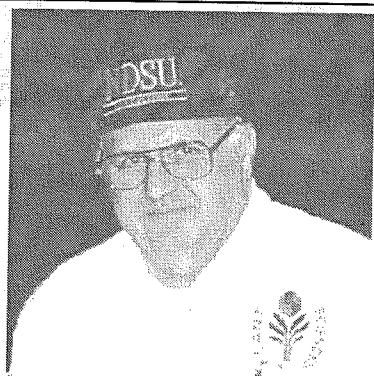


NDSU - Department of Plant Sciences

2007-2008

Blizzard Watch



Greetings to you
and your loved ones
from the faculty, staff and
students in the
Department of
Plant Sciences

We hope this annual newsletter finds you and your loved ones safe and in good health. We do appreciate the nice comments, letters and cards we receive about the *Blizzard Watch*. If any of you have any questions about a topic concerning the department, college or NDSU that are not covered in the *Blizzard Watch*, let me know. If we do not know the answer to your question, we will find the answer and get back to you.

I have a new assistant helping me with the *Blizzard Watch* this year. Nicole Hagness replaced Edie Nelson who transferred to Agribusiness and Applied Economics (Ag Econ). Nicole is a graduate of Minnesota State University Moorhead in Mass Comm/Marketing. She has extensive training in website development. She is a very nice addition to our department and the office staff.

The fall and winter have been quite good. We have about a foot of snow on the ground. The first snowfall occurred in late November with another storm about a week later. Since then we have had mostly flurries. I thought for a while we might not have a white Christmas. The

day temperatures have been around 20-30 degrees, while the night temperatures have been 0-20 degrees. We made it through January with some decent weather and are hopefully home free now. The first week in December I went to a meeting in Bismarck and they did not have much snow except where it had been piled up. The last I heard, most of the state except for the eastern quarter did not have any snow.

The 2007 growing season was exceptionally good for crop production. A lot of good things meshed together at the same time and the right time to make it a great growing season that many of the producers will talk about for years for a number of reasons. The yield of almost all crops was very good and the quality of the crops was excellent.

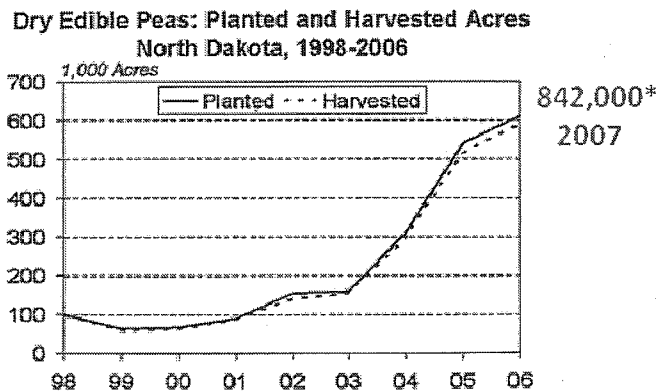
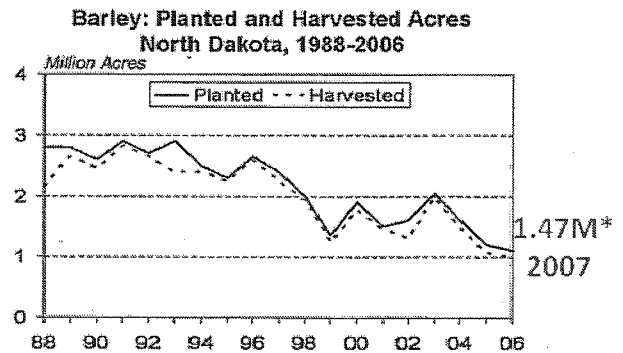
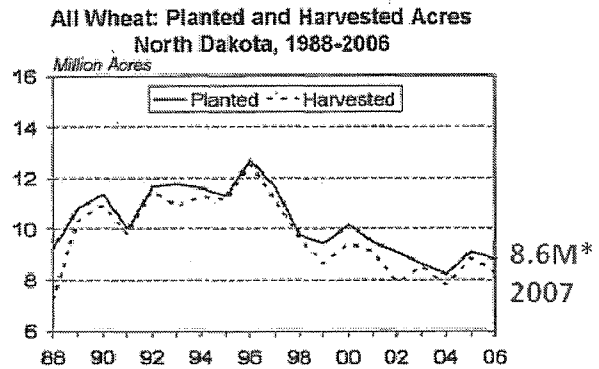
The 2007 growing season was generally warmer and wetter than normal with the SE part of the state the wettest. Some of the severest weather related damage occurred in the Wahpeton area and south, where producers had a difficult time planting crops and controlling weeds because of wet soil conditions. Generally the driest conditions were in the NW part of the state. According to Dr. Adnan Akyuz the state climatologist, state-wide rainfall from April to September totaled 15.3 inches which was the 31st wettest year in the 114 years records have been taken. It was also the 25th warmest growing season in 113 years of available records. Like always, these averages are the culmination of extreme temperatures and precipitation.

Another factor was the lack of diseases and insects. I think the alternating wet and dry conditions were spaced enough so that neither diseases nor insects were ever able to get a foothold among the crops. A lot of calls were received about wheat stem maggot. It was probably the worst infestation I have seen in years, but yield losses were minimal. Wheat stem sawfly has become a problem in the SW part of the state. I have had concerns about this insect pest developing for many years because of the switch to no till and reduced till farming. It has become an increasing problem in Montana and appears to be moving into North Dakota. This is not a new pest to wheat in the state. In the early part of the last century when producers spring planted their small grains with a plow, packer and pony drill, the insect which overwinters in wheat stubble was a major problem in much of the state, including the Red River Valley. We have not released a sawfly variety for many years, but are working on the problem.

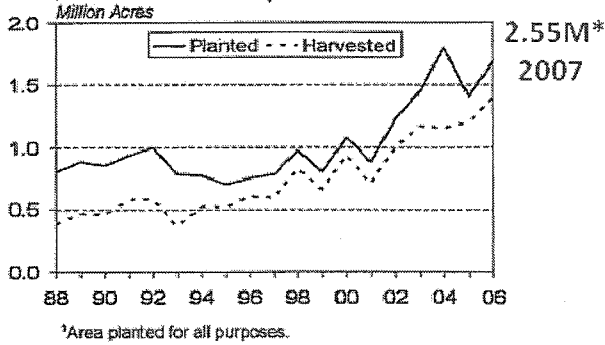
A third reason that producers will remember this year is that crop prices are the highest I have seen since I began my first job as agronomist at the Williston Experiment Station in 1964. Spring wheat has gone up as high as \$23 per bushel, while durum approached \$20 per bushel at times. Likewise feed barley, which was selling for about a dollar a bushel a few years ago, is selling for over \$5 per bushel. With the good yields this year, farmers have generally done very well. I expect machinery dealers are also very happy as farmers will purchase a lot of equipment. Unfortunately, costs for fuel, fertilizer, etc. have also sky-rocketed. It will be interesting to see what they decide to plant next year as projected futures prices are also very good. I am sure many of these decisions have already been made and the seed purchased. The decision will also depend upon soil moisture at planting and the date of planting. For those who have not made up their mind, good seed may be hard to come by this year. The high crop prices, along with the oil boom in the western part of the state, have brought the state coffers to a level I have never seen.



