, soybeans, corn and sugarbeets. Mauch is active as a director for Northarvest, a U.S. Dry Bean Council delegate, Richland County Corn Growers Utilization committee and Northwestern Farm Management.
- District 8 Cordell Huebsch of New York Mills, Minnesota raises dark red kidney beans, corn, strawberries, raspberries and pumpkins. Huebsch is also active

on the Central Minnesota Irrigation Corporation, Irrigators Association of Minnesota, Farm Bureau and the Minnesota Agriculture & Rural Leadership program.

U.S. IS COLOMBIA'S TOP DRY BEAN SUPPLIER TO START '19

So far this marketing year, the U.S. has been Colombia's top dry bean supplier. The top bean classes shipped to Colombia are navy beans at 1,045 MT, light red kidney beans at 482 MT, dark red kidney beans at 421 MT, small red beans at 379 MT, and pinto beans at 290 MT.

Continued on Next Page



Currently, there is demand for navy beans, small red beans, and LRKBs. Black bean prices are up from January; demand is on the rise due to the influx of Venezuelan immigrants. The cargamanto blanco bean harvest that ended in January was good quality and quantity, dampening prices and lowering current demand for cranberry beans or pinto.

BLACK BEAN PRICES IN BRAZIL PULL UPWARD

Sao Paulo wholesale carioca bean prices in February were as high as \$1,713 per metric ton, double the price in January. The price spike was due to reduced first crop production and weather-induced crop

damage.

Prices reported the first week of March at the Sao Paulo bolsinha were lower, carioca especial (above commercial grade) averaged \$1,370/MT, but there is very limited availability. Consumers are reportedly buying second-rate cariocas or switching to alternatives like black beans. Black bean prices were therefore pulled upward.

Sao Paulo wholesale prices climbed from \$844/MT in January to \$1,112/MT in February—the first of March average price was \$870/MT. At the end of March, the first beans from the second harvest in southern states start to enter the market, but May is the peak.



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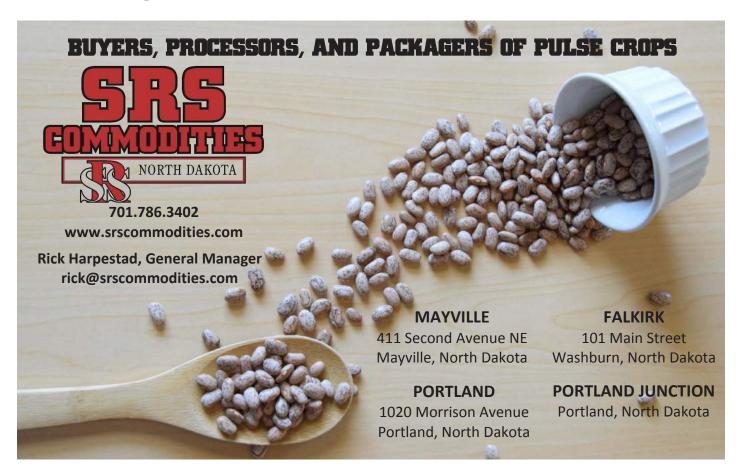
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Students Learn about Dry Beans at Living Ag Classroom

Throughout January and February, the Northarvest Bean Growers Association participated in Living Ag Classroom in Minot, Bismarck and Fargo. The event is a unique educational experience for fourth grade students to learn about North Dakota's farming industry and its impact on the world.

The Northarvest booth focused on educating youth about the decisions that go into dry bean farming through an interactive game called "Bean Crazy." The game takes students through a season of farming where they roll a dice, and the number rolled is assigned to something that impacts their profitability.

Throughout the game, students make financial farming decisions, like



Myrdal leads students through the game at the Fargo event.

whether or not to invest in equipment maintenance, fertilizer or insect, weed and disease control. Each roll has either a negative or positive impact on the farming year such as timely rains, drought or hail; increased or decreased diesel fuel prices; proper or improper storage or combine settings; a huge crop in Argentina or a major sale of black beans to Mexico.

In the six minutes at the booth, classrooms could make \$100,000 or lose \$70,000. The game concludes with telling students that some years farmers make money and some years farmers lose money; that's the life of farming.

Thousands of students participated in the 2019 Living Ag Classroom experience. Former NDSU Extension Agent Gail Slinde and NGBA Director of Domestic Marketing and Communication Megan Myrdal represented Northarvest. This event was a good opportunity to help youth learn more about where their food comes from, and what it means to be a farmer.



