

BLIZZARD WATCH

From the Department Head

Dr. Richard Horsley



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As I write this year's update, we at NDSU are working to mitigate risk of the spread of COVID-19 like the rest of the country. Terms like "social distancing" and "self-quarantine" have become part of our everyday vocabulary. NDSU will not be offering in-class teaching for the remainder of the semester, the date of spring commencement has been moved to the end of fall semester, and faculty and staff are allowed to work from home if they choose. Having a week off for spring break before the online instruction began gave our faculty and staff the opportunity to work out plans for delivering course materials online. How to handle lab courses will be a challenge. In the Plant Sciences office, a staff member is providing part-time coverage for basic office operations. It's pretty quiet in the office, so I am hoping to catch up with office work that has piled up.

Last week I returned from a three-day trip to my winter nursery near Yuma, Arizona, to select rows for harvest. The planes were less than half full, the airports were quiet, and occupancy and staff at hotels was greatly reduced. I'm running a lot of plans through my head to figure out how I can

get harvest done, including selection and harvest of F₂s, without having to travel to Yuma again in about 10 days. Seed for the 1,200 entries in my 2020 Preliminary Yield Trial and most of my F₂s will come from the Yuma nursery. The materials in the nursery need to be harvested, threshed, cleaned, and packaged for planting this spring.

On the positive side, 2019 again was a year of accomplishments for the department's faculty, staff, and students. This year's Blizzard Watch contains over 12 pages of accomplishments and awards received by our undergraduate and graduate students, staff, and faculty. I am especially touched by the work our students and the Deckards do to share their skills with community groups in the department's service learning course (PLSC 312), the work the Plant Sciences Graduate Student Association did with the Growing Together Community Garden, and the work Drs. Kandel and Ransom did in teaching agricultural research techniques at two universities in Ethiopia (page 5).

In 2019, Dr. Deying Li was promoted to professor; Drs. Esther McGinnis, Mukhlesur Rahman, and Andy Robinson

were promoted to associate professor with tenure; and Dr. Becky Oliver was promoted to associate professor of practice. I congratulate them for their accomplishments and all they do for their students, stakeholders, and their colleagues.

We received permission in 2019 to fill three faculty positions: a faculty position in food and cereal science that was made available following the resignation of Dr. Cliff Hall; a new weed scientist position in control of invasive weeds in cropland; and a soybean breeder. Dr. Ted Helms, soybean breeder for the last 34 years, will be retiring from NDSU at the end of June 2020.

Harris Hall, the location of most of our cereal science and food science research and teaching facilities, is now the number one building on the university's priority list for replacement. This building has been referred to as a "museum" by visitors and it actually has a functioning fuse box in the oldest part of the building. The 2019 Legislature appropriated \$40 million for the new Agricultural Product

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Faculty Updates

Promotions & Appointments

Dr. Deying Li was promoted to professor. He received his Ph.D. at Iowa State University and in 2002 was hired at NDSU. He leads the sports turf management program and teaches courses in sports turf operations and landscape irrigation.



Dr. Esther McGinnis was promoted to associate professor with tenure. She received her Ph.D. at the University of Minnesota and has served as NDSU Extension horticulturist since 2013. She advises county Extension agents, coordinates horticultural programs, and oversees the North Dakota Master Gardener program.



Dr. Md Mukhlesur Rahman was promoted to associate professor with tenure. He received his Ph.D. at the University of Manitoba and came to NDSU in 2008 as an international exchange scientist. He was hired as a research assistant professor in 2010 and currently leads the oilseed breeding program, focusing on canola and flax. He also teaches intermediate genetics.



Dr. Andy Robinson was promoted to associate professor with tenure. He received his Ph.D. at Purdue University and has served as Extension potato agronomist for NDSU and the University of Minnesota since 2012. He educates growers on current research and topics related to potato production and crop management.



Dr. Becky Oliver was promoted to associate professor of practice. She earned her Ph.D. at North Dakota State University and was hired at NDSU in 2013. She teaches courses in genetics and world food crops and serves as an advisor to undergraduate students in crop and weed sciences.



Dr. Kenneth Grafton returned to the faculty of the Department of Plant Sciences following his administrative roles as interim provost, vice president for Agricultural Affairs, dean of the College of Agriculture, Food Systems, and Natural Resources, and director of the ND Agricultural Experiment Station. We thank and congratulate Dr. Grafton on his dedicated and auspicious leadership.



Dr. Todd West was named assistant dean for academic programs in the College of Agriculture, Food Systems and Natural Resources. He is a professor and leader of the woody plant improvement project. He has worked at NDSU since 2011.



Dr. Anuradha Vegi was appointed food science undergraduate program coordinator. She has worked at NDSU since 2016 as an assistant professor of practice in the cereal and food science program.



Dr. Rodney Lym was awarded emeritus professor status. He served as a weed scientist at NDSU, specializing in leafy spurge, for over 39 years and retired in 2018.



Resignation

Dr. Clifford Hall III resigned from his position as professor and food science undergraduate program coordinator. He was hired at NDSU in 1996 and had 23 years of service. His new position is professor in dairy and food science at South Dakota State University.

Memorial



Neal Holland

North Dakota State University Department of Plant Sciences Emeritus Professor Neal Holland passed away June 14, 2019 in Fargo, ND. He worked at NDSU as a professor of horticulture for 32 years. He retired in 1993 and went on to open Sheyenne Gardens nursery at his home farm in Harwood, ND.

Holland developed numerous vegetable varieties, flowering shrubs and fruit trees, both at NDSU for the fruits and woody plants program, and later as a private business owner. He received a distinguished service award in 2006 from the North Dakota Nursery, Greenhouse, and Landscape Association.

View the obituary at <http://bit.ly/2WODmMB>.



Staff Updates

New Staff and Updates

New postdoctoral research fellows are **Andrea Cecchin**, forages and biomass crop production; **Tatiana Danilova**, wheat genetics and cytology; **Sintayehu Daba**, hard spring wheat breeding; and **Hui Li**, food and cereal chemistry.

New research specialists **Andre Miranda** and **Rakhi Palit** were hired in hard spring wheat breeding and in weed biology and ecology, respectively. In wheat quality, **Amber Walter** was hired as a research specialist and **Edil Vidal Torres** as a food technologist technician. Research specialist **Nathan Haugrud** transferred from wheat quality to Extension weed control. **Andrea Evert** was hired as accounting technician in the main office.

Zhao Jin, postdoctoral research fellow in malting barley quality, and **Alex Wittenberg**, research specialist in forages

and biomass crop production, were hired in January 2020.

Resignations

Postdoctoral research fellows who resigned are **Aliya Momotaz**, wheat molecular genetics; **Yadav Gyawali**, wheat genetics and cytology; and **Upasana Ghosh**, potato breeding.

Research staff who resigned are **Devin Wirth**, Extension weed control; **Matthew Abdallah**, hard spring wheat breeding; **Paula Petersen**, minor and new crops; **Alan Peterson**, forages and biomass crop production; and **Megan Hest**, wheat quality.

Retirement

Janet Davidson-Harrington, research specialist in weed science, retired after 27 years of service. We wish her a very happy retirement!



Cecchin



Danilova



Daba



Li



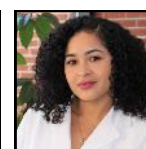
Miranda



Palit



Walter



Vidal Torres



Haugrud



Evert



Jin



Wittenberg

From the Department Head (continued)

(Continued from page 1)

Development Center (APDC), which would house the activities from Harris Hall and the meat lab from Shepperd Arena, contingent on the remaining \$20 million garnered through fundraising. The fundraising efforts are being coordinated by the NDSU Foundation. Anyone that has questions on how they can provide support for the new building can contact me.