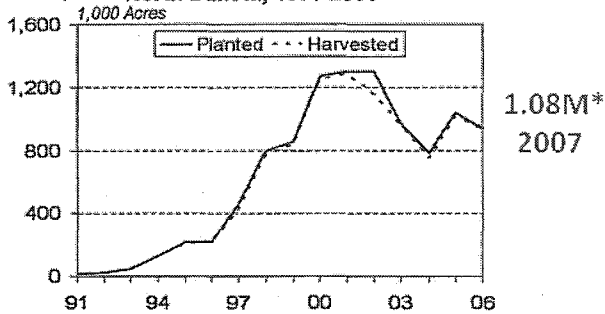
The face of North Dakota agriculture is changing. The eastern part of the state has become a major production area for corn and soybean. Wheat is still the major crop in the state, but has lost much of its acreage to corn, soybean, dry peas and other crops. A series of graphs from Ag. Statistics No. 76, June 2007, showing the change in acreage in some crops follows.



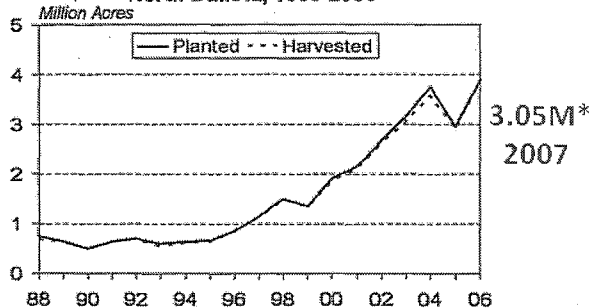
Corn for Grain: Planted and Harvested Acres¹
North Dakota, 1988-2006



Canola: Planted and Harvested Acres
North Dakota, 1991-2006



Soybeans: Planted and Harvested Acres
North Dakota, 1988-2006



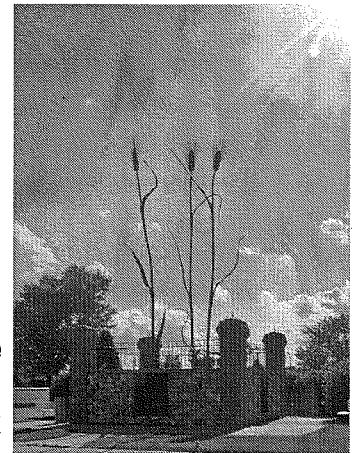
*Harvested numbers are approximate.

As you can see, wheat is still the dominant crop. Over 50% of the spring wheat and about 90+% of the durum acreages are sown to NDSU varieties. The impact of NDSU varieties is also felt in Montana and Minnesota, where they are widely grown. Winter wheat acreage, which fluctuates, has again begun to increase with about 200,000 acres this year. NDSU no longer has a winter wheat breeding program, but depends on South Dakota and Montana breeding programs to fill the needs

of North Dakota producers. When the NDSU program was closed about 15 years ago, all of the material in the early stages of varietal development was given to the breeding programs at Montana State University and South Dakota State University.

Our department has a very strong plant breeding program. In mid 2007 the Applied Plant Breeding Institute was formed. We are busy getting organized.

This past year Dr. Chapman and many of the higher administration, some staff and faculty visited the REC Field Days. They also attended some 4-H camps. In Williston's Davidson Park they saw the Pioneer Monument plaque honoring Dr. Froberg, our former HRSW breeder, for his development of numerous varieties which resulted in billions of dollars to North Dakota's economy. The tours were a good chance for those of us in agriculture to educate and show the rest of the campus the work and the impact of the work we do. It was a very good learning experience for those that went on the tours. All of the field days were well attended and thousands of NDSU t-shirts were handed out to future Bison. In some instances meetings between local dignitaries, those on the bus, and faculty, staff and students attending the field day took on the atmosphere of a pep rally. The last field day of the circuit was at Langdon and as the campus visitors were boarding the tour buses, Dr. Chapman came over to me and said, "The hand prints of Plant Sciences are evident all over the state and you should be very proud." We, of course, are only a very small part of the picture, but we have always been very proud of our important role in the past, present and future of North Dakota agriculture and to have the president of NDSU tell me that was a real high. I told him I would share his comments with the faculty, staff and students, which I did.



Pioneer Monument



We released several new varieties in late 2007 and early 2008. These included 'Lariat' and 'Stampede' pinto beans. These varieties are unique in that they have more of an upright plant architecture which allows the probability of straight combining under most environments. Lariat has outyielded Buster and Maverick, two commonly grown varieties by 4 and 14% respectively. Stampede outyielded Maverick, the most commonly grown variety and NDSU release, by 11%.

'Avalanche' is the name of a new navy bean variety that out yields Mayflower and Vista, two commonly grown varieties, by about 200 lbs/ac. The line has good canning quality, acceptable disease resistance and good agronomic traits.

'Cavalier' is the name of a non-transgenic soybean variety that could replace 'Jim.' One advantage of Cavalier over Jim is its resistance to phytophthora root rot and improved stalk strength. Yield of Cavalier has been about equal to Jim, while oil is slightly higher and protein slightly lower. It matures about one day later than Jim.

Wheat variety 'ND 901CL' has resistance to the herbicide Clearfield. The herbicide resistance source is naturally occurring and not transgenic. The recommended area of production is in the western part of the state, especially in areas where Cheat grass is a problem. It has no resistance to Fusarium head blight (FHB) and has some susceptibility to leaf and stem rust, which causes some concern. The risk to these diseases will diminish if the production of the variety is maintained in the western half of North Dakota. The yield is similar to some of the privately released varieties with the same chemical resistance. The milling and baking quality of the variety is good, as are its agronomic attributes. It was recommended that numbers be used in the title instead of a variety name. This should reduce confusion and clearly delineate varieties with and without herbicide resistance. BASF, which owns the source of Clearfield resistance, may also have ideas on how best to name and market the variety.

In cooperation with the USDA/ARS at Pullman, WA, NDSU jointly released a lentil named 'Riveland' after my friend of over forty years, Neil Riveland, agronomist at the Williston Research and Extension Center.

We should never forget that even though plant breeders are key to the development of a variety, it is a collaborative effort that involves other scientists in Plant Sci-

ences, Plant Pathology, Entomology, USDA, and, of course, the research extension centers where breeders can test their lines in many environments. In addition, in many instances funds are obtained from many of the commodity groups. They also assist us in lobbying the North Dakota legislature and the congressional delegation for financial support. Any new variety or published research ultimately is dependent upon taxpayers.

Ten superior winter hardy USDA Zone 3 woody landscape plants were named and introduced by Dr. Dale Herman and his research specialist, Larry Chaput.

Royal Splendor™ Norway Spruce (*Picea abies* 'Noel') is a seedling selection with a narrower, upsweeping branch angle, bright emerald-green needles, and very dense form. After 26 years, it is devoid of undesirable drooping, pendulous tertiary branchlets which typify this species.

Prairie Sun™ Honeysuckle (*Lonicera* x 'Denseglobe') is a *L. tatarica* hybrid with dense, 7-9' rounded form. Foliage is clean, bright green and blue tinged.

Prairie Moon™ Honeysuckle (*L.* x 'Densemound') is a *L. korolkowii* hybrid with very dense, oval, 7-9' mound-like form superior to the species and cv. Freedom. Foliage is distinctly bluish.

Prairie Star™ Honeysuckle (*L.* x 'Denserect') is a *L. tatarica* hybrid with dense, oval, 10-12' upright form. Foliage is bright-green, tinged gray-blue. These honeysuckles are resistant to Russian aphid witches' brooming and of particular value for conservation plantings.

Northern Flare™ Sugar Maple (*Acer saccharum* 'Sisseton') is a selection superior in adaptation to the Northern Plains, densely ovate-erect in form, with showy orange-red autumn color.

Fireworks™ Amur Maple (*A. tataricum* ssp. *ginnala* 'Superglobe') is an outstanding very dense mound to globe-shaped selection, self-facing to ground level and with brilliant red autumn color and reddish schizocarps.

Northland™ Boston Ivy (*Parthenocissus tricuspidata* 'Brandon') is a hardier selection for Northern Plains landscapes.