A student studies the "Bean Crazy" game at the Northarvest booth.



Slinde goes over the game directions with students.

Research Targets Dry Bean Nemeses

By Jessie Topp-Becker

Bacterial blight and rust and root rot. Those are three common nemeses of dry bean growers. In her role as a dry bean and pulse crops pathologist at North Dakota State University (NDSU), Dr. Julie Pasche and her team work diligently to identify disease management solutions for growers.

During remarks at the 2019 Northarvest Bean Growers Association Bean Day, Pasche gave an update on her team's research on bacterial blight and rust.

BACTERIAL BLIGHT

When it comes to bacterial blight



At the 44th Annual Bean Day, Pasche addresses dry bean disease research.

management, Pasche recommends a crop rotation of 3-4 years. "Get that residue broken down so that bacteria isn't hanging out there," she said.

Ongoing research projects conducted by

Pasche's team address three other management areas: foliar products, resistant varieties and clean seed. During her presentation, Pasche updated growers on research related to foliar products and resistant varieties.

FOLIAR PRODUCTS

In 2016 and 2017,
Pasche's team compared traditional copper-based products with hydrogen peroxide-based products. The research included replicated trials conducted at three sites over two years, and in 2016 also included trials in grower fields.

In the trial, four copper-

based products – Kocide 3000, MasterCop, Badge SC and ET-F (2017) – and two hydrogen peroxide-based products – SaniDate 12.0 and Oxidate 2.0 – were used. The products were applied twice; first at 90 percent bloom and a second time 14 days later.

Across all the trials, they identified significant reductions in blight severity. However, there was no statistically significant differences related to which products performed better. "It was a bit like shuffling a deck of cards," said Pasche. "In one trial, maybe a hydrogen peroxide

Continued on Next Page



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product would do really good. In another trial, it might be a copper-based product."

Despite the significant reductions in blight severity, yield increases were observed but not statistically significant.

"Not only did we not see statistical significances in this trial, but the nontreated was right in the middle," Pasche said. "In some trials, there were good numerical differences between non-treated and some of the treatments where you might be getting 200-300 bags, but never statistically significant."

For the 2017 trials, they delayed wounding and foliar application. However, there were still no statistically significant yield differences.

Overall, the research revealed statistically significant reductions in blight severity, but peroxide-based products are not consistently better than copper-based products. Since

no consistent yield responses were associated with reductions in blight severity, Pasche said more applications may be needed and/or application timing may need to be refined.

RESISTANT VARIETIES

Several groups at NDSU are working together to identify dry bean varieties with bacterial blight resistance. To do this, they evaluated 850 lines of germplasm, including genes from every market

class.

The first stage of this project involved screening all 850 genes for common bacterial blight (CBB) in the greenhouse. The research identified germplasm with CBB resistance. This information can be useful for the breeding program when choosing lines as parents for crosses. The research also provides background for lines that move forward as varieties.

In the second part of this project, all of the

BEAN ENCHILADAS

Recipe provided by NDSU Extension

Enchiladas are a hearty, healthy and flavor-packed meal. This recipe features black and pinto beans, and can easily be made-ahead for a busy, weeknight dinner.

Ingredients

1 Tbsp. olive oil 1 onion, diced

- 1 15-oz. can black beans, drained and rinsed
- 1 15-oz. can refried beans
- 1 c. sour cream, fat-free
- ¼ c. chopped fresh cilantro
- 1 jalapeno, seeded and minced
- 1 c. shredded cheddar cheese, divided
- 1 tsp. cumin
- 4 10-inch flour torillas
- 1 c. enchilada s<u>auce</u>
- Salt and pepper to taste

Directions

- 1. Preheat oven to 350 F.
- 2. Heat olive oil in a large skillet over medium heat.
- Add onions to skillet and sauté until tender and translucent, about two minutes. Set aside.
- 4. In a large mixing bowl, add beans, sour cream, cilantro, jalapeno,

- cumin, cooled onions, ½ c. shredded cheddar cheese, and salt and pepper to taste. Stir to combine.
- 5. Stuff each tortilla with bean filling and roll.
- 6. Place each enchilada in a baking dish.
- 7. Pour enchilada sauce on top of enchiladas. Sprinkle remaining cheese.
- 8. Bake in oven for about 20 minutes, until cheese is melted and enchiladas are heated through.
- 9. Garnish with cilantro.