Like most universities in the nation, student enrollment at NDSU has declined by about 1,000 students in the last two years. Enrollment in the Crop and Weed Sciences (CWS) program is at 140, which is a decrease of 58 students since last year. The Horticulture major

has 38 students and the Food Science program has 18 students. The Horticulture program enrollment increased by three students, while the Food Science program decreased by eight students. There are 63 graduate students (46 MS and 17 PhD) in the department's Plant Sciences program, five MS students in the Horticulture program, and 21 students (4 MS and 17 PhD) in the Cereal Science program. The large number of MS students in the Plant Sciences program is in response to a call by industry for an increased number of agronomists with MS degrees. The number of overall students in the Plant Sciences and Cereal Sciences graduate programs decreased by eight and six, respectively, since last year. The decrease in a large part is due to the fact that projects with

state-funded research technicians have had to pay 25% of the salary and fringe benefits since 2016. This amount of salary and fringe is very close to the cost of a graduate stipend.

You can keep up with the latest department news on our Web page at www.ag.ndsu.edu/plantsciences/, our Facebook page at NDSU Plant Sciences, or our Twitter page at @NDSUPlantSci. One of the items I really enjoy reading are the profiles on our current students and alumni. If you are an alumnus, please visit our alumni page (www.ag.ndsu.edu/plantsciences/alumni) to tell us about your current position and how your experience at NDSU contributed to where you are today.

Faculty and Staff Awards and Honors

Simsek Receives Excellence in Teaching Award

Senay Simsek, Bert L. D'Appolonia Cereal Science and Technology of Wheat Endowed Professor, was awarded the 2019 Excellence in Teaching Award by the Cereals and Grains Association (formerly the American Association of Cereal Chemists International). The award is annually presented to an association member who has made significant contributions through teaching in the field of cereal science and technology. Simsek was recognized during the annual meeting in November.



Simsek has taught cereal and food science students for the past thirteen years and advises graduate students on how to succeed in their careers as cereal scientists. She also helps students develop their communication skills by making opportunities available to give oral and poster presentations at local, national and international meetings.

Johnson Honored at Industrial Crops Meeting

Burton Johnson won the Best Presentation award in General Crops and Products at the Association for the Advancement of Industrial Crops (AAIC) annual meeting in September. The presentation that earned him the award was *Seeding Date and Seed Treatment Effect on Industrial Hemp Stand Establishment*. Johnson also serves on the AAIC Board of Directors.



Rahman Elected Academy Officer

Md Mukhlesur Rahman was chosen as president-elect of the North Dakota Academy of Science. The purpose of the organization is to promote and



conduct scientific research and to disseminate scientific knowledge. Their annual meeting will be held April 3, 2020 in Bismarck, ND.

Rao Selected as Division Chair

Jiajia Rao was chosen to serve as the 2019-2020 Institute of Food Technologists (IFT) Food Chemistry division chair. She also will serve for three years as a judge for the preliminary and final reports of the IFT Student Association Mars Wrigley Product Development Competition.



Jin Honored at Scab Meeting

Postdoctoral researcher **Zhao Jin** was awarded second place in the Post-Doctoral Research Poster Competition at the U.S. Wheat and Barley Scab Initiative 2019 National Fusarium Head Blight Forum in December. Jin works in the malting barley quality project.



Emeritus Professor Named Fellow

Emeritus Professor **Rich Zollinger** was named a Fellow of the North Central Weed Science Society. He was honored during the society's annual meeting in December. Zollinger worked at NDSU 28 years as a professor and Extension specialist in weed control and retired in 2017.



Agriculture and Extension Personnel Honored

Esther McGinnis and **Senay Simsek** received awards at the 28th annual Agriculture and Extension Faculty/Staff Awards program in December. McGinnis received the Excellence in Extension Early Career Award and Simsek received the Eugene R. Dahl Excellence in Research Award.



McGinnis



Simsek

McGinnis is an associate professor and Extension horticulturist. Simsek is the Bert D'Appolonia Cereal Science and Technology of Wheat Endowed Professor and leads the wheat end quality project.

Others from the Department of Plant Sciences nominated for an award and recognized during the program were Bingcan Chen, Harlene Hatterman-Valenti, Burton Johnson, Hans Kandel, Sally Mann, and Anuradha Vegi.



Left to right: Johnson, Kandel, Simsek, McGinnis, Chen, Mann, Vegi

NDSU Staff Years of Service

5 Years

Brad Bisek
Brock Fagerstrom

10 Years

Robert Sabba

15 Years

Collin Auwarter

20 Years

Rian Lee
Richard Nilles

Extension Years of Service

5 Years

Tom Peters

25 Years

Barb Laschkewitsch

Outreach and Service

Expanding the Boundaries of Learning with Service

Students taking Ed and Brenda Deckard's PLSC 312 Expanding the Boundaries of Learning with Service course learned to design and implement service projects in the local community. Groups of students worked with residents of a local nursing home in Fargo to decorate flowerpots and plant flowers for the residents' rooms; celebrated Earth Day at the Red River Zoo by presenting hands-on projects and posters to teach the value of composting and recycling and how to help birds and pollinators; and collected canned food, dry goods, paper products, and toiletries to donate to the Great Plains Food Bank.



Nursing Home



Earth Day



Food Bank

Elementary School Science Fair

Cereal science personnel Ana Magallanes López, Jane Snelling, Aslihan Unuvar, and Senay Simsek demonstrated food science testing techniques at Longfellow Elementary School in Fargo. The school held a science fair for kindergartners through 5th graders. Magallanes López, Snelling, Unuvar, and Simsek used candy and soda to demonstrate sensory testing techniques and how to determine density of foods.



Students Serve in Community Garden

The NDSU Plant Sciences Graduate Student Association helped transplant tomatoes and pound in stakes at the Growing Together Community Garden.



Agronomists Teach Ag Research Techniques in Ethiopia

NDSU Extension agronomists and Department of Plant Sciences faculty Hans Kandel and Joel Ransom spent two weeks teaching and sharing their expertise with new farmers and faculty at two agriculture universities in Ethiopia.

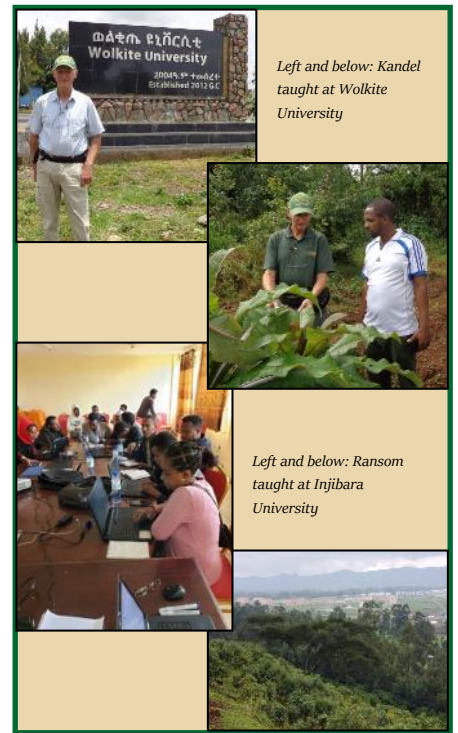
Both agronomists were part of the Catholic Relief Services Farmer-to-Farmer program, which is funded by the U.S. Agency for International Development.

In Ethiopia, Kandel worked with the Wolkite University, training faculty and a group of farmers about grain crops production. Farmers received training on how to use manure and compost, and inoculate legumes with appropriate bacteria to increase dry bean production and quality. Providing technical assistance to smallholder farmers will enable

them to increase their food security.

Ransom worked with faculty from the Food and Climate Science College at Injibara University. His lectures and practical training focused on agricultural research techniques, data analysis and technical writing. This training will enable faculty to assist nearby farmers effectively with relevant technology that could improve their productivity.

