

BLIZZARD WATCH

Department of Plant Sciences



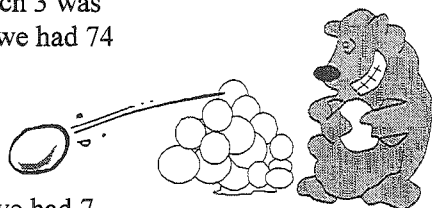
March 1997

Dear friends
of NDSU
Plant Sciences



This year's Blizzard Watch begins exactly where last year's left off. Lots of snow and cold weather.

Same story different year, I think. I vaguely remember a summer in between somewhere. The average snowfall in Fargo is about 39 inches. By December 22, the second day of winter, we already had 45 inches. Our total by March 3 was 106". Last year we had 74 inches, with the record snowfall of 89 inches occurring in 1993-94. We have had 7 blizzards and 5 winter storms (the same thing if you ask me) as of March 3, with the interstates closed from the Montana line to St. Cloud and from Canada to Iowa on several occasions. We are thinking of starting to name blizzards like we do hurricanes. I am seriously considering moving my office back to Tucson, Arizona (from where I came) and communicating to the faculty, staff and students via e-mail. Enough whining and complaining--it's time to bring you up-to-date on what has happened this past year in the department, NDSU, and the state.



First the news from North Dakota. In spite of an extremely late spring, crops across the state were generally very good. We still have some problems however. Wheat and barley, especially north of the Devils Lake area, were hit with scab for the fourth consecutive year with some producers suffering losses each of those years. There is a lot of pressure on the

experiment station and on the plant breeders to release varieties with resistance or tolerance to scab. The producers, commodity groups, and legislators have been very supportive and patient, but have trouble understanding that a new variety cannot be produced in two to three years. First the genetic resistance has to be found and then it must be incorporated into acceptable agronomic varieties. In spite of all the advances that have been made in methodology and the use of winter nurseries, it still takes about 10 years to develop a new variety. The scab problem is not unique to North Dakota and our scientists are cooperating with those from Manitoba, South Dakota and Minnesota to solve the problem.

Because of the excessive rain and snow we have had the past four years, there is a lot of flooding around Devils Lake. The lake has no natural drainage and the water level has risen several feet, flooding thousands of acres of farmland and destroying many houses along the lake or in low lying areas. There does not seem to be any solution in sight for this problem.

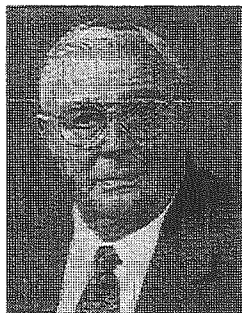
Now the news from NDSU. Dr. Brendan Donnelly, who resigned as Vice President for Agriculture and Research in early 1996, left NDSU and has accepted a position as department chairman of the Grain Science and Industry Department at Kansas State University. Dr. Lowell Satterlee left his position as Interim Dean and Director of Resident Instruction on February 14, having accepted a position at Oklahoma State University. Dr. Statler, Chair of the Plant Pathology Department, has been selected as interim replacement for Dr. Satterlee.

Some of the news from the department is very sad. Dr. Jim Helm, extension agronomist in our department since 1984, passed away in late April. He had been

batting a brain tumor for almost a year. Jim gave all of us a good lesson on how to battle a fatal disease with dignity. Dr. Helm was extremely helpful to me during the time that I was interim chair. He was always willing to give me advice when I asked for it and sometimes when I did not. In the latter situation, it was usually a case of me needing advice, but not being smart enough to realize that I needed it. Jim will be greatly missed by all of us for his wealth of knowledge, good sense of humor and dedication to the department, NDSU, and North Dakota and as a fellow worker and friend.



Dr. Bob Johansen also passed away this year. Dr. Johansen was known and respected worldwide for his expertise in potato breeding. Dr. Johansen had a major impact on the potato industry in the U.S. and the Red River Valley. He was a credit to NDSU and North Dakota.



Al Schneiter was selected as permanent chair after a national search. He began his duties in May having served as interim chair since January 1, 1994, following Dr. Foster's retirement.