Makes eight servings. Each (½ enchilada) serving has 260 calories, 11 g fat, 30 g carbohydrate, 3 g fiber and 270 mg sodium.



germplasm (850 lines) was sequenced. The mapping was done to identify regions associated with common bacterial blight resistance.

The research identified one new genetic region associated with CBB resistance. Six previously known, but un-mapped regions, were physically mapped. The identification of these genetic regions can be utilized to develop markers for markerassisted selection. Pasche said the sequencing information of the breeding germplasm can also be used to find associations with other traits.

Ongoing and future bacterial blight research is focused on pathogen detection, being able to better detect bacteria and pathogen races. "We need to know what pathogen races are out there, so going forward we know what's happening," said Pasche.

RUST

In 2008, Dr. Sam Markell, Extension plant pathologist; Dr. Juan Osorno, NDSU dry bean breeder; and others at NDSU identified rust traces that overcame the resistance gene that was used in cultivars at that time.

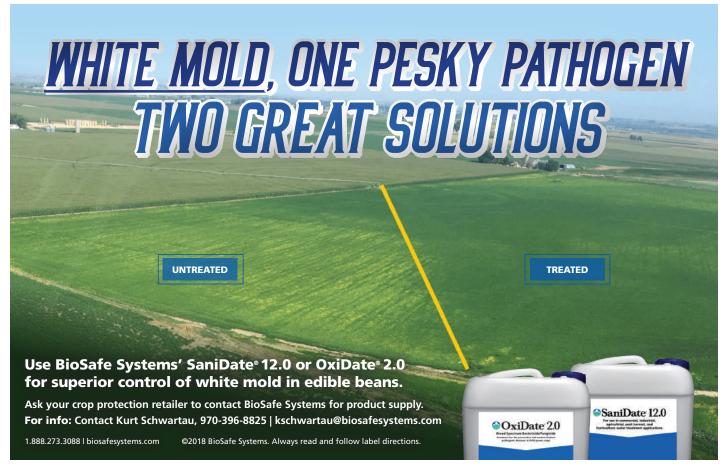
"At that point, rust

resistance or host resistance was no longer effective basically," Pasche explained. "And the fear at that point moving forward was that we would go back to rust epidemics that we had seen before that genetic resistance was available."

Much to the researcher's surprise, that didn't happen. But in 2014, an increase in rust prevalence got their attention. They evaluated 60 fields across the major growing areas of North Dakota in 2015.

Through this research, they identified which rust resistance genes are still effective. Going forward, this will help them know which genes to use.
Genetic mapping of rust resistance in the breeding program is ongoing.
The researchers are also looking at a slow rusting mechanism.

Pasche explained that the dry bean research at NDSU is focused on an integrated approach of product applications and host resistance. "We're not only looking at product applications, but also genetics," she said. "We hope for a short-term solution with some of these product applications, as well as long-term solutions going forward that will help us with genetics."



2018 Dry Bean Grower Survey

For 29 years, dry bean growers have responded to an annual survey of varieties grown, pest problems, pesticide use and grower practices. Research and Extension faculty at North Dakota State University, along with directors of the Northarvest Bean Growers Association, developed the survey form, which was mailed to all Northarvest bean growers. All participants of the survey were anony-

mous.

A total of 241 growers responded to the survey, representing 15.2 percent of last year's total planted acreage. The previous year, 239 growers complete the survey.

In 2018, the two most popular varieties by class were:

- Pinto: 1. Vibrant (SD) 2. Windbreaker
- Black: 1. Eclipse 2. Zorro
- Kidney: 1. Montcalm 2.

Red Hawk

- Navy: 1. HMS Medalist 2. T9905
- Pink: 1. Floyd 2. Not specified
- Small Red: 1. Ruby 2. Merlot
- Cranberry: 1. Bellagio
 More than 32 percent of
 growers who responded
 ranked drought as the
 most significant production problem in 2018.
 Diseases and harvest were
 ranked as the next largest
 production problems. In
 2017, water damage was
 number one on this list
 and drought was number
 two.

For the second year in a row, the survey included questions about dicamba

drift injury and whether it will affect growers' future planting intentions. Six growers reported dicamba drift injury on their dry bean acres in 2018, compared to nine the previous year. The six growers affected estimated yield losses of 300 to 2,000 pounds per acre.

As in 2017, the worst weed problems in 2018 were kochia, lambsquarters and ragweed. Basagran/generics and Raptor were the most commonly used herbicides by dry bean growers last year.