Northern Debut™ Littleleaf Linden (*Tilia cordata* 'Steele') is a northern adapted selection with dense ovate form, becoming informal, round-spreading with age.

Two cultivars are being jointly introduced with Greg Morgenson, manager of Lincoln-Oakes Nurseries, Bismarck, ND. Emerald Charm™ Cherry (*Prunus* x 'Morgenson') is a *P. fruticosa* (Mongolian Cherry) hybrid with tree stature. It has shiny, emerald-green foliage, white flowers, and is sterile. Prairie Pioneer™ Dwarf Chinkapin Oak (*Quercus prinoides* 'Fort Lincoln') is a small oak selection with holly-like lustrous leaves for residential landscapes. Grafting the latter two introductions onto non-suckering rootstocks alleviates suckering.

In collaboration with the NDSU Research Foundation, applications were submitted May 2007 and registrations approved for 17 cultivars with the Canadian Ornamental Plant Foundation. Submitted applications (17) for Canadian Trademark registration are pending. U.S. Trademark registration applications were submitted for four new introductions. The NDSU-RF licensed numerous nurseries to commercially propagate NDSU introductions.

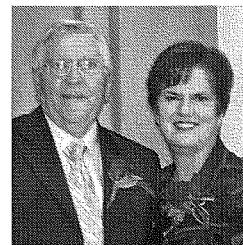
The NDSU corn program has developed nine early-maturing corn products that were released in February 2007 by the North Dakota Agricultural Experiment Station. Three improved germplasms were adapted from the central Corn Belt and six early-maturing inbred lines for use in developing early-maturing hybrids that should increase the genetic diversity available on corn farms. All of them are also sources of new and diverse early-maturing lines. The releases included:

- GERMPLASMS (85-95RM, original versions were 110-120RM):
 - NDBSK (HI-M)C3
 - NDBS11(FR-M)C3
 - NDBS1011
- LINES (for two maturity zones):
 - ND2001
 - ND2002
 - ND2003
 - ND2004 (>85RM)
 - ND2005
 - ND2006 (<85RM)



The whole department is changing. With the retirement of several people, and the hiring of faculty for new positions, we have had continual and overlapping searches for over 1½ years. By the time we are able to fill the three positions we have open, I will have hired 11 new faculty, including Dr. Osomo and Dr. Simsek who both started in January 2007 as a dry bean breeder and wheat quality scientist, respectively.

Here goes, if I miss anyone I apologize in advance. Dr. Duane Berglund was replaced by Dr. Hans Kandel around the first of July. Hans is originally from the Netherlands and has a PhD from NDSU. He was, in fact, my graduate student. He has had significant experience in international agriculture and extension activities. Since receiving his PhD 14 years ago, he has been employed by



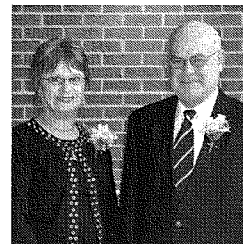
Drs. Duane and Pat Berglund



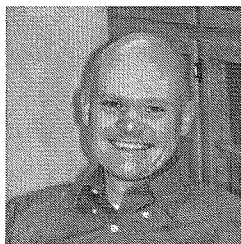
Dr. Hans Kandel

the University of Minnesota in various extension positions in western Minnesota. His responsibility in our department in this tenure-track position is to serve as the state extension specialist for all broad leaved crops. His appointment is 90% extension-10% research.

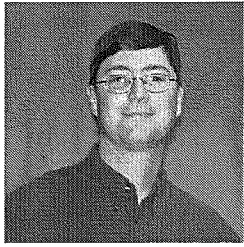
Dr. Cal Messersmith was replaced by Dr. Shane Friesen, a recent graduate in weed science from the University of Western Australia. His area of research was in herbicide resistance. Shane, a native of Canada, grew up near the U.S. border just north of Langdon. He has a BS from the University of Manitoba in Plant Science and a MS from the University of Guelph in Environmental Biology. Shane's tenure-track position is 40% teaching-60% research. He teaches World Food Crops and Principles of Weed Science. His research will be in the general area of perennial weed control. He began work at NDSU in November.



Dr. Cal and Lois Messersmith



Dr. Shane Friesen

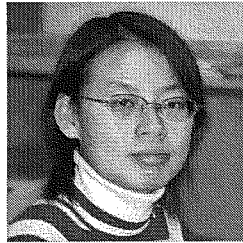


Dr. Nick David

Dr. Nick David, a native of Colorado, who received his BS at Colorado State University in Crop and Soil Sciences and his PhD from Oregon State University in Botany and Plant Pathology is our new extension potato specialist. The tenure-track position is a joint appointment between the University of Minnesota and North Dakota State University and is 90% extension-10% research. Nick, who started work in early December, replaces Duane Preston who had been officed in East Grand Forks with the Northern Plains Potato Growers Association. Nick has had extensive experience with potato production and the potato industry.

Dr. Qi (Chee) Zhang was hired as a new faculty in the Sports and Urban Turfgrass Management program. Chee has a MS and just completed her PhD from Kansas State University. Chee's tenure-track appointment is 80% research-20% teaching. She will develop and teach additional turfgrass science classes. Her area of research will be in the area of stress physiology and general problem areas in sports and urban turfgrass management. She began work in our department in mid December 2007. Her position was made possible by the retirement almost two years ago of Dr. Jerry Franckowiak, who was the NDSU two-rowed barley breeder. The two rowed barley breeding responsibilities were shifted to Dr. Rich Horsley, who is the six-rowed barley breeder. He now breeds both barley types.

The retirement of Dr. Alan Dexter last April as sugarbeet extension specialist, like the retirement of all the other faculty members who retired, left a big hole to fill. After numerous interviews, Jeff Stachler, who will graduate from The Ohio State University, has accepted our offer and will join us in late April 2008. The tenure-track position is jointly funded by the University of Minnesota and North Dakota State University. His appointment will be 80% extension-20% research. Jeff has a BS from The Ohio State University and a MS from Michigan State University. He has worked at OSU for 12 years as



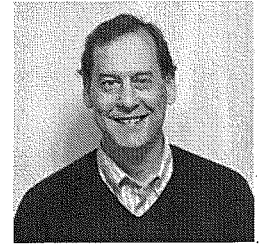
Dr. Qi Zhang



Jeff Stachler

a Weed Science Extension Program Specialist. He has considerable experience with glyphosate resistant crops. His experience will be critical as glyphosate resistant sugarbeet will be commercially grown in the valley for the first time this year.

The horticulture industry is a major industry in the state and generates about \$460M annually. The last legislature provided funding for a horticulturist in western North Dakota. Currently Dr. Ron Smith in our department has horticultural responsibilities for the entire state. Dr. Tom Kalb II was hired to help alleviate this overload. He will be a member of our department, but will be housed in Bismarck. His responsibilities will be generally west of ND Highway 3 which runs north to south approximately forty miles east of Bismarck. To expect one person to cover the entire state, as Ron Smith has done, is daunting, to say the least. Tom is currently a horticulture educator in several counties in western Wisconsin. He has a BS in Plant Science from the University of Wisconsin at River Falls, WI and a MS in Plant Breeding from the University of Minnesota. His PhD is in Horticulture from the Virginia Polytechnic Institute and State University. He spent several years at the Asian Vegetable Research and Development Center in Taiwan. He will join our faculty the end of March.



Dr. Tom Kalb

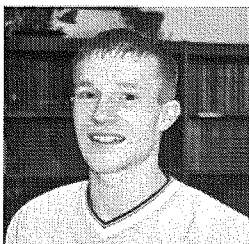
We are currently advertising a new turf position. For a number of years I have been asking for a faculty member whose primary responsibility would be to develop and teach additional courses in the Sports and Urban Turfgrass Management program. The program was initiated about six years ago and now has almost forty students. Prior to the hiring of Dr. Zhang, the only full-time instructor in the program had been Dr. Deying Li. Fortunately, Dr. Ron Smith also taught a couple of classes. With the hiring of Dr. Zhang and a faculty member with this new position, the program is starting to look more like a program. The new position is a tenure-track position with a 80% teaching and 20% research appointment. The presence of three faculty, along with Dr. Smith, will allow us to expand the classes and develop a graduate program along with our existing undergraduate program. Certainly the students will be big winners in this program.