Dr. Jim Anderson, who led the germplasm enhancement project, resigned in July having accepted a wheat breeding position with USDA at Pullman, Washington. After a national search, several candidates were interviewed in February. Dr. Shahryar Kianian has accepted the position and will begin May 19, 1997.

An extension forester was also recruited with interviews taking place in late January and early February. The position is funded equally by the NDSU Extension Service and the U.S. Forest Service.

Marcus Jackson has accepted this position, and he will begin on May 22, 1997.

Dr. Devon Doney, who was an Adjunct Professor in our department with the USDA and worked in sugarbeet genetics, retired and has returned to Utah.

Janet Fleeker, who was a secretary for extension, resigned and moved to Florida last summer. She was replaced by Char Perrin who transferred from Research Administration.

Mary Jurjans will resign at the end of May and move to Virginia to be nearer her daughter and new twin granddaughters. Mary was one of the Horticulture secretaries at the time of our merger and has been a strong, productive steady force in the secretarial staff. She is also one of the nicest ladies you will ever meet and we will miss her.

As was indicated in last year's Blizzard Watch, Dr. Bill Ahrens resigned last spring and moved with his family to China. His position and research dealing with weed control in reduced tillage and the position vacated by Dr. Schneiter dealing with research on sunflower production, minor and new crops are still vacant. We are anxiously awaiting permission from the director of the experiment station to fill both positions. Both of these positions are important to the producers of North Dakota and to the department's teaching program.

Dr. Michael Peel, a recent graduate in plant breeding from the University of Minnesota, was hired as a replacement for Dr. Jim Helm. Mike began work in late November. We welcome Mike, his wife Dorothy, and their children Lena, age 6, Adriann, age 4 and Shannan, age 1, to the department and to Fargo.

Chad Anderson has been hired as a research specialist for Dr. Frohberg. Chad has a B.S. in Crop and Weed Sciences. Ann Erickson has been hired as a part time research specialist with Dr. Novy. She has a B.S. in Biology from Concordia. Erik Grafstrom resigned during the spring and has not been replaced. He had been a technician with Dr. Cathy Morton, a postdoctoral research associate, who has also left. Sandra Mark has been hired as a technician to work

with Dr. Frank Manthey, a postdoctoral research associate working in the area of weed control. Dr. Chris Goblirsch, a plant breeder, was hired as a postdoctoral research associate to work in the area of herbicide resistant weeds. Darrin Hauf has been hired as a research specialist to work with Dr. Grafton. Dennis Craig resigned last spring and accepted a job with Mycogen in Breckenridge, Minnesota. He had been a technician with Dr. Lym. He will not be replaced. Scott Fitterer has accepted a position as a research specialist with Dr. Zollinger. Dr. Albert Fisher is also a new postdoctoral research associate in our department. He is working with Dr. Nalewaja in the area of biology and competition of weeds. Asfaw Mesfin was hired as a postdoctoral research associate working with Dr. Lynn Dahleen, studying Fusarium head blight in barley.

We graduated 13 M.S. and 9 Ph.D. degrees during the 1996 commencement. Those receiving M.S. degrees were: Antonio Andre (Cross), Mike Dietrich (Nalewaja), Chad Effertz (Zollinger), Justin Faris (Anderson), Scott Fitterer (Schneiter), Gioconda Garcia (Horsley), Mark Halvorson (Helms), Brian Kuehl (Lym), Dean Maruska (Deckard), Brett Miller (Lym), Matthew Pauli (Ahrens) Satish Rai (Lorenzen), and Junqian Wu (Lorenzen). Those receiving Ph.D. degrees were: Mohammed El-Antri (Nalewaja), Christopher Goblirsch (Horsley), Paul Isakson (Nalewaja), Herman Kandel (Schneiter), Simon-Pierre Nguetta (Cross), Belgin Cukadar Olmedo (Miller), William Panaram (Ahrens), Hector Roman (Cross), and William Wilson (McMullen).