(Source: NDSU Ag Communication, <https://bit.ly/2ObVLP>)



Left and below: Kandel taught at Wolkite University

Left and below: Ransom taught at Injibara University

Find more news on our website and social media!



www.ag.ndsu.edu/plantsciences/news



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www.hhtstaffingservices.com

Department News

Washington, D.C. Baker Works with Small Grains Researchers

Jonathan Bethony, a renowned baker and owner of Seylou Bakery and Mill in Washington, D.C., spent four days at NDSU in October talking with small grains researchers about crop breeding and grain processing. Bethony uses a 40-inch granite stone mill to grind organic and locally sourced grains from farmers in the Chesapeake Region to bake his signature whole grain breads and pastries.

During his visit to NDSU, Bethony consulted with wheat breeder Andrew Green, cereal science faculty Senay Simsek, Paul Schwarz, Frank Manthey, and Anuradha Vegi, and research specialist DeLane Olsen. He provided information on using a stone mill for whole grain flour production, taught Simsek's Fundamentals of Flour and Baking class about baking sourdough bread, and presented a public seminar titled *Bred for Bread: A "seed to loaf" account of Seylou's holistic approach in developing value chains with local cereals.*

Simsek and Bethony plan to cooperate on future research in Bethony's bakery and in Simsek's laboratory, including



Bethony (left) and Simsek with stone mill

From left: Alava Vargas, Bethony, Manthey, Simsek, Olsen

Bethony testing dough in Simsek's course

the work of graduate student Maite Alava Vargas, who will be researching the milling and nutritional profile of stone milled whole grain flour.

New York Chef Talks Variety Development with Plant Breeders

Award winning New York Chef Dan Barber, co-owner and executive chef at Blue Hill Restaurant in Greenwich Village and Blue Hill at Stone Barns in Pocantico Hills, moderated a panel discussion titled *A Chef in Conversation with Breeders* during the 40th Annual Northern Plains Sustainable Food and Farming Conference in Fargo in January 2019. The four panelists from the NDSU Department of Plant Sciences were wheat breeder Andrew Green, barley breeder Richard Horsley, oat breeder Mike McMullen, and potato breeder Asunta (Susie) Thompson.



From left: Barber, McMullen, Thompson, Green, Horsley

Barber became interested in variety development when he realized that heirloom (retired) plant varieties, which are flavorful and desirable for chefs, are not readily available for conventional production. He began searching for breeders who could help him and that led him to NDSU.

Barber's key question to the panel members was, "Are there varieties you have discarded through breeding selection that you wish you could examine more closely, and do they have flavor properties that might interest chefs?" All four panelists said yes, and that they would enjoy the challenge of studying the discarded materials. They commented that finding unusual and interesting materials is part of the fun of plant breeding.

Historic Wheat Variety Study

Hard spring wheat breeder Andrew Green continued a historical study that he began in 2018 of all U.S. hard red spring wheat varieties. His goal is to document a comprehensive overview of the changes in hard red spring wheat varieties, which has never been done.

Green started the study by requesting seed samples of all U.S. developed varieties from the National Small Grains Collection in Aberdeen, Idaho. He received 5 grams of each of the 60 varieties, which he used to increase seed.



Green (left) and Frohberg

In 2019, he planted three replications in three locations (Casselton, Carrington and Minot, North Dakota) and collected agronomic data. Samples harvested from the research plots will be tested for milling and baking quality in the NDSU Wheat Quality Testing Laboratory led by Senay Simsek. This full experiment will be repeated in 2020 in order to have two full years of data.

The project attracted the attention of Richard Frohberg, who was NDSU's wheat breeder from 1966 to 2002. Green enjoyed a visit with Frohberg, who stopped by the Casselton research plot at the NDSU Agronomy Seed Farm. "[Frohberg] enjoyed looking through the trial of historical varieties and it was fun to hear his recollection of some of the issues and traits of some of the lines from his earlier career," said Green. "The way [Frohberg] talked, you would never have guessed that he has been away from the program for this many years."

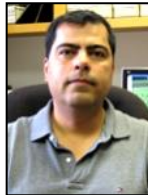
Department News

NDSU Researchers Develop Bean Variety for Central America

A new dry edible bean variety with improved climate resistant characteristics, named ICTA-Patriarca, is now available to farmers in the highland and dry corridor of Central America. The new variety was developed through a project led by NDSU dry bean researchers Phil McClean and Juan Osorno with funding from the U.S. Agency for International Development and Feed the Future Legume Systems Research Innovation Lab. The new variety has desirable agronomic characteristics such as good yield, drought tolerance and adaptation to dry climates and was distributed to farmers in Guatemala. McClean and Osorno also worked closely with the Guatemala Institute of Agricultural Science and Technology.



McClean



Osorno

International Bean and Pulse Meetings Held in Fargo

Dry bean and pulse researchers from NDSU and the USDA-ARS Edward T. Schafer Agricultural Research Center (ETSARC) hosted the 2019 Bean Improvement Cooperative (BIC) and North American Pulse Improvement Association (NAPIA) biennial meetings back-to-back in Fargo in November.

The local planning committee for the meetings included NDSU dry edible bean breeder Juan Osorno, dry bean geneticist Phil McClean, pulse and lentil crops pathologist Julie Pasche, pulse breeder Nonoy Bandillo, and USDA-ARS ETSARC Director Mike Grusak. Attendees traveled from 13 countries and parts of the United States.

Both meetings included oral and poster presentations by faculty and graduate students, a banquet or luncheon,

awards ceremonies, organizational business meetings, social and networking events, and tours of NDSU research facilities and local Fargo food production industries.

Horticulture Research Campus Field Day

Over 200 people attended the NDSU Plants, Local Foods and Outdoor Spaces horticulture research field day on September 5 at the NDSU Research and Demonstration Gardens and research plots on the southwest edge of campus.

The event began with a memorial plaque dedication in honor of Bryce Farnsworth, former research specialist in the NDSU potato breeding program, who was instrumental in the founding and development of the NDSU AHS Historic Daylily Display Garden.

Featured activities for the field day were walking tours of the All-America Selections bedding plant display garden and the NDSU Historic Daylily Display Garden, a macro photography class, and terrarium building demonstration and pollinator lesson for children. The field day concluded with a riding tour of fruit, high tunnel and vegetable research projects during which project leaders gave talks about their research.

Extension Master Gardeners collected donations of fresh produce and canned goods to benefit the local food pantry. In addition, the Fargo Public Library set up a booth with books and a craft activity.

Horticulture Research Farm Field Day

A record crowd attended the 2019 NDSU Horticulture Research Farm Field Day on August 7. Researchers presented information on fruit, vegetable, high value crop and organic crop projects, and the evening ended with an arboretum tour.



Todd West (left) and Esther McGinnis kick off the event

Trailer tour of research projects

Harlene Hatterman-Valenti (left) and Andrej Svyantek talk about grapes research



Susie Thompson with Bryce Farnsworth memorial

Garden tour

Variety tasting with Chiwon Lee's vegetable project

Potato Research Field Day

The Northern Plains Potato Growers Association annual field day was held on August 26. The 3-stop field day began in Larimore, ND, continued to Inkster, ND and concluded at Hoople, ND. NDSU Extension and research faculty and graduate students reported on potato research.

Cover Crops Field Day

Approximately 55 people attended the NDSU Cover Crops Field Day on September 17 in the research plots near campus. The focus of the event was on

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Department News

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opportunities to incorporate cover crops into various farming systems.

Attendees participated in educational sessions and field visits led by NDSU Extension and research faculty, staff and graduate students. Twenty different cover crop species were highlighted along with a discussion on how they can be incorporated into a farming operation or used for fall grazing.



Journal Spotlights NDSU Cereal Science Program

The NDSU Cereal Science program was a Spotlight Article in the September/October 2019 issue of *Cereal Foods World*, the scientific journal of the Cere-

als and Grains Association. The article focused on many aspects of the program including the types of scientists in the program; the founding milestones and early leaders of the program; how the program addresses challenges of food safety and adequate food supply in a global food system; collaboration with the Cereals and Grains Association; and how the program creates and benefits from government, industry and academia partnerships.