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The last legislature also provided funds for a new pulse crop breeder position. The individual hired will initiate breeding programs in dry edible peas, lentils, and chickpeas. The growth and development of the dry pea industry was illustrated earlier. The acreage of lentils and chickpea has also increased, but not to the magnitude of dry peas. The majority of these crops are grown in the western part of the state and have become an important part of crop rotations with small grains and other crops. One of the classes the individual hired will teach is a new class in Plant Breeding/Field Crop Research. This class is currently being developed for undergraduates in Crop and Weed Sciences. Many of our undergraduates obtain positions as ag. consultants, county agents or as field representatives for various chemical, seed, consulting etc. companies. We have found our graduates are lacking in the knowledge to conduct simple field trials to evaluate varieties or do applied research studies. As a result rather than having experiments that are randomized and replicated and can be statistically analyzed, we often see data from field strips which have little value. The class will also provide the basics of variety development and the management and selection of field trials. The individual hired will also teach or co-teach another class to be determined.

The final position which is being advertised is for the replacement of Dr. George Kegode who resigned a couple of years ago. The tenure-track position will be a weed biologist. The person hired will teach a class in Weed Biology and Ecology and at least one other class, probably weed identification.

Hope I did not forget anyone. I will be glad when these positions are all filled. Hiring people is as stressful for me as it is for the person interviewing. I do not want to make any mistakes. They are the most important decisions I, as chair, will ever make.



Dr. Brent Hulke

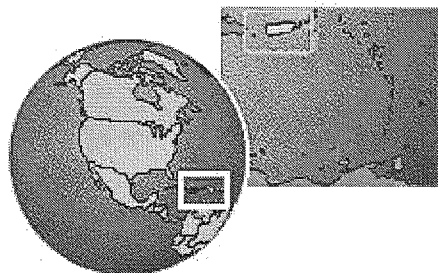
In addition, Dr. Brent Hulke was hired by USDA to replace Dr. Jerry Miller, the leader of the sunflower breeding/germplasm development program. Brent will do a good job. He is a recent graduate from the University of Minnesota and will have adjunct status in our department.

On January 1, I began my 15th year as chair. I find that hard to believe. Most days I still enjoy the job very much and will continue as long as I am still having fun and am contributing. When the job is no longer fun, I will retire. Every time I go to the North Central Agronomy/Soils (NCA-1) chairs meeting, I realize how lucky I am to work with such fine faculty, staff and students. I have heard some real horror stories from chairs at other universities.

Dr. Rich Horsley continues as my assistant. One of his responsibilities is to coordinate the cooperative program with the University of Puerto Rico-Mayaguez (UPRM) along with Dr. Linda Beaver, our collaborator at UPRM and an adjunct faculty member of our department. This past year we had seven UPRM interns working with NDSU faculty for the summer. I expect a couple of PhD applications to come in the next few weeks. Others will probably follow later. I attended the NCA-1 meetings in Florida in January and from there went to Puerto Rico with Rich to select students for this year's program. We interviewed 17 students, but only had slots for six. The UPRM students that have spent the summer working at NDSU have been outstanding and the faculty at UPRM should be very proud of them. They have been really great ambassadors and have made the most of the opportunity afforded them.



2007 UPRM interns from left: David Martinez, Marcela Diaz, Giseiry Rosa Montoya, Litza Lopez Ramos, Patricia Navarro, Abiezer Gonzalez Velez, and Roberto Luciano

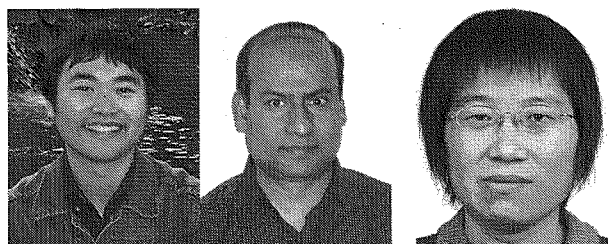


In addition to the UPRM intern program, we continue our regular intern program, which has been in place for about ten years now. Students come from a number of different places, including NDSU, Minnesota State University Moorhead, Concordia, Bemidji State University, and elsewhere in Minnesota. About 80% of those that have interned through this program have become grad students in our department. The last group of interns included Jonathan Mickelson, Frances Podrebarac and Shannon Wendroth.



From left: Jonathan Mickelson, Shannon Wendroth, and Frances Podrebarac

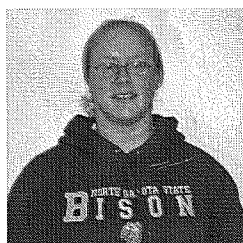
New visiting scientists include Francesca Desiderio (Italy) who will work with Dr. McClean, Ahmed El-Doliefy (Egypt) with Dr. Mergoum, Yin Li (China) with Dr. Schwarz, Sujatha Mulpuri (India) with Dr. Jan, and Mukhlesur Rathman (Bangladesh) will work with Drs. Johnson, McMullen and McClean in the Canola Breeding Center of Excellence. Mukhlesur replaces Dr. Melani, a graduate of our department who returned to Argentina where he will work with Dow-Mycogen in corn breeding. Our new postdoctoral employee is Zhao Liu (China), who will work with Dr. Jan.



Yin Li Mukhlesur Rahman Zhao Liu

Theja Wijetunga was reassigned from the molecular marker lab to work with Dr. Paul Schwarz in his barley quality lab. She replaced Debra Hatzenbeller

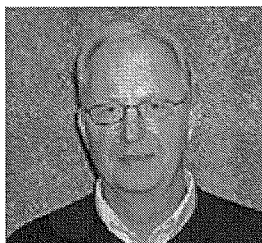
.Gene Leach resigned from the White/Specialty Wheat Breeding Program and is now working for SunOpta, which is Earthwise Processors LLC in Moorhead. He was replaced by Julie Thomas, who is a South Dakota



Julie Thomas

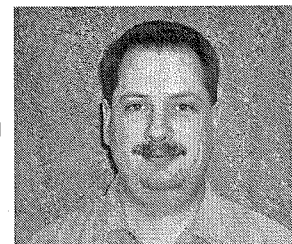
State University graduate.

Other resignations were Ruben Torres Rivera, who worked with Dr. Melani in the Canola Breeding Center of Excellence, and Lisa Grey, who worked with Harlene Hatterman-Valenti. Dr. Zing Kai Zhou, who worked with Dr. Messersmith, resigned and accepted a position at Iowa State. Also, Mohamed Iddrisu who worked with Dr. Zeleznik in extension forestry now works for Onanogzie Resource & Development Council Inc. Not all of these vacancies will be refilled.



Truman Olson

Truman Olson retired as a Food Technology Specialist. Truman was a long-time and very valued employee of NDSU. He worked full-time on the evaluation of spring wheat lines that were in the process of being developed by our breeders. He also evaluated the quality of wheat grown by producers in Minnesota, North and South Dakota, and Montana. The information developed was widely used by the North Dakota Wheat Commission and comparable groups in other states and by U.S. Wheat Associates to help market the U.S. spring wheat crop in other parts of the world. Truman was well known and respected nationally and internationally. He was replaced by Brent Hinsz who held a position similar to Truman's with Dr. Manthey's durum project. Brent, who is in his first year with the new position, is on a fast learning curve, but is doing an excellent job. Brent's former position was filled by Nancy Hillen, a recent graduate from our department. She had been working for Cargill on quality control. Welcome, to all of you!