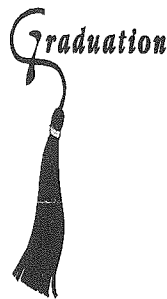
Our number of graduate students, like that of many universities, continues to decline and I am not sure what to do about it. Part of the problem is reduced state support for graduate students, reduced grant funding, and a reduced pool nationally of good graduate students. There are so many jobs available for undergraduates that many good students are going into the job market rather than continuing their education. This year we have only 37 graduate students of which 22 are international students representing 12 different countries. New graduate

students since our last report and their advisors are listed below. Rick Abrahamson (Lee), Emilie Bergeson (Messersmith), Michael Bosela (Cheng), Jose Bruniard (Miller), Wenhao Dai (Cheng), Robert Gelin (Elias), Jose Luis Gonzalez (Elias), Weisong Gu (Cheng), Ann Heinze (Elias), Venugopal Kalavacharla (McClellan), Denise Markle (Lym), Boris Sagredo (Lorenzen), Xin Tian (Lorenzen), Carlos Urrea (Horsley), Gary Vallad (McClellan), and Diego Villaro (McMullen). The department also has several visiting scientists and postdoctorates. Current visiting scientists are Aixiang Jiang and Piotr Milkowski while the postdoctorates are Nicolay Balbyshev, Albert Fisher, Chris Goblirsch, Frank Manthey, Asfaw Mesfin, Ben Moreno-Sevilla, and Mark Rivkin.

In contrast to the graduate program, undergraduate numbers are increasing. We have 82 undergraduates in the Crop and Weed Sciences option and 58 in the Horticulture and Forestry option. Last spring our numbers in the two disciplines were 67 and 56 respectively. In the Crop and Weed Sciences option we have about two job opportunities for each graduate. The job market is a little less strong in Horticulture and Forestry, but our graduates are finding jobs. The undergraduate Plant Sciences Learning Center in the basement of Loftsgard Hall is nearing completion. We still have some furniture to be built for the horticulture classes, but that is about all. We currently are teaching some of the labs using CDRom and the campus computer system, replacing some of the audio tutorial slide projector tape sets many of you are probably familiar with.

This past fall we invited employers of and former students from both the Crop and Weed Sciences and Horticulture and Forestry programs to evaluate our undergraduate programs. We basically asked these groups the question 'what can we do to better train our undergraduates?' The information will be useful to make adjustments in our curriculum.

We have received three more paintings from John Bednarz of Upham, North Dakota for the faculty/staff lounge in Loftsgard Hall. Two of the paintings are of sunflower and the third is of a forage harvest.



The department has purchased some additional chairs and tables, which completes the furnishing of the long hallway on the main floor. The area is heavily used by students.

1996 will be imbedded in many of our minds forever as the 'year of karnal bunt'. Karnal bunt is a fungal disease which infects hard red spring wheat, durum wheat, and triticale. Infected kernels produce a fish-like odor, which makes the grain unacceptable for export. In mid-March 1996, infected kernels and spores were found in Arizona near our winter nursery and seed increase program locations. Because we were concerned about bringing infected grain and the disease to North Dakota, genetic and seed increase material that generally would go to the research centers was left in Arizona. In addition to spring and durum wheat, this included barley and crambe.

We immediately began to search for a new site and many of our foreign graduates were contacted. We appreciate very much your prompt response and assistance. In some instances, we could not consider a country because seed from a country where karnal bunt was found (the U.S.) could not be imported. In other instances, seed could not be imported into the U.S. because of other disease problems.

In September, we made the decision to move most of the nursery to New Zealand. A small amount of barley, a non-host crop, returned to Arizona and will only be returned under stringent guidelines. We are also growing some released varieties of wheat and barley in Jordan and Argentina for informational purposes. The seed increase program was moved to sites in California and Florida. We hope these new locations will work out for us. The cost will be almost three times that of Yuma.