Faculty in the Cereal Science program and their area of study are Bingcan Chen, food and cereal chemistry; Frank Manthey, durum and pasta quality; Jijia Rao, food chemistry and ingredient technology; Paul Schwarz, malting barley quality; Kalidas Shetty, plant metabolism and food security; Senay Simsek, hard red spring wheat end quality; and Anuradha Vegi, food safety, processing and microbiology.

Although the Spotlight Article focused on the Cereal Science graduate program, the undergraduate Food Science program integrates with the graduate program and allows students to pursue

an accelerated Cereal Science M.S. while completing B.S. requirements.

Read the article at <http://bit.ly/2MkHhhV>. Learn more about the NDSU Cereal Science program at www.ag.ndsu.edu/cerealscience.

Newspaper Features NDSU Woody Plant Improvement

The NDSU Woody Plant Improvement program, directed by Todd West, was featured in the *Winnipeg Free Press*.

The article highlights the 80-acre Dale E. Herman Arboretum located at the NDSU Horticulture Research Farm near Absaraka, North Dakota, and the numerous plant introductions that have come from the program. Canadian plant nurseries are interested in NDSU's work to improve disease resistance and cold hardiness in woody plants, and they test and evaluate trials in their own regions.

Read the article at <https://bit.ly/2p4gaib>. Learn about the NDSU Woody Plant Improvement program at www.ag.ndsu.edu/plantsciences/research/woody-plants.

2019 Research Grants

Plant Sciences researchers actively pursue grants for research funding and support. Here is a snapshot of funds awarded.

- ◆ Over \$7.4 million in grants were awarded
- ◆ 164 grants from \$750 to \$500,000 were awarded to 34 researchers

The three largest grants awarded were:

- ◆ *Enriching and Understanding the Wheat Genome by Inducing Secondary Homoeologous Recombination*
Project Leader: Dr. Xiwen Cai
Funded by: USDA-NIFA/Foundational Program
Amount: \$500,000
- ◆ *CREEP STOP: Integrating Biological, Cultural, and Mechanical/Physical Tools for Long-Term Suppression of Creeping Perennial Weeds in Northern Great Plains and Pacific Northwest Cropping Systems*
Project Leader: Dr. Greta Gramig

Funded by: USDA-NIFA/Montana State University
Amount: \$249,945

- ◆ *Breeding of Improved Non-GMO Cultivars and Germplasm*
Project Leader: Dr. Ted Helms
Funded by: ND Soybean Council
Amount: \$244,207

The three agencies granting the most funds were:

- ◆ USDA/NIFA: 9 grants; \$1,231,254
- ◆ USDA/AMS-ND Dept. of Ag/ND Specialty Crop Block Grant: 9 grants; \$1,020,997
- ◆ USDA/ARS-USWBSI: 10 grants, \$1,052,121



Crop Variety Releases and Woody Plant Introduction

The North Dakota Agricultural Experiment Station released new crop varieties ND Rolette soybean, ND Falcon pinto bean, ND Pegasus great northern bean, ND Whitetail white kidney bean and ND Gardner winter rye in 2019. The North Dakota County Seed Increase Program distributed ND Rolette soybean and ND Hammond flax (2018) for the first time in the spring of 2019 and ND Gardner winter rye in the fall of 2019.

For further information regarding Foundation or Registered seed availability of these or other varieties, contact an NDSU Extension county agent, an NDSU Research Extension Center, the North Dakota Crop Improvement and Seed Association, or North Dakota Foundation Seedstocks.

Hyland Splendor™ Mugo Pine, a new woody plant selection, was introduced by the North Dakota Agricultural Experiment Station and the North Dakota State University Research Foundation in 2019.

ND Rolette Soybean

Breeder: Ted Helms



ND Rolette is a conventional soybean variety with 00.9 maturity. It has high yield potential, resistance to Race 4 of phytophthora root rot and tolerance to metribuzin herbicide. It has a good level of tolerance to iron-deficiency chlorosis and is not prone to lodging.

Dry Beans

Breeder: Juan Osorno



ND Falcon pinto bean has an upright indeterminate (short vine) growth habit (type IIa), white flowers and matures in approximately 103 days. It has shown competitive agronomic performance, including slightly higher seed yield, compared to other varieties commonly grown in North Dakota. It is resistant to the rust race now prevalent in the region (20-3) as well as bean common mosaic virus and soybean cyst nematode. Canning quality and seed shape/size are within acceptable commercial ranges.

ND Gardner Winter Rye

Breeder: Steve Zwinger, Carrington REC



ND Gardner is very early maturing, winter hardy, tall and has good early season vigor and growth. It has average seed yield and test weight with small seed size. It exhibits resistance to wheat leaf rust and is moderately susceptible to rye rust. ND Gardner is intended for cover crop and forage applications.

ND Pegasus great northern bean has an upright (medium-short vine) growth habit (type IIa), white flowers and matures in approximately 103 days. It has very high seed yield potential, good seed quality and excellent seed shape and size, larger than most commercial cultivars commonly grown in the region. It is resistant to bean common mosaic virus and tolerant to white mold. Canning quality is within acceptable commercial ranges.

Hyland Splendor™ Mugo Pine (*Pinus mugo* 'HyDak')

Project Leader: Todd West



Hyland Splendor™ is a winter hardy selection that has high quality dark green foliage and maintains its dark green needle color in the winter months. Trials have shown it to grow 20% faster in a controlled commercial nursery production setting as compared to the prominent cultivar 'Tannenbaum'.

ND Whitetail white kidney bean has a determinate (type I) growth habit, white flowers and matures in approximately 101 days. It has very high seed yield potential. ND Whitetail is resistant to bean common mosaic virus and tolerant to halo blight, white mold and the root rot complex. Canning quality is superior to other white kidney cultivars. Agronomic traits of economic importance such as seed shape/size, maturity and plant height are within acceptable commercial ranges.



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Graduate Student News

Graduate Student Showcase Awards

Master's students **Ana Magallanes López** and **Kutay Yilmaz** won People's Choice Awards for their presentations in the NDSU Graduate Student Showcase held in conjunction with the Three Minute Thesis Competition. The event was hosted by the College of Graduate and Interdisciplinary Studies and highlighted graduate student research.



Magallanes López



Yilmaz

Magallanes López won the award for her poster, *Has Wet Milling an Impact on Starch and Gluten Fractions?*, co-authored by Frank Manthey and Senay Simsek. Magallanes López is advised by Simsek.

Yilmaz won the award for his tabletop display, *Grain Sorghum Can Be a Viable Alternative Crop for North Dakota*. He is advised by Burton Johnson.

North Dakota Legislative Showcase

Plant sciences master's student **Kutay Yilmaz** was one of four graduate students chosen to represent North Dakota State University during the North Dakota University System (NDUS) Legislative Showcase held at the State Capitol Building in Bismarck in March. He shared his tabletop display, *Grain Sorghum Can Be a Viable Alternative Crop for North Dakota*, during the event.



The showcase is hosted by the NDUS Board of Higher Education during the biennial legislative sessions to give legislators an opportunity to see how the University System contributes to North Dakota's people, culture and economy.

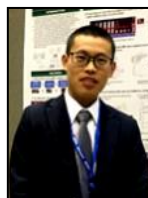
Oil Chemists' Society and Food Technologists Awards

Oil Chemists' Society

Cereal science doctoral students **Minwei Xu** and **Yang Lan** were honored by the American Oil Chemists' Society (AOCS). Xu was selected to receive a 2019 AOCS Honored Student Award. The purpose of the award is to promote graduate student research in lipid chemistry and encourage involvement in the AOCS.