Brent Hinsz



Nancy Hillen

In the office we have had three resignations. As I reported last year, Robin Aanstad, who had just completed her degree as a paralegal, now works with a law firm in Fargo. Edie Nelson transferred to Agribusiness and Applied Economics. Michelle Blaskowski moved to Bismarck.

Janet Crudo-Salyer replaced Robin. Janet is responsible for student time slips, travel, and assists Drs. Zeleznik and Smith. Janet is originally from Colorado, but has lived in the Fargo-Moorhead area for a number of years.

Michelle Grant, a Fargo South graduate, replaced Michelle Blaskowski. Michelle is responsible for the extension bookkeeping and doing clerical work for Drs. Zollinger, David, and Dexter.

Nicole Hagness, who is helping me on this issue of *Blizzard Watch*, replaced Edie. Nicole, who is originally from Minot, is in charge of keeping all the department and faculty websites up to date, assisting with the undergrad students, and assisting in the printing and making of posters for scientific and other meetings, plus doing some general clerical work. All three of these new hires are very easy to work with and make the office a pleasant place in which to work.



Our faculty, staff and students continue to be honored in various ways. Dr. Duane Berglund and Dr. Alan Dexter won the Gamma Sigma Delta Distinguished Service to Agriculture Award.

Dr. Marcelo Carena was the 2007 NDSU Development Foundation Grant & Award Recipient. Dr. Carena, the leader of the NDSU corn breeding program, received the Gordon A. Larson Agricultural Research Funds.

Dr. Patrick Carr received the Northern Plains Sustainable Agriculture Society's Friend of the Farmer Award.

Dr. Edward Deckard received the Preferred Ag Instructor Award from the College Student Activities Council and the Blue Key Doctor of Service Award.



Dr. Carter congratulates Dr. Deckard.

Dr. Alan Dexter was the recipient of several awards for his many years of service to extension and research to the ND/MN and national sugarbeet industry. The awards include Savitsky Memorial Award presented by the American Society of Sugarbeet Technologists, the Torch and Shield Award from the U of MN, and the naming of a range of research plots at the U of MN research and extension cen-

ter in Crookston as the Dr. Alan G. Dexter Research Range. Sugarbeet growers in both states also contributed funds to develop a significant scholarship in his honor for graduate students working in sugarbeet research.

For several years we have had an endowment for durum breeding. It was decided this year to establish an endowed professorship for the durum breeding project. The endowment will be named: 'The Jack F. Carter Durum Wheat Breeding/Genetics Endowed Professorship.' Dr. Elias was named the first endowed chair. This is the first endowed professorship in the College of Agriculture, Food Systems, and Natural Resources. All of the funds that are in the endowment are from an agreement that was signed to collect royalties on NDSU varieties that are grown in France. The agreement was signed in the mid 1960's when Dr. Carter was chair of the department. The funds from the endowment will be used to supplement and support the NDSU durum breeding program. Dr. Elias is an exceptional role model for students, plant breeders and faculty members. He is very worthy of this honor.

Dr. Harlene Hatterman-Valenti was selected as the first recipient of the Alpha Tau Omega fraternity's Amazing Teacher Award.

Dr. Dale Herman received an award from the ND Library Association for being one of the contributors to the book *Trees of North Dakota*. Dr. Herman also received the Manitoba Horticultural Association Stevenson Commemorative Award and the North Dakota Forest Service Distinguished Leadership Award.

Dr. Burton Johnson accepted a position as an associate editor for *Agronomy Journal*.

Dr. Mike McMullen was selected as the recipient of the Eugene R. Dahl Excellence in Research award. Mike has released a total of 17 oat varieties for North Dakota and upper northern Great Plains oat growers. More and more of his varieties are being geared toward healthier food for humans. He also serves as advisor and provides assistance to the SDSU oat breeding program.

Dr. Jerry Miller, a graduate of our department and an adjunct faculty member, was honored by the National Sunflower Association as the recipient of the NSA Gold Award, the highest recognition of the US Sunflower Industry. Jerry was a USDA sunflower breeder and had a major impact on the world sunflower industry.

Dr. Joe Zeleznik, our extension forester, received the Myron and Murial Johnsrud Excellence in Extension/Outreach Award. Joe is an outstanding young faculty member and does an excellent job.

Dr. Richard Zollinger received the North Central Weed Science Society Education Award.



Dr. Steve Miller

Dr. Steve Miller, a former faculty member of our department and now Associate Dean and Director of the Agricultural Experiment Station at the University of Wyoming, received the 2007 College Distinguished Alumni Award. Dr. Miller has a BS from Colorado State University and a MS and PhD from NDSU in Agronomy, which at the time was the name of our department. He was assistant and associate professor in our department before accepting a job at the University of Wyoming to be closer to home. He was professor of Weed Science and then head of the Department of Plant Sciences at the University of Wyoming prior to being hired for his current position. He has received numerous awards throughout his career, including Outstanding Weed Scientist in the Western Society of Weed Science, Innovator Award from the American Society of Agronomy and the George Duke Humphrey Distinguished Faculty Award from the University of Wyoming. He is a Fellow of the North Central and Western Weed Science Society and the Weed Science Society of America. During his two days on campus, Dr. Miller presented a seminar and met with our graduate students. I worked with Steve for many years and was really disappointed when he left NDSU. He was an outstanding faculty member and a friend.

Collin Auwarter and Larry Chaput were honored with the 2007 Professional Recipient Award (NDSU Employee Recognition Award program). Collin works with Dr. Harlene Hatterman-Valenti in the high-value crop production project, while Larry assists Dr. Dale Herman in the development of ornamentals and trees adapted to the Northern Great Plains.

Brenda Deckard received the Preferred Ag Instructor Award from the College Student Activities Council. She was also named the North Dakota Ag Woman of the Year by the women of Sigma Alpha Professional Agriculture Sorority.

Dr. Yin Li was awarded the 2007 AACCI (American As-

sociation of Cereal Chemists International) Bruce Wasserman Young Investigator Award. Yin is a visiting scientist in Dr. Paul Schwarz's lab.

The following Plant Sciences faculty and students were nominated in 2006 for membership into NDSU's chapter of Gamma Sigma Delta: Marisol Berti, Xiwen Cai, Rongshuang Lin, Marcelo Melani, Rebekah Oliver, Susie Thompson, Deborah Willard, and Guorong Zhang.

Val Eitrem won the Gamma Sigma Delta Distinguished Undergraduate Student in Agriculture award.

Marisol Berti received the Graduate School Research Award and Melissa Huhn received the Graduate School Teaching Award in the College of Agriculture, Food Systems and Natural Resources for the 2006-2007 academic year.

Aruna Kandikonda received the Doctoral Dissertation Award through the ND Experimental Program to Stimulate Competitive Research.

Angela Kazmierczak was named a 2008 Gerald O. Mott Meritorious Graduate Student Award in Crop Science recipient. Additionally, Angela's poster, "Herbicide solution pH effect on control of downy brome and wild oat," placed second in the North Central Weed Science Society Annual Meeting Student Contest.



Angela Kazmierczak

Jim Loken placed first in the North Central Weed Science Society Annual Meeting Student Contest with his paper, "Multiple reduced rate herbicide treatments for weed control in onion."

At the 24th Annual University of Manitoba, University of Saskatchewan, NDSU Plant Sciences Graduate Symposium, Monika Michalak placed first in the Molecular Crop Breeding and Genetics section for her poster, "Physical mapping of a nuclear cytoplasmic compatibility gene in wheat." Peter Gilbertson placed first in the Agronomy and Crop Protection category for his poster, "Borage seed development." Placing second in the Molecular Biology and Biotechnology section was Andrzej K. Noyszewski with his "Mitochondrial sequence similarity and gene expression analysis in alloplasmic durum wheat" poster.