Several of our plant breeders, their cooperating scientists in other departments, research centers, and their support staff became parents again this year. Dr. Richard Frohberg released 'Keene', a new hard red spring wheat for western North Dakota. Keene is a small town in McKenzie County. Dr. Elias Elias released



'Ben' durum. The variety is expected to have state-wide adaptation. Ben is named after Ben Hoag, longtime agronomist and director of the North Central Research and Extension Center at Minot. Dr. Jerry Franckowiak released 'Conlon', a two-rowed barley for western and central North Dakota. Conlon is named after Tom Conlon, a graduate of our department, and longtime agronomist and superintendent of the Dickinson Research and Extension Center. 'Maverick' is a new pinto bean variety released by Dr. Ken Grafton, while 'Danatto' is a natto soybean variety released by Dr. Ted Helms. 'Dakota Pinnacle' is a slender white Asian birch tree released by Dr. Zong-Ming Cheng. Dr. Richard Novy released 'NorValley', a white chipping potato. In addition to the above releases, 'Foster' barley was accepted as a malting variety by the brewing and malting industry. The acceptance of a variety by the industry will mean millions of extra dollars annually to growers. Foster was selected by Dr. Richard Horsley from a cross made by Dr. A. Earl Foster before he became department chair. A conservative agronomic estimate on the increased income these varieties will produce for North Dakota growers, based on yield alone, plus the added benefit from Foster being named as a malting variety, is at \$30M annually. Last year's increased income estimate for the varieties released was \$31M. A good return on investment, I would say!

In other news, Dr. Carter has been asked to teach grain grading one more time. Jim Anderson had taught the class, but with his leaving, no one except Dr. Carter had the expertise to teach the class. Dr. Mike McMullen will work with Dr. Carter this year and then teach the class in 1998 with Dr. Carter's assistance.

The 15th Annual Crops and Soils 'Blizzard Party' was held on November 5th during the ASA meetings in Indianapolis. About 45 current and former faculty and graduate students enjoyed the opportunity to renew acquaintances and visit with friends. It is always a pleasure to visit and see so many of you there. The numbers of faculty and students attending the ASA meetings was down this year. I expect the number to increase next year as the meetings are in Anaheim, California. A total of 7 faculty, 2 postdocs and 2 graduate students attended the meetings. Our students had several job interviews. Eight undergraduates from

the Crops and Soils Club also attended. Dr. Joe Giles from the Soils Dept. and Dr. Richard Zollinger from Plant Sciences are the clubs advisors. Both Jim Anderson and Cathy Morton, who did such a great job of getting the club back on its feet again, have both left NDSU. The students in the organization, as well as the faculty, applaud your efforts. A job well done by both of you!

Natalie Bennett was awarded first place in research paper presentation at the 1996 Mid America Collegiate Horticultural Society meeting. She also won second place in the student research paper competition (oral presentation) at the American Society for Horticultural Science (ASHS) annual meeting held in Lexington, KY, in October. Ross Laframboise, a biotechnology major (academic advisor Dr. Phil McClean), served one year as the national president of the ASHA Association of Collegiate Branch Clubs (ACB). Dr. Chiwon Lee also served as national advisor for ASHS-ACB. Dr. Richard Novy is a new faculty co-advisor of the NDSU Horticulture and Forestry Club (new president is Nikki Novak).

The 1996 North Central Weed Science Society meetings were held in St. Louis this year. A total of 5 faculty, 1 visiting scientist, 3 research specialists, and 8 graduate students attended. A total of 11 presentations or posters were made by our department. Two of our students, Chris Mayo and Tom Kleven, won awards for their paper presentations. **Way to Go!** Dr. Alan Dexter, extension sugarbeet weed specialist, was the outgoing president of the NCWSS.

At the NCWSS meetings, two of our alumni were also honored. Dr. Bev Durgan, now extension agronomist at the University of Minnesota, won the award for Distinguished Achievement for Education while Dr. Jamie Retzinger, now with American Cyanamid, won the Distinguished Achievement Award for Industry. Dr. Ian Edwards, also a graduate from our department, recently completed a year as President of Toastmasters International. You make us all proud!

The number of Plant Sciences faculty, staff and students involved in professional



organizations and in service at the national state, regional, university and college level and those receiving awards continues to be very high.

The national Weed Science Society of America meetings was held in Orlando, Florida in early February. Dr. Cal Messersmith became the national president at those meetings.

Dr. Rod Lym is president-elect of the Western Society of Weed Science.

Each year the College of Agriculture, Experiment Station and the Extension Service honor faculty and staff. Dr. Richard Zollinger won the Excellence in Extension Award, early career. Eileen Buringrud, the administrative assistant in Plant Sciences, won the Clerical Staff Award for Excellence. Both of these awards were well deserved.