Xu



Lan

As a requirement of receiving the award, Xu presented *Opposite Antioxidative Activity Variation of Soluble Free and Soluble Bound Phenolic Compounds during Yellow Pea Germination* at the AOCS annual meeting.

Xu also was awarded the Lipid Oxidation and Quality Division Excellent Poster Award for his poster, *Proximate Composition, Fatty Acids Profiles, and Nutritionally Valuable Minerals of 10 Industrial Hemp Seeds Varieties*.

Lan was awarded a Student Travel Grant by the Protein and Co-products division to attend the AOCS meeting, where he presented three posters.

Institute of Food Technologists

Xu and Lan were selected as finalists out of hundreds of abstracts for the Institute for Food Technologists (IFT) Graduate Student Division Competition and were invited to compete at the IFT annual meeting. They are the first NDSU students chosen for this honor.

Xu was a finalist in the Food Chemistry division and received second place for his presentation, *Compositional Analysis of Flavor Attributes during Germination of Chickpea, Lentil, and Yellow Pea*.

Lan was a finalist in the Protein division

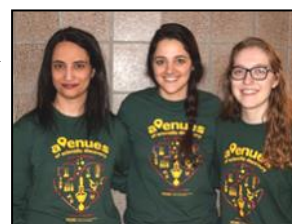
with his presentation, *Complex Coacervation of Concentrated Pea Protein Isolate - Beet Pectin Solution for Control of Food Texture*.

Xu and Lan also were awarded graduate scholarships and travel awards by the Minnesota Section of the Institute of Food Technologists.

Xu is advised by Bingcan Chen and Lan is advised by Jiajia Rao.

Award Winning Science Booth

A team of students and staff won the Best Graduate Student Booth



Award at the 2019 Avenues of Scientific Discovery. The team included cereal science graduate students **Madison Gohl** and **Jane Snelling**, and visiting scholar **Asli Unuvar**. Their booth was *Science on Your Plate*.

From left: Unuvar, Snelling, Gohl

Research Symposium Winners

Cereal science doctoral student **Ana Magallanes López** tied for first place in the poster session of the NDSU Graduate Student Council Research Symposium in April. She presented *Can We Remove Vomitoxin from Wheat by Wet Milling?* and is advised by Senay Simsek.



Magallanes López



Merritt

Plant sciences master's student **Felicity Merritt** won first place for her oral presentation in the NDSU Graduate Student Council Research Symposium in November. She presented *Identification of Genes Involved in the Sugar End Disorder in Tetraploid Potato* and is advised by Asunta Thompson.

Graduate Student News

Gamma Sigma Delta Honors

Graduate students and student staff were recognized by the NDSU Chapter of Gamma Sigma Delta during the organization's second Faculty and Student Symposium and new member induction.



Snelling

Cereal science master's student **Jane Snelling** tied for first place with her oral presentation, *Vacuum Steam Pasteurization of Hard Red Spring Wheat*. She is advised by Senay Simsek. Plant sciences master's student **Jonathan Vollmer** received third place for his oral presentation, *Non-Uniform Stand Reduction and Stem Cut-off in Simulating Hail Damage on Spring Canola (Brassica napus L.)*. He is advised by Mukhlesur Rahman.



Vollmer



Peterson

Kaitlyn Peterson, staff member in Simsek's wheat quality lab, won first place for her undergraduate poster, *FODMAP Levels of HRS Wheat: Occurrence and Production During Bread Making*. Plant sciences master's student **Swarup Podder** received second place for his graduate poster, *Chilling-Tolerant Forage Sorghum as a Potential Bioenergy Feedstock in North Central U.S.* He is advised by Marisol Berti.



Podder

Seventeen new members were inducted, including plant sciences master's students Bryce Andersen, Felicity Merritt, Swarup Podder, Nicholas Steffl, Kutay Yilmaz, and Jinglun



From left: Yilmaz, Andersen, Podder

Zhang; plant sciences doctoral students Edoardo Poletti, Jayanta Roy, and Andrej Svyantek; and cereal science doctoral student Xiaoxi Qi.

Plant Sciences professor Ed Deckard and student services director Brenda Deckard gave the keynote address, *Global Food Security: What Can We Do?* Department of Plant Sciences faculty Marisol Berti, Kirk Howatt, Mukhlesur Rahman and Anuradha Vegi serve as NDSU Gamma Sigma Delta officers. Rahman and Vegi organized the symposium and Rahman was elected president of the organization for 2019-20.

Gamma Sigma Delta is the oldest and largest honor society of agriculture. Members are selected by invitation.

International Wheat Congress Awards

Doctoral students **Katherine Running** and **Evan Salsman** won Best Poster Awards at the first International Wheat Congress (IWC).



Salsman (left) and Running

Running received the award for her poster, *Toward the Molecular Cloning of a Septoria Nodorum Blotch Susceptibility Gene in Durum Wheat*, in the Durum Expert Working Group. She is a student in genomics and bioinformatics and is advised by Justin Faris.

Salsman received the award for his poster, *Genomic Selection of Grain Yield and Quality Traits in the NDSU Durum Wheat Breeding Population*, in the Quality Expert Working Group. He is a student in plant sciences and is advised by Xuehui Li.

The 2019 IWC was the first meeting of its kind and included a program covering six areas of wheat research. The group will meet biennially.

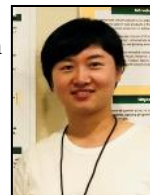
Weed Science Contest Winner

Plant sciences master's student **Aaron Froemke** won first place in the Graduate Student Problem Solving and Recommendation contest at the North American Weed Science Contest. Contestants must evaluate a crop production problem by role-playing how they would assist a farmer with a simulated real life crop production problem and providing recommendations to solve the problem. Froemke is advised by Kirk Howatt.



Food Health Conference Awards

Three doctoral students received awards at the 5th Annual NDSU Global Institute of Food Security and International Agriculture Conference on Food for Health. In the Student Poster Presentation competition, cereal science students **Jing Wan** and **Ramnarain Ramakrishna** tied for first place and plant sciences student **Pradeepika Chintha** placed second.



Wan



Ramakrishna

Wan presented *Enhancement of Antifungal and Mycotoxin Inhibitory Activities of Food-Grade Thyme Oil Nanoemulsions with Natural Emulsifiers*; Ramakrishna presented *Evaluation of Antioxidant, Anti-Hyperglycemic and Probiotic Potential of Kefir-Fermented Germinated Barley Flour Using In-Vitro Methods*; and Chintha presented *Bio-transformation of Sweet Potato Bioactives Using Lactic Acid Bacteria for Health Benefits*. Wan is advised by Jiajia Rao. Ramakrishna and Chintha are advised by Kalidas Shetty.



Chintha

Graduate Students Host Symposium

The NDSU Plant Sciences Graduate Student Association hosted the 35th Annual Plant Science Graduate Student Symposium March 15-16, 2019. Forty graduate students who are studying plant sciences, plant pathology and animal sciences at NDSU, South Dakota State University, University of Manitoba, and University of Saskatchewan attended. The symposium theme, "Integrated Approaches in Agriculture", aimed to foster a valuable conversation among students, researchers and professionals about the importance of collaboration between fields and disciplines.

Matthew Rouse, research plant pathologist in the USDA-ARS Cereal Disease Laboratory at the University of Minnesota, gave the keynote address. He spoke about integrating breeding and pathology to combat wheat stem rust around the world.

Burton Johnson, professor in the NDSU Department of Plant Sciences, gave a presentation on the importance of sustainable agriculture and the use of cover cropping and inter-cropping to protect the soil and enhance land use efficiency.

Students presented their research in five categories, and a panel of judges comprised of industry professionals and faculty from the University of Minnesota and NDSU scored the presentations. First, second and third place awards in each category were presented during the closing banquet at the Plains Art Museum. NDSU Department of Plant Sciences Assistant Head Harlene Hatterman-Valenti was on hand to address the group and present the awards.