Scott Weinlaeder placed second in the oral session of the Joint C02/C04 Graduate Student Competition at the CSSA Annual meeting.

The Fargo-Moorhead Redhawks' home field, Newman Outdoor Field, was voted Best Playing Surface in 2007 by the Northern League's managers, radio announcers and local media. Head Groundskeeper Matt Wallace, a graduate of our Sports and Urban Turfgrass Management program, leads in the care of this field. Several of his assistants are undergraduates in the program.

Graduate student numbers have leveled off, but are down some from a couple of years ago. We have many excellent applicants that we have to refuse each year because we do not have funding for them. Almost all of our graduate student support is grant funded. Last year the department brought in \$5.3M in outside grants. Much of this goes for operating. Sometimes if a grant is limited for only one or two years at a time it is difficult to make a longer term commitment, such as a grad student would entail. Several department faculty also support students in the Genomics program which is separate from the department. Unfortunately, these are often not counted as Plant Sciences graduate students in spite of the fact that they are supported by the department. A complete list of all graduate students supported in our department is found in the back of *Blizzard Watch*. Our students continue to do very well as they leave Plant Sciences and begin their careers.

PhD graduates this year, their new place of employment (if available) and their advisors are:

- Juan Osorno, NDSU, Dr. Carena
- Tao Wang, a private company in China, Dr. Elias
- Guorong Zhang, Michigan State University, Dr. Mergoum
- Rongshuang Lin, University of Minnesota (St. Paul), Dr. Horsley
- Luke Samuel, Monsanto Company, Dr. Lym
- Marisol Berti, Universidad de Concepcion, Chillan, Chile, Dr. Johnson
- Suresh Bhamidimarri, Noble Foundation, Dr. Kianian
- Diego Vilaro, Cultivos de Secano, Evaluación de Cultivares, Uruguay, Dr. McMullen

MS graduates this year, their new place of employment

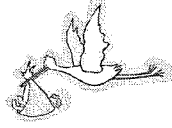
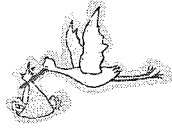
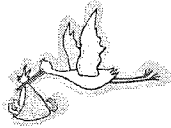
(if available) and their advisors are:

- Melody McConnell, Colorado State University, Dr. McClean
- Andrea Carlson, Greenpeace (San Francisco), Dr. Smith
- Sunil Kumar, Red Bull North America, Dr. Faris
- Sudeep Mathew, Dr. Hatterman-Valenti
- Fernanda Silva, NEDAK Ethanol (Nebraska), Dr. Thompson
- Deborah Willard, Opp Construction Company, Dr. Hatterman-Valenti
- Pradyot Ghosh, The Schwan Food Company, Dr. Chakraborty
- Sara Krippner, USDA-Natural Resource Conservation Service, Dr. Howatt
- Robbie Holthusen, Pioneer Hi-Bred International, Dr. Johnson
- Matthew Musial, Verenum Corp., Dr. Schwarz
- Angela Sebelius, NDSU North Central Research and Extension Center, Dr. McMullen
- Aaron Carlson, Research Specialist, Department of Soil Sciences, Dr. Dexter

Our new MS graduate students this year, their country or state of origin, and their advisors are: Ryan Hunt, North Dakota (Dr. Rich Zollinger); Fernando Eckert, Brazil (Dr. Juan Osorno); Santosh Sharma, Nepal (Dr. Marcelo Carena); and Jonathan Neubauer, North Dakota (Dr. Ed Lulai and Dr. Susie Thompson).

Our new PhD students are: Carlos Fores, Puerto Rico (Dr. Rich Horsley); Guojia Ma, China (Dr. Xiwen Cai); Hongxia Wang, China (Dr. David Dai); Todd Wert, Florida (Dr. Thompson); Paul Werner, Minnesota (Dr. Rich Horsley); and Junyun Yang, China (Dr. Marcelo Carena).

Undergraduate numbers continue to stay quite stable. Last year we had 179 undergraduate students in our Horticulture, Crop and Weed Sciences, and Sports and Urban Turf programs in our department. It is hard to compare undergraduate numbers among departments in the North Central region as each university department is structured differently as the components involved. I would suspect we are, however, one of the larger ones. We draw heavily on Minnesota students. The number of students in the college has not increased as other colleges have at NDSU and Agriculture, Food Systems and Natural Resources is one of the smallest at NDSU.



2007 Employee Recognition

Years of Service

Many of our faculty, staff and students added new babies to their families in 2007. Congratulations to the following and also to those we may have missed.

- Brodie Fredrick, was born to Sarah and Shane Underdahl on June 2. He weighed six pounds, 14 ounces and was twenty inches long. Sarah is a research specialist with Dr. Elias.
- On Father's Day, June 17, 2007, Sarah was born to Xunfen Chen and Xiwen Cai. She weighed seven pounds, 13 ounces and was 21 inches long. Xunfen is a former graduate student in our department and Dr. Cai works with wheat genetics and is one of the genetics instructors.
- Juan and Mariana Caffarel welcome a son, Tomas, born on June 27, 2007. He was seven pounds, two ounces, twenty inches long. Juan just completed his doctorate program with Dr. Mergoum.
- A daughter, Daria June, was born to Penny and Shahryar Kianian on September 7, 2007, weighing eight pounds, twenty inches long. She was welcomed by big brother Cyrus. Dr. Kianian directs the germplasm enhancement project.
- Dr. Ron and Betsey Smith are the proud grandparents of a new grandson. Orion Matthew was born to their daughter, Amanda and Matt Heintz on December 28, 2007. He weighed seven pounds nine ounces and was 20.5 inches long. Ron is our extension horticulturist.

5 YEARS: David Hanson, Debra Hatzenbeller, Martin Hochhalter, Lisa Johnson. Jing Kai Zhou

10 YEARS: Sandra Mark

15 YEARS: James Gillespie, Brent Hinsz, Brian Otteson

20 YEARS: Mark Ciernia

30 YEARS: Duane Wanner

40 YEARS: Lyle Lindberg

2008 Employee Recognition

Years of Service

5 YEARS: Christina Johnson

10 YEARS: Paula Petersen, Melissa Welter

15 YEARS: Janet Davidson-Harrington, Justin Hegstad, Theja Wijetunga

25 YEARS: Katheryn Christianson

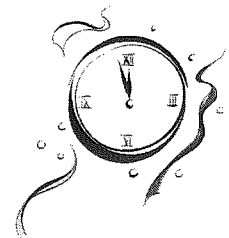
35 YEARS: Robert Baumann, Ronald Roach

40 YEARS: Lyle Lindberg

Retirees

37 YEARS: Truman Olson

This concludes my section of the *2008 Blizzard Watch*. Best wishes for a happy, healthy and prosperous year.
Al Schneider



Plant Sciences Faculty:

Schneiter, Albert A.
Berzonsky, William A.
Cai, Xiwen
Carena, Marcelo J.
Christoffers, Michael
Coston, D.C.
Dai, David W.
David, Nick
Deckard, Edward L.
Elias, Elias M.
Friesen, Shane
Grafton, Kenneth F.
Hammond, James J.
Hatterman-Valenti, Harlene
Helms, Theodore C.
Herman, Dale E.
Horsley, Richard D.
Howatt, Kirk A.
Johnson, Burton L.
Kandel, Hans
Kianian, Shahryar F.
Lee, Chiwon W.
Li, Deying M.
Lym, Rodney G.
Manthey, Frank A.
McClellan, Phillip E.
McMullen, Michael S.
Mergoum, Mohamed
Meyer, Dwain W.
Osorno, Juan
Ransom, Joel K.
Schwarz, Paul
Simsek, Senay
Smith, Ron C.
Thompson, Asunta (Susie) L.
Thostenson, Andrew
Williams, M. Dale
Zeleznik, Joseph D.
Zhang, Qi (Chee)
Zollinger, Richard K.