Dr. Chiwon Lee was selected as the Outstanding Organization Advisor at NDSU by the Mortar Board. He is co-advisor of the Horticulture and Forestry Club.

Greg Dahl was named Communicator of the Year by the NDSU Ag. Communications Dept. He also received an achievement award at the National County Agents Association in a meeting held in Nashville, Tennessee. Greg is in charge of training all public and private pesticide applicators in North Dakota.

Dr. John Gardner, Adjunct Professor, Department of Plant Sciences and Director of the Carrington Research/Extension Center won the Larson/Yagge Award for Excellence in Research - Early Career. John recently resigned to become CEO of Agrow Oils in Carrington, a cooperative which will crush oil from alternative crops. A crushing plant will be built at Carrington.

Drs. Jerry Miller and Prem Jauhar were named as fellows at the American Society of Agronomy meetings in Indianapolis. Jerry was named a fellow of CSSA while Prem was named a fellow of ASA.

Dean Whited was the recipient of the Robert Odney Award for Excellence in Teaching. This is the highest award that NDSU can bestow on an instructor. The

award has additional significance because it is primarily an award from the students.

Louise Heinz was the recipient of the annual Gunkelman award. The award, based on nominations from students and coworkers, honors those persons on campus who best exemplify significant and unselfish contributions to creating a happy environment for NDSU students. Louise is the initial contact in our office for students who have concerns about schedules, classes, etc. Her pleasant personality makes her a natural for this job and she makes an excellent initial and positive impression on students and their association with Plant Sciences.

Dr. Chiwon Lee was appointed as an associate editor of HortScience by the American Society for Horticultural Science.

Dr. Ken Grafton and Dr. Al Schneiter are associate editors for Agronomy Journal and Crop Science, respectively.

Dr. Ted Helms is associate editor for Crop Science.

Dr. Rich Horsley is associate editor for Agronomy Journal and editor of the Barley Newsletter.

Jim Lorenzen was elected to the Graduate Council and the University Senate.

Drs. Elias, Helms, and Zollinger received tenure and were promoted to associate professor. The entire process for promotion and tenure is much more stringent than it was for the more mature (not older) faculty in the department.

Ron Smith was selected to replace Jim Helm on the College Promotion, Tenure and Evaluation Committee.

Dr. Dwain Meyer and Dr. Dale Herman were recipients of the first Chancellor's Award for Academic Leadership. Their efforts make it easier for agriculture students to transfer between schools in the North Dakota University System.

Chad Rollofson was named the 1995-96 outstanding senior at NDSU by the American Society of Agronomy.

Dr. Cross, Dr. Herman and Martin Glynn were inducted into the NDSU Quarter Century Club. The club honors individuals who have served NDSU full time for 25 years.

The department is launching a campaign for the J.F. Carter Endowment to provide a source of funds for the permanent support of a teacher/researcher in crop production. Dr. Lund is the leader of this drive--a brochure will be mailed to you later this year.

The Graduate Student Symposium, which involves Plant Sciences graduate students from NDSU, the University of Manitoba, and the University of Saskatchewan, was held at the University of Saskatchewan. Jeff Nelson and Chris Mayo won awards for their presentations.

For those of you interested in athletics, I will add a short section. The Bison men's and women's basketball teams were both good this year. The women's team was undefeated during the regular season and hosted the play-off games. They had a bye in the first round, beat Nebraska-Kearney in the second round, but lost to the UND Fighting Sioux in the finals. A very tough loss for the Bison women! This loss broke a 45 game winning streak. The women's team has won four consecutive and five out of the last six years' National Championship in Division II. Five of the top 15 nationally ranked women's teams are from the North Central Conference. The men's team also made it to the finals, which were held in Brookings, SD. They won the first game by 1 point in overtime, but lost to the #1 ranked team, Fort Hays, in the second round.

The Bison football team had its ups and downs and lost to UND. The wrestling and volleyball teams continue to do well.