Social and networking events for symposium attendees included a tour of the NDSU Agricultural Experiment Station

Research Greenhouse Complex led by potato breeder and Associate Professor Susie Thompson; a tour of Fargo Brewing Company; and a dinner social at Herd and Horns restaurant.

NDSU Plant Sciences Graduate Student Association planning committee members were Felicity Merritt, symposium chair; Nickolas Theisen, food and catering; and Katherine Running, event coordination, decorations and set up. Johnson and Associate Professor Juan Osorno advise the student association.

"I was honored to serve as chair for this symposium," said Merritt. "It was a great opportunity to develop relationships between students of different backgrounds, universities and countries."

Winners from the NDSU Department of Plant Sciences in each category were:

Plant Genetics, Breeding, and Bioinformatics

- 1st place: Ahasanul Hoque
- 2nd place: Edgar Escobar
- 3rd place: Seyedali Hosseinirad

Agronomy, Horticulture, and Weed Science

- 2nd place: Sergio Cabello-Leiva
- 3rd place: Jesse Puka-Beals

Cereal and Food Science

- 1st place: Jane Snelling
- 2nd place: Ana Magallanes López
- 3rd place: Supun Fernando

Research Proposal

- 3rd place: Katherine Running



Hoque



Puka-Beals



Escobar



Snelling



Hosseinirad



Magallanes López



Cabello-Leiva



Fernando



Running



Follow the grad students on Facebook!
NDSU Plant Sciences Grad Student Association
PSGSANDSU



Learn about the grad programs on our website!
www.ag.ndsu.edu/plantsciences/graduate

Graduate Students Host Symposium



2019 Ph.D. & M.S. Graduates

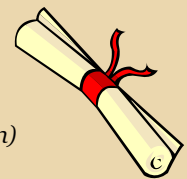
Ph.D.

Naa Korkoi Ardayfio (*Plant Sciences, McMullen*)
 Amber Kaiser (*Cereal Science, Hall*)
 Jordan Stanley (*Plant Sciences, Ransom*)
 Hongbin Tao (*Plant Sciences, Marais*)
 Jing Wan (*Cereal Science, Rao*)
 Sudeshi Wasala Seneviratne (*Genomics & Bioinformatics, Faris*)
 Minwei Xu (*Cereal Science, Chen*)

M.S.

Abdulrahman Alahmed (*Cereal Science, Simsek*)
 Bryce Andersen (*Plant Sciences, Berti*)
 Matthew Brooke (*Plant Sciences, Hatterman-Valenti*)
 Bethany Christensen (*Plant Sciences, Ransom*)
 Tom Drietz (*Plant Sciences, D. Li*)
 Austin Espe (*Plant Sciences, Hatterman-Valenti/Shetty*)

Madison Gohl (*Accelerated M.S., Cereal Science, Hall*)
 Jacob Kluza (*Plant Sciences, McGinnis*)
 Justin Leier (*Plant Sciences, Green*)
 Yingya Li (*Cereal Science, Schwarz*)
 Yu Liu (*Cereal Science, Manthey*)
 Suman Parajuli (*Plant Sciences, Lee*)
 Alan Peterson (*Plant Sciences, Berti*)
 Swarup Podder (*Plant Sciences, Berti*)
 Sanzida Rahman (*Plant Sciences, Thompson*)
 Sapna Sharma (*Genomics & Bioinformatics, Faris*)
 Jane Snelling (*Cereal Science, Simsek*)
 Nick Steffl (*Plant Sciences, Johnson*)
 Meredith Swanson (*Horticulture, West*)
 Jonathan Vollmer (*Plant Sciences, Rahman*)
 Muxin Zhao (*Cereal Science, Chen*)



Graduate Student News

Viticulture Society Award

Plant sciences doctoral student **Andrej Svyantek** won the Best Student Presentation Award in Viticulture at the 70th American Society for Enology and Viticulture (ASEV) National Conference. The award was for his oral presentation, *Growth Chamber Analysis of Dormancy Acclimation Responses within NDSU Grape Germplasm*, which described his research with the NDSU high value crops project team led by his advisor, Harlene Hatterman-Valenti. Svyantek also received an ASEV Traditional Scholarship, which goes to student members who are pursuing a degree emphasizing scientific research and advancement of enology or viticulture.



Phi Kappa Phi Honor

Plant sciences doctoral student **Jayanta Roy** was selected by Phi Kappa Phi honor society to receive the Love of Learning Award. The award helps fund professional development for post-baccalaureate Phi Kappa Phi members. Roy plans to use his award funds to attend the 2020 Agronomy, Crop and Soil Science Societies (ASA-CSSA-SSSA) international annual meetings in Phoenix, Arizona. He is advised by Mukhlesur Rahman.



Industrial Crops Awards

Plant sciences master's students **Alex Wittenberg** and **Kutay Yilmaz** won awards at the Association for the Advancement of Industrial Crops annual meeting.



Yilmaz

Wittenberg won the Best Student Oral Presentation

Award in Oilseeds with his presentation, *Fall Sowing Dates in Camelina Affected Plant Density*, and Yilmaz won a Student Travel Grant in General Crops and Products with his presentation, *Seeding Date Effect on Grain Sorghum Performance in North Dakota*.

Wittenberg is advised by Marisol Berti and Yilmaz is advised by Burton Johnson.

Agronomy Society Awards

Plant sciences master's students **Jesse Puka-Beals** and **Alex Wittenberg** won awards in the Graduate Student Oral Presentation Competition at the American Society of Agronomy annual meeting.



Puka-Beals



Wittenberg

Puka-Beals won first place in Organic Management Systems with his presentation, *Combining Cover Crops, Strip Tillage and Novel Mulches to Manage Weeds in Carrot*; and Wittenberg was awarded third place in Bioenergy Systems with his presentation, *Sowing Date Affects Winter Camelina Stand Establishment*.

Puka-Beals is advised by Greta Gramig and Wittenberg is advised by Marisol Berti.

Cereals and Grains Honors

Cereal science students **Supun Fernando** and **Jayani Maddakandage Dona** won second place in the Student Product Development competition at the Cereals and Grains Association annual meeting.



Maddakandage Dona (left) and Fernando

Their project, "BeRice" gluten free muffin premix, used dry bean flour as a

main ingredient.

Fernando is a doctoral student advised by Frank Manthey, and Maddakandage Dona is a master's student advised by Senay Simsek. Jiajia Rao was the "BeRice" project advisor.

Bean Improvement Award

Plant sciences master's student **Edgar Escobar Romero** won the Student Recognition Award for Best Oral Presentation at the Bean Improvement Cooperative meeting. He presented *Multi-Parent Advanced Generation Inter-Cross Population for Improvement of Genetic Resistance of Dry Bean to White Mold: WM-Magic* and is advised by Juan Osorno.



Future Leader in Science

Plant sciences master's student **Jesse Puka-Beals** was chosen to participate in the 2020 Future Leaders in Science program of the Agronomy, Crop, and Soil Science Societies (ASA-CSSA-SSSA). The program provides an opportunity for recipients to engage with policy-makers in order to raise awareness and support for science, technology and research funding.



Puka-Beals will travel to Washington, D.C. to participate in the annual ASA-CSSA-SSSA Congressional Visits Day, where he will have the opportunity to meet with the state's congressional delegation and advocate for food, agricultural and natural resources research. "I want to learn more about how our representatives think about agricultural research and how they think it fits into our state and national goals," said Puka-Beals.

Puka-Beals is advised by Greta Gramig.

Undergraduate Student News

Horticulture and Forestry Club Attends Competition



NDSU Horticulture & Forestry Club



Schulte

The NDSU Horticulture and Forestry Club placed 15th in the nation out of 64 colleges and universities and two students received individual awards and honors at the 2019 National Association of Landscape Professionals (NALP) National Collegiate Landscape Competition at Colorado State University.