Prof. & Chair (*crop production*)
Assoc. Prof. (*HWS, spec./ sawfly wheat brdg*)
Asst. Prof. (*wheat /cytology genetics teaching*)
Assoc. Prof. (*corn breeding and genetics*)
Assoc. Prof. (*weed science/genetics teaching*)
Prof.; Vice President for Ag. and University Ext.
Asst. Prof. (*woody plant phys./biotech.*)
Asst. Prof. (*extension potato*)
Prof. (*teaching*)
Prof. (*durum wheat breeding*)
Asst. Prof. (*perennial weed control*)
Dean, College of AFSNR & Director, of ND AES
Prof. (*flax/crambe brdg, computer prog.*)
Assoc. Prof. (*high value crop production*)
Prof. (*soybean breeding, genetics*)
Prof. (*woody plants, ornamentals*)
Prof. (*6-row /2-row barley brdg, genetics*)
Assoc. Prof. (*weed science-annual weeds*)
Assoc. Prof. (*sunfl., minor, new crop prod.*)
Assoc. Prof, Ext. Agronomist (*broadleaf crops*)
Assoc. Prof. (*HRS, durum wh. germ. enhance.*)
Prof. (*ornamentals, turf/biotech. teaching*)
Asst. Prof. (*sports turf management*)
Prof. (*perennial weed control*)
Assoc. Prof. (*durum and pasta quality*)
Prof. (*dry bean genetics, biotechnology*)
Assoc. Prof. (*oat breeding and genetics*)
Assoc. Prof. (*HRSW breeding, genetics*)
Prof. (*forage production and cropping systems*)
Asst. Prof. (*dry edible bean breeding*)
Assoc. Prof. (*ext. agronomist, sm. grains*)
Prof. (*malting barley quality*)
Asst. Prof. (*HRSW end quality*)
Prof. (*extension horticulture/turfgrass*)
Asst. Prof. (*potato breeding*)
Ext. Spec. (*pesticide program spec.*)
Seedstocks Director (*seedstocks*)
Ext. Forester (*urban/rural forestry*)
Asst. Prof (*turf physiology*)
Prof. (*extension weed control*)



Professors Emeriti:

Bergland, Duane
Boe, A.A.
Carter, J.C.
Cross, H.Z.
Dexter, Alan
Duysen, Murray
Foster, A.E.
Frohberg, R.C.
Franckowiak, J.D.

Holland, N.
Lund, H.R.
Maan, S.S.
Messersmith, C.G.
Nalewaja, J.D.
Nelson, D.C.
Spilde, L.A.
Whited, D.A.

Adjunct Faculty (*USDA):

Anderson, James V*	<i>(plant biochemistry)</i>
Campbell, Larry G.*	<i>(sugarbeet genetics)</i>
Carr, Patrick M.	<i>(sustainable agric.)</i>
Chao, Shiaoman*	<i>(genomics)</i>
Chao, Wun Shaw*	<i>(perennial weeds)</i>
Dahleen, Lynn S.*	<i>(barley genetics, biotech.)</i>
Doehlert, Doug*	<i>(oat germplasm enhance.)</i>
Faris, Justin*	<i>(cereal crops)</i>
Foley, Mike E.*	<i>(weed biology)</i>
Horvath, Dave P.*	<i>(perennial weed phys.)</i>
Hossain, Khwaja	<i>(wheat germplasm enhanc.)</i>
Hu, Jinguo*	<i>(sunflower genomics)</i>
Hulke, Brent*	<i>(sunflower breeding and genetics)</i>
Jan, Chao C.*	<i>(sunflower cytogenetics)</i>
Jauhar, Prem P.*	<i>(wheat cytogenetics)</i>
Klotz, Karen L.*	<i>(sugarbeet physiology)</i>
Lulai, Ed C.*	<i>(potato physiology)</i>
Seiler, Gerald J.*	<i>(sunflower & sugarbeet germ.)</i>
Suttle, Jeffrey C.*	<i>(potato physiology)</i>
Xu, Steven S.*	<i>(HRSW development)</i>

University of Puerto Rico-Mayaguez:

Beaver, James	(dry edible bean breeding)
Brunner, Bryan	(plant breeding)
Erpelding, John	(sorghum genetics)
Macchiavelli, Raul	(statistics)
Ortiz, Carlos	(plant breeding, specialty crop and turf)
Porch, Tim	(bean breeding & genetics)
Wessel-Beaver, Linda	(squash, pumpkin breeding)

Postdoc. Research Fellow/Visiting Scientist, Project Leader, Area of Research:

Desiderio, Francesca	McClellan (dry bean genetics)
Feng, Jihuan	Hu (dry bean genetics)
Ghavami, Farhad	Kianian (HRS, durum wh. germ enhance.)
Gu, Yong Qiang	Kianian (genomics & gene discovery)
Li, Yin	Schwarz (malting barley quality)
Liu, Zhao	Jan (sorghum)
Mulpuri, Sujatha	Jan (sorghum)
Rahman, Mukhlesur	Johnson, McClellan, McMullen (canola)
Rishi, Ananthamari	Kianian (wheat genetics)
Rojas-Cifuentes, Gonzalo	Osorno (bean breeding)
Singh, Pawan	Mergoum (wheat breeding)
Yue, Bing	Hu (sunflower research)
Zhang, Qijun	Cai (wheat genetics)
Zhu, Xianwen	Cai (wheat genetics)

Office Staff:

Anderson, Julie	Johnson, Lisa
Buringrud, Eileen	Odegaard, Mary Beth
Crudo-Salyer, Janet	Perrin, Char
Grant, Michelle	Watson, Sheila
Hagness, Nicole	Welter, Melissa
Heinz, Louise	



New office staff from left: Janet Crudo-Salyer, Michelle Grant, Nicole Hagness

Research Specialists, Technicians, Chemists:

Abdallah, Matthew (HRSW breeding)
Auwarter, Collin (high value crop prod.)
Barr, John (malting barley)
Baumann, Robert (oat breeding)
Chaput, Larry (woody plants)
Christianson, Katheryn (perennial weeds)
Ciernia, Mark (weed control)
Dash, Snigdharani (Reena) (durum quality)
Davidson-Harrington, Janet (weed science)
Deckard, Brenda (student services director)
Faller, Jason (barley breeding)
Farnsworth, Bryce (potato breeding)
Gillespie, James (malting barley quality)
Gregoire, Pete (crop physiology)
Halley, Jeremiah (HRSW breeding)
Hanson, Dave (soybean breeding)
Hegstad, Justin (wheat germ. enhancement)
Hertsgaard, Karen (Institute of Barley & Malt Sciences)
Hillen, Nancy (durum quality)
Hinsz, Brent (spring wheat)
Hochhalter, Martin (barley breeding)
Johnson, Christina (science animation)
Kercher, Kreg (durum wheat breeding)
Laschkewitsch, Barb (herbaceous ornamentals)
Lee, Rian (dry bean genetics/biotech.)
Lindberg, Lyle (flax breeding)
Luecke, John (sugarbeet weed control)
Magnusson, Victoria (woody plants biotech.)
Maianu, Josef (seedstocks)
Mark, Sandra (weed science)
Martin, Larry (soybean breeding)
McArthur, Rachel (wheat genetics)
McMonagle, Kelly (spring wheat)
Nilles, Richard (potato breeding)
Nudell, Robert (forages)
Olson, Rachel (wheat quality)
Peckrul, Allen (germplasm enhancement)
Pederson, Jeremy (seedstocks)
Pederson, Shauna (weed science)
Petersen, Paula (crop production)
Ries, Jerry (weed control)
Roach, Ron (weed control)
Stancyk, Stan (durum breeding)
Thomas, Julie (white and specialty wheat)
Underdahl, Jesse (HRSW breeding, genetics)
Underdahl, Sarah (durum breeding)
VanderWal, Jody (dry bean breeding)
Wanner, Duane (corn breeding)
Whitney, Kristin (spring wheat)
Wijetunga, Theja (barley quality)