One of our undergraduates, Ryan McGlynn, was named the North Central Region Indoor Track Athlete of the Year. He was also the National Division II pole vaulting champion

That sums up the 1996 news. Please drop us a short message and keep us posted on information that might be of interest. Let us know of address changes for yourself or others, or if there is incorrect information. If you know the address of any of those for which we do not have an address, please provide it to us. My Email address is:

aschneit@plains.nodak.edu

Our fax number is: 701-231-8474

If you have an Email address you can send us, we can use it for next year's Blizzard Watch. Also, this letter is posted on the WWW under the Plant Sciences Department home page located at the NDSU website. Look for it!

If you are traveling in the area, we encourage you to stop by and visit, however short it might be. We always enjoy visiting with you. All of us in the department extend our best wishes to you for 1997. KEEP WARM wherever you are and best wishes from all of us. PLEASE SEND SNOW SHOVELS AND WATER WINGS FOR THE UPCOMING FLOOD!! Best wishes, and think SPRING.

Al Schneiter

"Jack's Corner"

I'm pleased to send you a short message as it is not feasible for me or my wife to write each of you individually. First, thank you for the holiday messages that came from you to the department or to us personally--we appreciate them 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!

I've survived 9½ years of retirement successfully, I believe. I'm reading some Agronomy and Food Science and "talking flax" for food and feed for poultry, pets, etc. My wife says that I'm not doing a lot differently than in past but we start more slowly in the morning, don't work many nights or weekends, and more or less are doing the "agronomic things" as I please.

I taught Grain Grading in 1995 for the 45th and, I thought, the last time at NDSU plus two years at Washington State. Dr. Jim Anderson taught the course in 1996, but alas, Jim moved to Washington State. So, I'm teaching in 1997 with Dr. Mike McMullen as a teacher-in-training for 1997 onwards. Lori Baumann is a great teaching assistant and has been in this course for many years now.

I speak about flax-as-food and had an information booth at the conventions of the North Dakota Dietetics Association and the North Dakota Bakers Association. I answer hundreds of letters and phone calls about flax as food or to feed poultry, pets, etc.

I'm President of the Flax Institute which had a two-day program March 21-23, 1996 at Fargo, the 56th Flax Institute. The 57th is March 22-25, 1998 at Fargo.

I've been replaced as the Experiment Station Director's appointee to the North Dakota Oilseed Council but serve as their "flax consultant"--for a little pay now.

Also, I continue to be involved in research and promotion of flaxseed and flaxseed oil as possibly beneficial to human nutrition and health because of the high fiber and linolenic acid content (omega 3) that will have some interesting and valuable developments in the future. People in the countries of some former foreign students may have consumed flax for hundreds of years, or should if they have not, for the omega 3 and fiber benefits.

A new book "Flaxseed in Human Nutrition" was published in 1995--I wrote the foreword.

I got funding for, and am supervising, two projects feeding flax to laying hens at the Univ. of Nebraska and Texas A & M, producing eggs 6-8 times higher in polyunsaturated fatty acids than generic eggs--the eggs are now being fed to people, including 450 athletes at the training table of the Huskers, University of Nebraska--and also sold at the campus store. The research on feeding hens was reported at the 55th and 56th Flax Institutes and to the Poultry Science Society.

The research on feeding "flax eggs" to people reported to the 56th Flax Institute in 1996 showed a person may consume two flax eggs per day with improvement in omega 3/omega 6 ratio in blood, less sticky platelets and no increase in triglycerides.

Also, flax is high in anticarcinogenic lignans and soluble fiber and is one of five plant products being studied in very large experiments concerning Designer Foods by the National Cancer Institute and Food & Drug Admin. for the next several years.

Mostly at home I have been doing some maintenance, helping an older neighbor, gardening, fishing, hunting, grafted 9 apple trees for Bidder's Bowl and special individuals, and attended Bidders Bowl in October.

Also, we attend home games of Bison football and basketball, especially the lady Bison, Div. II National Championships in 1994, 1995, and 1996, and 4 of the last 5 years.

Imogene, Imy to some of you, works less with clubs, church women groups, has retired playing the organ full time from church, still does the usual household duties from which women never retire, I guess, and other activities. Imogene would like to travel more to some other countries and maybe we will get going on that soon if her balance improves. We traveled to Baton Rouge, LA, in February. I'm sorry to have missed the ASA Blizzard Party in Indianapolis in November, 1996. Both of us had health problems this summer. A necessary operation for gall bladder slowed me up for a couple of days (laparoscopy) but with good results. My wife had shingles disease in her ear which has upset her equilibrium for many months. I'm ok, but she still is bothered with poor balance, now trying treatment by specialists at the University of Minnesota.