Kickert

Business administration student **Colin Schulte** placed 2nd in the SuperStar Award, which goes to students with the highest total score in five individual events. Horticulture student **Sarah Kickert** was presented a NALP Foundation Scholarship at a reception held during the event.

The NDSU Horticulture and Forestry Club is advised by Department of Plant Sciences faculty Harlene Hatterman-Valenti and Todd West.

Top 10 Seniors and Outstanding Senior



Top Ten Seniors



Grindberg

Department of Plant Sciences students **Elizabeth Blessum, Shane Giedd, Chase Ouse Grindberg, and Hannah Ohm** were named Top 10 Seniors by the NDSU College of Agriculture, Food Systems and Natural Resources. **Grindberg**

was selected the Outstanding Senior. The awards were presented during the NDSU Agriculture Collective Ag Week.

Grindberg and Blessum are majoring in crop and weed sciences with minors in agribusiness. Giedd is an animal sciences major with a crop and weed sciences minor, and Ohm is a soil science major with a crop and weed sciences minor.

Students are selected as Top 10 Seniors based on leadership, service, awards, internships and other significant experiences and accomplishments. The Outstanding Senior is chosen from among the roster of Top 10 Seniors.

Student Receives Library Research Award

Crop and weed sciences student **Morgan Gallagher** was the recipient of the first ever NDSU Libraries Undergraduate Research Award. The award recognizes excellence in the use of library resources to complete an undergraduate research project. Gallagher received the award for a joint research paper she completed for an NDSU English course, ENGL 324: Writing in the Sciences. She is advised by Xiwen Cai and has worked in Phil McClean's dry bean genetics lab.



NDSU Libraries photo

Student Completes ND FFA Presidential Term

Food science student **Brianna Maddock** served as the 2018-19 North Dakota FFA State President. She gave her retiring address during the 90th ND FFA State Convention held on the NDSU campus in June.



Maddock said her interest in food science and agricultural research came from participation in the FFA Agriscience Fair. "I conducted multiple original research studies related to agriculture

and I have desired to continue to impact the agriculture industry ever since," she said. Her future career plans are to work in agricultural research at a university or in the agricultural industry. She hopes to work to decrease food waste in production and consumption.

She was advised by Clifford Hall.

Student Conducts Agricultural Research in Kenya

Crop and weed sciences student **Morgan Hasler** spent eight weeks of summer 2019 conducting agricultural research at the International Centre of Insect Physiology and Ecology in Nairobi, Kenya, as a Borlaug-Ruan International Internship participant. Her research focused on analyzing the Push-Pull farming method used in that area.



Her ultimate goal is to end world hunger. She is glad she chose NDSU for her undergraduate studies, saying, "NDSU offers degrees in traditional areas, but keeps a global and modern perspective."

Hasler is advised by Burton Johnson.

Find more news online!



www.ag.ndsu.edu/plantsciences/news



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Scholarships

Student Scholars Honored

Ninety-two scholarship recipients from the Department of Plant Sciences were awarded a total of \$79,299 in scholarships for the 2019-20 school year. These scholars represent undergraduate programs in crop and weed sciences, food science, and horticulture, and graduate programs in cereal science, horticulture, and plant sciences. They were honored with scholarship recipients from other departments during the NDSU College of Agriculture, Food Systems and Natural Resources Scholarship Recognition Luncheon.

Scholarship funds were provided by more than 60 sponsoring individuals, businesses and organizations.

Landscape Association Scholarship

Horticulture student **Sarah Kickert** was selected to receive a 2019 National Association of Landscape Professionals Foundation Scholarship.



Kickert graduated in May 2019 in horticulture with a landscape architecture minor. She was advised by Todd West. Following graduation, she began a position as a design assistant with Southview Design in Minneapolis, Minnesota.

Turfgrass Scholarships

Horticulture student **Matthew Becker** received scholarships from two organizations in 2019. He received the North Central Turf Grass Association Scholarship and a Trans-Mississippi Turf Scholarship from the Trans-Mississippi Golf Association. He is advised by Deying Li. After his expected graduation in May 2020, Becker will begin a position as the 2nd assistant superintendent at Spring Hill Golf Club in Wayzata, Minnesota.



Plant Breeding Scholarship

Plant sciences doctoral student **Andrej Svyantek** was awarded a Proven Winners® Innovations in Plant Breeding Scholarship. He was selected out of 100 applicants for one of three scholarships in the categories of plant breeding, growing and horticultural marketing.



The Innovations in Plant Breeding Scholarship recognizes students who are dedicated to developing novel plants for the horticultural market. To this end, Svyantek says, "I want to breed big, bold, delicious plants with eye-catching form that remain functional

despite environmental stresses and biotic constraints."

For his doctoral dissertation, Svyantek is researching the practical application of grapevine canopy management techniques to improve fruit and wine quality for North Dakota grape growers. He is advised by Harlene Hatterman-Valenti.

Student Athlete Harvest Bowl Scholarships

Crop and weed sciences students **Karson Schoening** and **Derrek Tuszka** and food science student **Garret Wegner** were among 20 NDSU athletes awarded scholarships during the 46th Annual Harvest Bowl. Harvest Bowl celebrates excellence in agriculture and NDSU athletics.



Schoening



Tuszka



Wegner

Schoening received the Farmer's National Harvest Bowl Scholarship; Tuszka received the Bob Lauf Memorial Scholarship; and Wegner received the Myron and Muriel Johnsrud Harvest Bowl Scholarship. All three are NDSU football players.

Summer Interns

University of Puerto Rico Summer Research Fellowship



Jusino Montalvo (left) and Semidey Castro

Ela Jusino Montalvo (left), B.S. student in agronomy, worked in the barley breeding program led by Rich Horsley.

Fransheska Semidey Castro, M.S. student in food science and technology, worked in the wheat quality program led by Senay Simsek.

Plant Sciences Undergraduate Summer Research Fellowship



Kim

YongJae (Owen) Kim is a crop and weed sciences student from South Korea. He worked as an intern in the soybean breeding project led by Ted Helms.

2020 Event Calendar

Department Events

Aug. 3-5	Northern Crop Insurance Services Crop-Hail New Adjuster School, Main Campus
Aug. 5	Horticulture Research Farm & Arboretum Field Day, Absaraka
Aug. 27	Northern Plains Potato Growers Association Potato Field Day, Larimore, Inkster, Hoople
TBD	Campus Field Day, Horticulture Research & Demonstration Gardens, Main Campus

Research Extension Center Field Days

July 7	Hettinger REC
July 8	Dickinson REC
July 8	Williston REC (dryland & horticulture field day)
July 9	Nesson Research/Dev. Farm (irrigated field day)
July 13	Agronomy Seed Farm, Casselton
July 14	Carrington REC
July 15	North Central REC, Minot
July 16	Langdon REC
July 28	Central Grasslands REC, Streeter
Aug. 4	Oakes Irrigation Research Center

Note: Dates for all events are subject to change. Please follow our website and social media for updates.

Dates to Remember



More news & events!



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plantsciences/news](http://www.ag.ndsu.edu/plantsciences/news)



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Email:
ndsu.plantsciences@ndsu.edu

Online:
[www.ag.ndsu.edu/plantsciences/
alumni](http://www.ag.ndsu.edu/plantsciences/alumni)

Newsletter Archive

Take a stroll down memory lane with the *Blizzard Watch* newsletter online archive!

Former department chair Jack F. Carter began the annual department newsletter in 1967, and the tradition has continued every year since. In 1989, the newsletter was named the *Blizzard Watch*.

The archived issues contain all the significant happenings in the department over the years. Find them at [www.ag.ndsu.edu/
plantsciences/news/newsletter](http://www.ag.ndsu.edu/plantsciences/news/newsletter).