A grant from the Northarvest Bean Growers Association funded the survey.



Northarvest participated in Ag Day at the North Dakota State Capitol on March 19. This annual event recognizes the agricultural community by highlighting the crops and commodities produced in the state. Megan Myrdal, director of domestic marketing and communications, represented Northarvest by showcasing a variety of products featuring Northarvest beans and sampling bean chips with a pinto bean hummus.



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Northarvest Sponsors Worlds of Healthy Flavors

By Megan Myrdal

Each January, the Worlds of Healthy Flavors invitational leadership retreat brings together 125 leaders, including top nutrition researchers, influential corporate chefs, leading registered dietitians and world cuisine experts. At the event, these professionals discuss opportunities for presenting American consumers with a wider range of healthy menu options.

Northarvest was a silver-level sponsor for the 2019 event, held January 15-17 at the Culinary Institute of America in Napa, California. The sponsorship included several opportunities to display dry beans with global flavors. The menu items sampled throughout the event included:

- Celery, green beans, black beans and smoked tofu with chili crisp
- French soul bowl with red potatoes, pinto beans, blended pork and portabella sausage, collards and sauce gribiche
- Black bean, chorizo and chard fideo with poached eggs
- White bean, banana, peanut butter muffin bites

Over 45 foodservice operators from 31 companies participated,



Celery, green beans, black beans and smoked tofu with chili crisp

including some recognizable names like Aramark, Compass Group, Dunkin' Donuts, Panera Bread, Taco Bell and Subway. According to the CIA operator analysis, these

companies represent over \$143 billion in total annual sales.

The top takeaways and key opportunities shared from the conference related to beans were:

- 1. Craveable Bean Dishes:
 We need to think about how to position beanfocused menu options as not just healthy, but craveable. The current menu trends that lend well to delicious beans dishes are bowls and customization.
- 2. EAT-Lancet Report: This new report provides guidelines for what constitutes a healthy and sustainable diet. The report calls for a shift in protein sources, with the majority to come from plant-based proteins, like beans. As more and more people look to shift their proteins to plant-sources, beans are well positioned to take a leading part of the plate.
- 3. Feeding the Microbiome: Consumers' interest in gut health continues to grow. Beans' high-fiber profile has a positive message to share, and we need to make sure consumers think of beans when they are looking for high-fiber food choices to feed the microbiome.



Black bean, chorizo and chard fideo with poached eggs.

A New Look for Northarvest

In January, the
Northarvest Bean Growers
Association launched a
newly revised website,
www.northarvestbean.
org. The new design
highlights dry edible
bean programs including:
production research,
consumer outreach,
development, nutrition
research and regional and
national promotion.

Producer, consumer and buyer resources are easy to access on the new site. Also, a digital copy of Northarvest's *BeanGrower* magazine is available for visitors.

"The Northarvest website is the gateway and first connection to reach the world," says NBGA

Executive Vice President Tim Courneya. "The revised website assists Northarvest in communicating its mission and to educate audiences about dry beans in the region."

Website upgrades include improved navigation, updated information and a mobile-friendly design. The new site design makes it easier for dry bean growers to find information on checkofffunded programs and projects, including production research.





Healthy Kitchens, Healthy Lives

The 2019 Healthy Kitchens, Healthy Lives Conference was held February 6-8 in St. Helena, California. The three-day event was attended by approximately 430 healthcare providers, who learned about selection, purchase and preparation strategies and techniques for healthy foods and healthy cooking. These experts were also joined by world class culinary and nutrition educators from

the Culinary Institute of American for hands-on training.

The event focused on a plant-forward cooking and eating style, calling it the best path to a healthy, sustainable diet. More fruits, vegetables and nuts are recommended to replace processed carbohydrates. Also, the cost and lifestyle issues related to healthy foods was discussed, including affordable diets for low-income

Americans and budget challenged families.

A major takeaway from the conference included a better understanding of American culinary trends and how to leverage consumer interest in world flavors. Plant based, health-promoting cuisines of Asia, Latin America and the Mediterranean are all popular options.

Northarvest's sponsorship of the

conference placed beans in breakfast, lunch and reception meals. A "Bean Me Up" casserole was also donated by Northarvest for the event. Attendees of the evening Passport Reception enjoyed a "Bean Chef" sticker placed on their card for a chance to win a door prize. Faye Courneya attended on behalf of the Northarvest Bean Growers Association.