Graduate Students and Advisor:

AbuHammad, Wesam	Elias	Neubauer, Jonathan	Lulai/Thompson
Almquist, Travis	Lym	*Noyszewski, Andrzej	Kianian
Bergh, Lisa	Horsley	Ostlie, Michael	Howatt
*Caffarel, Juan Carlos	Mergoum	*Pedraza-Garcia, Fabio	Horsley
Chikara, Shireen	McClellan	Pelinganga, Osvaldo	Zelevnik
*Chu, Chenggen	Faris	Reddy, Leela	Faris
*Dilawari, Mridull	Kianian	Rugg, Mory	Berzonsky
*Dong, Xinrong	Schwarz	*Sandhu, Gurleen	Manthey
Eckert, Fernando	Osorno	*Sandhu, Harkanwal	Manthey
*Flores, Carlos	Horsley	Sharma, Santosh	Carena
Gegner, Sarah	Hatterman-Valenti	*Singh, Vineeta	Manthey
Gilbertson, Peter	Johnson	Somaratra (Abeysekara), Nilwala	Faris
Hanson, Lindsey	Howatt	Soto, Silca Liz	Zollinger/Howatt
Harilal, Vibin Eranezhath	Mergoum	Su, Yuanjie (Ben)	Dai
*Huhn, Melissa	Elias	Sun, Wei	Dai
Hunt, Ryan	Zollinger	*Tyagi, Neerja	Dahleen
Jansen, Jenna	Kianian	*Varanasi, Vijaya	Horvath
Jimenez Diaz, Alberto Cesar	Schwarz	*Wang, Hongxia	Dai
*Kandikonda, Aruna	Christoffers	Wang, Yichun (Lulu)	Li
Kazmierczak, Angela	Howatt	Weinlaeder, Scott	Johnson
Knutson, Brandon	McClellan	*Werner, Paul	Horsley
*Loken, James	Hatterman-Valenti	*Wert, Todd W.	Thompson
Ma, Guojia	Cai	Yabwalo, Dalitso	Berzonsky
Malaterre, Jerrilyn	Kianian	*Yang, Junyun	Carena
Mamidi, Sujana	McClellan	Zhang, Yu	Simsek
*Michalak, Monika	Kianian	Zhang, Zeng Cui	Faris/Xu
*Negeri, Adisu Teshome	Horsley		

**PhD student*



First, thank you for the holiday messages and several photos, that came from you to the department or to us personally, and other messages via e-mail coming mostly to Mrs. Carter at imysm@aol.com. We appreciate letters, and especially photos, very much and wish to "keep track" – please tell us more about yourself and your families. Send pictures, even if you may have aged since we last met – we all do! Several former graduate students and faculty wrote letters or visited us, and NDSU, in summer 2007.



Dr. Jack & Imogene Carter

A story about Dr. Kaveh and his family was published in the 2006 Bison Briefs, if you get that publication. If you don't get Bison Briefs, please send us your address and e-mail, and we will get it sent to you. It has all the latest news about NDSU. Others writing were Belgin Cukadar from Turkey but now a plant breeder in Indiana with Monsanto; Soon and Kiok Park from Canada; Luis Bueno in Brazil has written several times; Leticia Navarro, wife of Manuel Navarro in Mexico; and Armida Rondon, wife of Mario Rondon of Peru. The twin sons of the Rondon's were born at NDSU and both live and work in Pennsylvania – Armida visits often.

Many of you may have learned of the two awards received by Dr. Norman Borlaug recently, the Congressional Gold Medal, and honor/recognition of presenting the E.T. York Memorial Lecture at the 2007 meeting of the American Society of Agronomy, CSSA and SSSA. I have prepared a "poster" type of recognition for Dr. Borlaug to acquaint our present faculty and graduate students about Dr. Borlaug's influence on our graduate study program in Agronomy beginning in 1956, Plant Sciences now, especially Applied Crop Breeding. We have connected 154 MS and/or PhD students who were protégés of Borlaug or steered by him to NDSU for graduate study. We will prepare a printed version of the poster to distribute or put on a "website" for your reading if you wish.

I passed 88 years last October 2007 and Imogene is not far behind, passed 89 for sure!! We had our 66th wedding anniversary October 19, 2007! Imogene still has her imbalance condition and I have lots of pain from a back injury June 30. Hopefully my back will improve with more treatment. Some of you donate to the Jack Carter Endowment Professorship funded through NDSU, thanks, or if not, it's not too late to give! Send to the NDSU Development Foundation, 1241 North University Drive, Fargo, ND 58105.

Mrs. Carter continues our computer expert which allows very efficient email in U.S. and internationally and communicates frequently with some of you older former students, or wives, or their children in some cases (imysm@aol.com). No stamp needed for you to communicate with us! She has just finished compiling two thick picture albums containing black and white photos of the families of many of you, no doubt copies of photos you have in your collections.

Our family suffered a tragedy October 7, 2007. Our daughter Nancy died of the severe type 4 leukemia. She had been on the Fulbright Fellowship Team to China, PRC, and became more ill near the end of the trip and returned home. The apparent best health care at Johns Hopkins University and Medical School was not good enough or effective to treat the disease and save her life. Four of our five children and families continue to live and work as in past years – some of you know them. Our oldest grandson was married in 2002 and we have been great-grandparents of a precocious young lady since June, 2003 and now a great grandson since November 2006.

I still work some afternoons at NDSU with many former and some new associates. I'm helped as needed by excellent "secretaries" and others. Yes, Eileen and Lisa are still here!!

I'm still President of the Flax Institute of the United States but plan to "step down" for Jim Hammond to take over this year. We met in March 2006 and will again March 26-28, 2008, in Fargo. I also serve as "flax consultant" to the North Dakota Oilseed Council and supervise some of the research that they fund. I get inquiries about health benefits of flaxseed consumption from all over the world. Flax seed provides healthful omega 3 fatty acid, lots of dietary fiber and apparent anti-carcinogenic lignans in human nutrition, and for other animals. I recommend your eating about 30 grams or 1/5 cupful of ground flaxseed per day in orange juice, baked foods, or whatever. Flaxseed has been consumed for hundreds of years by people in the countries of some former international students. Please request a flax-for-food leaflet if you wish to learn more.

Mostly at home I have been doing more cooking than formerly, some maintenance, gardening and fishing, less of latter since my back injury June 30, 2007. I graft five apple trees to multi-variety trees to sell each year at Bidder's Bowl (raises funds for NDSU Development Foundation) in October, 2007. Also, attend home games of Bison football and basketball. NDSU has gone Division 1AA in sports so many of the games with institutions of which we know little.

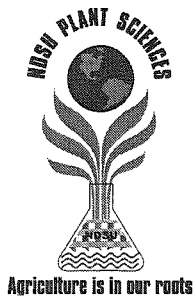
The Plant Sciences faculty is changing. Faculty that I hired 30-35 years ago have or will retire soon, i.e. Drs. Alan Dexter, Jerry Miller (USDA), Duane Berglund, Cal Messersmith, Jerry Franckowiak (has taken a job in Australia) have or will retire soon and new people have or will replace them.

In retrospect, many of you have influenced our work and lives favorably, and we yours, we hope. Please write, e-mail or stop to see us as you pass this way. Best wishes to you for a HAPPY and HEALTHFUL 2008.

Dr. and Mrs. Carter

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