In retrospect, many of you have influenced our work and lives favorably, and we yours, we hope. We hope to see some of you at the next Blizzard Party, ASA, in Anaheim, 1997—one more at least, although I know only the older members now. Stop to see us as you

may pass this way and best wishes for a HAPPY and HEALTHFUL 1997.

Dr. and Mrs. Carter

PLANT SCIENCES FACULTY

- A. A. Schneiter, Professor and Chair
- R. G. Askew, Professor Emeritus, Extension Horticulture
- D. R. Berglund, Professor, Extension, Row Crops and Specialty Crops
- A. A. Boe, Professor Emeritus, Vegetable Breeding/Tissue Culture
- L. G. Campbell, Adjunct Professor, Research Geneticist, Sugarbeets (USDA)
- P. M. Carr, Adjunct Professor, Sustainable Agriculture
- J. F. Carter, Professor Emeritus, Flax Promotion
- Z. M. Cheng, Asst. Professor, Woody Plants, Biotechnology
- H. Z. Cross, Professor, Corn Breeding
- G. D. Dahl, Extension Specialist, Pesticide Program
- L. S. Dahleen, Adjunct Professor, Barley Biotechnology (USDA)
- E. L. Deckard, Professor, Crop Physiology
- A. G. Dexter, Professor, Extension, Weed Science, Sugarbeets
- M. E. Duysen, Professor, Crop Physiology
- D. C. Ebeltoft, Professor Emeritus, Seedstocks
- E. M. Elias, Assoc. Professor, Durum Wheat Breeding
- A. E. Foster, Professor Emeritus, Barley Breeding

- J. D. Franckowiak, Professor, Barley Breeding
- R. C. Frohberg, Professor, Wheat Breeding
- D. S. Galitz, Professor, Crop Physiology
- K. F. Grafton, Professor, Dry Bean Breeding
- J. J. Hammond, Professor, Flax Breeding
- T. C. Helms, Assoc. Professor, Soybean Breeding
- D. E. Herman, Professor, Woody Plants, Ornamentals
- N. Holland, Professor Emeritus, Fruits, Woody Plants
- R. D. Horsley, Assoc. Prof., Barley Breeding, Genetics
- C. C. Jan, Adjunct Professor, Sunflower Cytogenetics (USDA)
- P. P. Jauhar, Adjunct Professor, Wheat Cytogenetics (USDA)
- L. R. Joppa, Adjunct Professor, Res. Geneticist, Durum Genetics (USDA)
- E. P. Lana, Professor Emeritus, Vegetable Crops
- C. W. Lee, Assoc. Professor, Ornamentals, Turf, Biotechnology
- J. H. Lorenzen, Asst. Professor, Potato Physiology
- E. C. Lulai, Adjunct Professor, Potato Physiology (USDA)
- H. R. Lund, Professor, Potato Breeding/Genetics
- R. G. Lym, Professor, Weed Science
- S. S. Maan, Professor, Wheat Cytogenetics
- P. E. McClean, Assoc. Professor, Molecular Genetics, Dry Bean
- M. S. McMullen, Assoc. Professor, Oat Breeding
- C. G. Messersmith, Professor, Weed Science
- D. W. Meyer, Professor, Forage Crops
- J. F. Miller, Adjunct Professor, Res. Geneticist, Flax & Sunflower Breeding (USDA)
- J. D. Nalewaja, Professor, Weed Science
- D. C. Nelson, Professor Emeritus, Potato Physiology
- R. G. Novy, Asst. Professor, Potato Breeding/Genetics
- P. H. Orr, Adjunct Professor, Potato Breeding (USDA)
- M. J. Peel, Extension Agronomist, Small Grains
- E. W. Scholz, Professor Emeritus, Vegetable Crops/Sugarbeet
- G. J. Seiler, Adjunct Professor, Sunflower and Sugarbeet Germplasm (USDA)
- R. H. Shimabukuro, Adjunct Professor, Plant Physiologist (USDA)
- G. A. Smith, Adjunct Professor, Sugarbeet Genetics (USDA)
- G. S. Smith, Professor Emeritus, Wheat Breeding
- R. C. Smith, Professor, Extension Horticulture and Turfgrass
- J. R. Sowokinos, Adjunct Professor, Potato Physiology (USDA)
- L. A. Spilde, Assoc. Professor, Seedstocks
- J. C. Suttle, Adjunct Professor, Potato Physiology (USDA)
- D. A. Whited, Professor, Genetics Teaching
- N. D. Williams, Adjunct Professor, Research Geneticist (USDA)