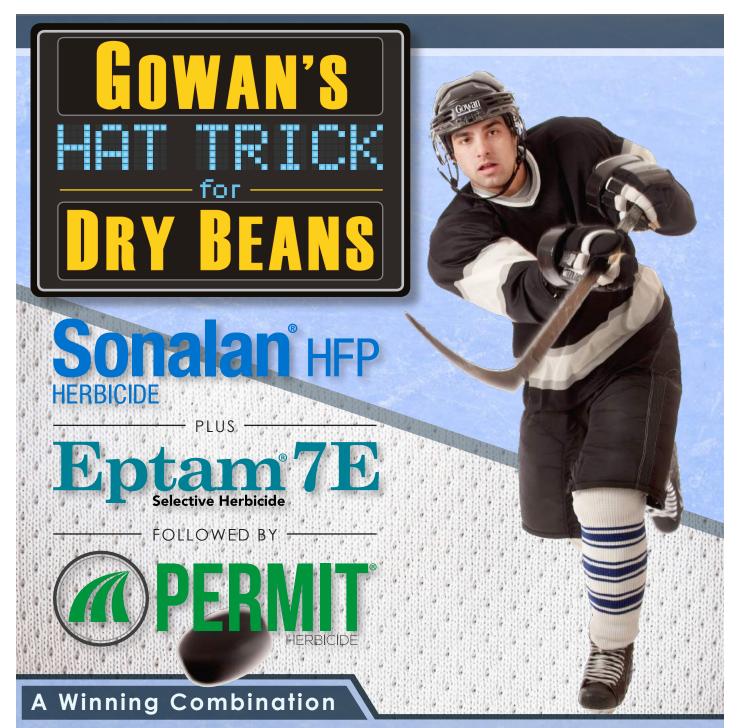
How to prepare a jewel salad was demonstrated and later featured at lunch.



Faye Courneya, Northarvest Bean Growers Association, and another participant playing a bean bag toss game at the conference.



Conference attendees listen to a session speaker.



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Healthy Kids Collaborative

By Faye Courneya

This winter, the Northarvest Bean Growers Association took part in the Culinary Institute of America's Healthy Kids Collaborative. The initiative is designed to accelerate innovation and deepen professional expertise in K-12 school food systems. School nutrition professionals, chefs, suppliers and other stakeholders take part in the collaborative to create and advance healthier foods for students.

Seventy-five percent of American schools are "satellite" schools, meaning the food is packaged and warmed. These schools serve a \$25 billion industry for processed package foods.

School food service directors in attendance have a passion to create healthy and intriguing dishes for students and want to see more schools have a working kitchen. The professionals believe children need to see and smell food being cooked. While they work on a small food budget, most food service directors find additional sources to help with costs.

Sponsorship from Bush's Best Beans and Northarvest put dry beans front and center at the collaborative. As a corporate member, Northarvest is paired



Attendees break into groups to create kid friendly dishes. Northarvest's Faye Courneya is at work in the background.

with a school district to work on developing two to three menu items for testing in the school district during the current school year.

When completed, Northarvest and the school will have an opportunity for photo highlights of the collaboration. The menu items will be shared at the next Healthy Kids Collaborative meeting in December.



Sponsor table showcasing designated products, including dry beans.

Pulse of the Industry



RYAN WANZEK
Jamestown, North Dakota
Pinto beans, soybeans, corn and wheat

Tell us about your family farm and how you got into farming. I'm a fifth-generation farmer. I grew up in farming, as both of my grandpas farmed. In 2006, I started renting my own land and growing corn and soybeans. Today, I farm with my cousin Jordan, my dad Terry and my uncle Tracy.

What classes of dry beans do you grow and why?

My first year of farming I grew dry beans and it was kind of a disaster. However, it didn't keep me from continuing to grow them. Now we mainly grow pinto beans and some black beans. We raise pinto beans because we have a processing plant nearby. They seem to be the one bean we can market and move somewhat easily.

What is your favorite piece of farm equipment?

Probably the 4045 John Deere sprayer. We can get more than a ton of acres sprayed in a day.

What are your hobbies? I like to hunt, fish and play golf. Also, I enjoy being with family.

If you could win a vacation anywhere, where would you go? I would take a trip to Europe so I can see some of its history. There are a lot of different countries and areas to see.

What is the best part about being a farmer? The best, and most rewarding, part is seeing crops come out of the ground. That's when you know all the hard work paid off.



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