Plant Sciences Faculty

Richard D. Horsley	Dept. Head and Professor (6-rowed and 2-rowed barley breeding, genetics)
Nonoy Bandillo	Assistant Professor (pulse breeding, genetics)
Marisol Berti	Professor (forages and biomass crop production)
Xiwen Cai	Professor (wheat genetics and cytology, genetics teaching)
Bingcan Chen	Assistant Professor (food and cereal chemistry)
Michael J. Christoffers	Associate Professor (weed science, genetics teaching)
Wenhao (David) Dai	Professor (woody plant physiology, biotechnology)
Edward L. Deckard	Professor (crop physiology)
Elias M. Elias	University Distinguished Professor, J.F. Carter Durum Wheat Breeding/Genetics Endowed Professor (durum wheat breeding)
Kenneth F. Grafton	Professor (plant sciences)
Greta Gramig	Associate Professor (weed science)
Andrew Green	Assistant Professor (hard spring wheat breeding)
Harlene Hatterman-Valenti	Assistant Dept. Head and Professor (high value crop production)
Theodore C. Helms	Professor (soybean breeding, genetics)
Kirk A. Howatt	Associate Professor (weed science-annual weeds)
Joe Ikley	Assistant Professor (Extension weed control)
Burton L. Johnson	Professor (sunflower, minor and new crop production)
Thomas Kalb, II	Extension Horticulture Specialist (western ND)
Hans Kandel	Professor and Extension Agronomist (broadleaf crop production)
Chiwon W. Lee	Professor (greenhouse production, vegetable culture and breeding)
Deying Li	Professor (sports turf management)
Xuehui Li	Assistant Professor (statistical genomics)
Frank A. Manthey	Professor (durum and pasta quality)
G. Francois Marais	Professor (hard red winter wheat breeding, genetics)
Phillip E. McClean	Professor (dry bean genetics, biotechnology)
Esther McGinnis	Associate Professor and Extension Horticulturist
Michael S. McMullen	Professor (oat breeding, genetics)
Rebekah Oliver	Associate Professor of Practice (genetics)
Juan M. Osorno	Associate Professor (dry edible bean breeding)
Tom Peters	Assistant Professor and Extension Agronomist (sugarbeet/weed science)
Mukhlesur Rahman	Associate Professor (oilseed breeding, genetics)
Joel K. Ransom	Professor and Extension Agronomist (small grains and corn)
Jijia Rao	Assistant Professor (food chemistry and ingredient technology)
Andrew Robinson	Associate Professor and Extension Agronomist (potato production)
Paul Schwarz	Professor (malting barley quality)
Kalidas Shetty	Associate VP for International Partnerships and Collaborations; Professor (plant metabolism, food security)
Senay Simsek	Bert L. D'Appolonia Endowed Professor (wheat end quality)
Asunta (Susie) L. Thompson	Associate Professor (potato breeding)
Anuradha Vegi	Assistant Professor of Practice (food safety, processing, microbiology)
Todd West	Assistant Dean, College of Agriculture, Food Systems and Natural Resources; Professor (woody plant improvement)
Qi (Chee) Zhang	Associate Professor (turfgrass stress physiology)
Alan Zuk	Associate Professor (sports and urban turfgrass management)

Emeritus Faculty

Cereal Science

Bert D'Appolonia

Dennis Gordon

Khalil Khan

Vernon Youngs

Plant Sciences

Duane R. Berglund

Arthur A. Boe

Harold Z. Cross

Alan G. Dexter

Murray E. Duysen

Jerry D. Franckowiak

Richard C. Froberg

Dale E. Herman

H. Roald Lund

Rodney G. Lym

Calvin G. Messersmith

Dwain W. Meyer

Donald C. Nelson

Ronald C. Smith

LeRoy A. Spilde

Dean A. Whited

Richard K. Zollinger

Adjunct & Affiliate Faculty (*USDA)

James V. Anderson* (plant biochemistry)

James S. Beaver (dry bean genetics)

David Bonnett (hybrid wheat breeding)

Patrick M. Carr (sustainable agriculture)

Wun S. Chao* (perennial weeds)

Linda Dykes* (food science and technology)

Justin D. Faris* (wheat molecular genetics)

Jason Fiedler* (molecular biology and bioinformatics)

Shana M. Forster (crop production)

Jose G. Franco, Jr.* (agroecology/sustainable food systems)

Karen L. Fugate* (sugarbeet physiology)

Russell W. Gesch (physiology of oilseed crops)

Michael Grusak* (nutrition of crop plants)

Yong Q. Gu (wheat genetics)

Darrin M. Haagenon* (crop physiology and ecology)

David P. Horvath* (perennial weed physiology)

Brent S. Hulke* (flax and sunflower genetics)

Brian M. Jenks (integrated weed management)

Blaine E. Johnson (quantitative genetics)

Edward C. Lulai* (potato physiology)

Kevin McPhee (pulse crops)

Grant Mehring (agronomy, wheat and corn research)

Mohamed Mergoum (hard red spring wheat breeding)

Jae-Bom Ohm* (grain science)

Rebekah E. Oliver (genetics)

Michael H. Ostlie (weed science)

Timothy G. Porch (dry bean breeding and genetics)

Lili Qi* (wheat genetics)

Gerald J. Seiler* (sunflower and sugarbeet germplasm)

Calvin Trostle (sunflower production and management)

Tom C. Walk (plant breeding database management)

Jochum J. Wiersma (small grains)

Steven S. Xu* (hard red spring wheat development)

Shengming Yang* (barley genetics)

Postdoctoral Research Fellows

Andrea Cecchin (forages and biomass crop production)

Leqi Cui (food chemistry)

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Zhao Jin (malting barley quality)

Jawahar Jyoti (barley genetics)

Ajay Kumar (durum breeding)

Hui Li (food and cereal chemistry)

Yunming Long (hard red spring wheat development)

Guojia Ma (sunflower genetics and breeding)

Sepehr Naraghi (oat breeding)

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Cereal Science	Deg.	Advisor	Plant Sci/Genomics/Hort	Deg.	Advisor
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Maite Alava Vargas	MS	Simsek	Ela Jusino Montalvo	MS	Horsley
Hiroshi Ando	MS	Manthey	Venkateswara Kadium	MS	Hatterman-Valenti
Liuyi Chang	PhD	Rao			
Baochen Fang	PhD	Rao	Emma Larson	MS	Peters
Supun Fernando	PhD	Manthey	Yuan Liu	MS	X. Li
Kun Gao	PhD	Chen	Marcus Mack	MS	Ransom
Zixuan Gu	PhD	Chen	Makenson Maisonneuve	MS	Horsley
Haiyang Jiang	PhD	Rao	Ashok Mandal	MS	Rahman
Yang Lan	PhD	Rao	Jithin Mathew (Genomics)	MS	Shetty
Jayani Maddakandage Dona	MS	Simsek	Felicity Merritt	MS	Thompson
Ana Magallanes López	PhD	Simsek	Joe Mettler	MS	Howatt
Sara Moayed	PhD	Manthey	Kenneth Mozea	MS	Berti
Brandon Olson	MS	Simsek	Neil Olson	MS	Hulke
Xiaoxi Qi	PhD	Rao	Amanda Peters Haugrud (Genomics)	PhD	Faris
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			Shuangfeng Ren (Genomics)	PhD	Cai
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Plant Sci/Genomics/Hort	Deg.	Advisor	Jayanta Roy	PhD	Rahman
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Peter Beerbower (Genomics)	MS	McClellan	Peder Schmitz	PhD	Kandel
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The Department of Plant Sciences at North Dakota State University is a diverse department with regional, national, and world-respected expertise. As part of the College of Agriculture, Food Systems, and Natural Resources, the department offers academic programs that prepare students for careers in expanding job markets. Undergraduate programs are Crop and Weed Sciences, Food Science, and Horticulture; graduate programs are the M.S. in Plant Sciences/Horticulture and Cereal Science, and the Ph.D. in Plant Sciences and Cereal Science.

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