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M. Zarnstorff, Adjunct Professor, Research Center

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 C. Goblirsch, Weed Science
 J. J. Hanzel, Sunflower and Crambe Breeding
 F. A. Manthey, Weed Science
 A. Mesfin, Barley Breeding
 B. Moreno-Sevilla, Wheat Breeding
 M. Rivkin, Molecular Genetics, Dry Bean

GRADUATE RESEARCH FELLOWS

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 Christopher Mayo, Weed Science

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 Eileen Buringrud, Admin. Ass't. I
 Iris Flatland, Admin. Sec. II
 Louise Heinz, Admin. Sec. II
 Mary Jurjans, Admin. Sec. III
 Linette Knoll, Admin. Sec. II
 Joann Kolnes, Account Tech. II
 Char Perrin, Admin. Sec. II
 Patsy Smith, Admin. Sec. II

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Chad Anderson, HRSW
 Robert Baumann, oat breeding
 David Birdsall, durum wheat genetics, USDA
 Kay Carlson, wheat cytogenetics
 Larry Chaput, woody plants
 Kathy Christianson, perennial weeds
 Mark Ciernia, weed control
 Brenda Deckard, student services officer
 Janet Davidson, weed science
 Steven Ellefson, barley breeding

Ann Erickson, potato breeding/genetics
 James Faller, HRS wheat breeding
 Bryce Farnsworth, potato breeding
 Scott Fitterer, weed science
 Roger Genoch, barley breeding
 Pete Gregoire, crop physiology
 Darrin Hauf, dry bean breeding
 Justin Hegstad, wheat germplasm enhancement
 Jeffrey Huckle, HRS wheat breeding
 Burton Johnson, crop production
 Gerald Johnson, durum wheat breeding
 Daryl Klindworth, wheat genetics, USDA
 Abbas Lafta, potato physiology
 Barb Laschkewitsch, vegetables and perennials
 Lyle Lindberg, flax breeding
 John Luecke, sugarbeet weed control
 Josef Maianu, seedstocks
 Larry Martin, soybean breeding
 Mitch Montgomery, sunflower/crambe breeding
 Wayne Norby, forage crop production
 Don Pingree, seedstocks
 Jeff Prischmann, biotechnology
 Dale Rehder, sunflower breeding, USDA
 Ronald Roach, weed control
 Wayne Sargent, molecular biology
 Galen Schroeder, foundation seedstocks
 Mike Schwalbe, potato breeding
 Stan Stancyk, durum breeding
 Myron Thoreson, potato breeding
 Jody VanderWal, dry bean breeding
 Duane Wanner, corn breeding
 Theja Wijetunga, crop physiology

GRADUATE STUDENTS, NDSU-FALL, 1996

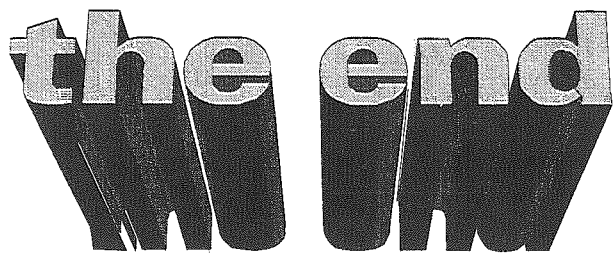
Abrahamson, Rick	Self
Bergeson, Emilie	GRA
Bosela, Michael	GRA-DOE/EPSCOR
Bruniard, Jose	Self
Bruns, Dain	GRA
Chee, Peng	GRA
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