



Plant Science

Says

August, 1999

Western Wheat Growers Conference

by Dr. Mathre

July 16-17 was the date when 46 scientists interested in wheat variety development and small grain diseases met jointly in Bozeman as the Western Wheat Workers, and the USDA regional coordinating committee #97. An indoor reporting session was held on Friday morning when explanations were given of what was happening to the wheat crop in the various Midwestern and western states represented. The scab epidemic of the Red River Valley was just getting underway but was thought not to be as serious as occurred in previous years. Leaf rust was reported to be more severe in the Midwest than normally occurs. Field trips to the Post Farm occurred on Friday afternoon and Saturday morning to view the wheat breeder's plots associated with variety development. Also viewed were the cereal disease plots showing work on seed treatments, and wheat streak mosaic virus resistance. Two graduate student thesis problems are associated with the latter. The meeting concluded with a visit to the field plots of Western Plant Breeders located just west of Bozeman to view their wheat and barley variety development work. Perhaps one highlight of the meeting was the Friday evening BBQ hosted by Jack Riesselman which featured his famous grilled pork chops. Despite a cool east wind, everyone had a great meal and a fun time. Many thanks to all in the Plant Sciences Department who helped make this meeting very worthwhile and enjoyable.

MSU Horticulture Farm Update

by Rick Bates

Plant Science faculty, staff and students continue to work toward developing the MSU Hort Farm into a center for horticulture teaching, research and outreach in the Gallatin Valley. Horticulture students maintaining the farm this summer are Jason Lamb

(Turfgrass Science), Pete Zuck (Horticulture Science), Eric Barnes (Landscape Design), and Cheryl Petersen (Horticulture Science). Feel free to stop out and see some of the many projects underway.

Teaching

Market Gardening: for the third year in a row David Baumbauer taught this popular summer course designed to give students hands-on experience in small scale sustainable production of vegetables and herbs for defined local markets. Student teams engaged in a number of active learning exercises designed to introduce them to the challenges associated with greenhouse, raised bed and in-ground production systems.

Research

Turfgrass: NTEP (National Turfgrass Evaluation Program) trials were established to evaluate 26 Bentgrass varieties at putting green height, 29 Bentgrass varieties at fairway height, and 79 fine fescue varieties. Perennial ryegrass evaluations will begin fall 1999. Field testing of MT 483 and MT 683 also was initiated. These experimental dwarf bluegrass varieties developed by MSU's George Evans require less mowing than conventional varieties (Gough and Lamb).

Ornamentals: *Quercus macrocarpa*, *Salix sp.* 'Prairie Cascade' and *Alnus glutinosa* were evaluated for winter desiccation tolerance in a 'Pot-in-Pot' production system; studies were initiated to analyze root morphology of selected species grown in sand/gravel bed systems and to assess desiccation tolerance after transplanting (Bates). In addition, a Dutch Elm Disease resistant elm trial was initiated. 'Valley Forge', 'Jefferson', 'Patriot', and 'Prospector' varieties of *Ulmus americana* show resistance to the

disease but have not undergone extensive hardiness testing in the intermountain west (Pohl).

Vegetables: preliminary research was initiated addressing the effects of wheat gluten meal and various mulching systems on weed populations in vegetable plantings (Gough).

Plant Pathology: Ongoing research investigating biological and chemical control of fusarium early blight and rhizoctonia on seed potatoes (Jacobsen)

Entomology: Survey of solitary bees and wasps and native leaf-cutter bee populations. (O'Niell and Jensen)

Outreach

This season the MSU Hort Farm in conjunction with the Gallatin Valley Food Bank developed a one acre community garden called 'The Giving Garden'. This partnership represents "a community-wide effort to increase consumption of locally grown fruits and vegetables, improve nutrition, reduce hunger, and strengthen the bonds of friendship..." (Contact GV Food Bank or David Baumbauer for volunteer hours or detailed information) In addition, the Hort Farm this season has hosted the Bridger Outdoor Science School, Gallatin County Mens Garden Club, Cascade High School Vo-Ag, 4-H World Congress, and Ag in Montana Schools.

For any questions concerning activities at the MSU Hort Farm, please contact Rick Bates, 994-6772; rbates@montana.edu.

Grants

Tom Blake

NSF-EPSCoR, "The Virtual Center for Plant Genomics"

Search for a Plant Biochemist

by Tom Blake, Head of Search Committee

The search for a plant biochemist is proceeding reasonably well. We have over 35 applicants. About a quarter of our applicants were deemed unqualified, but the remaining pool contains several obviously excellent candidates. Their skills and accomplishments vary enormously, but all have strengths. The committee will be finalizing a list of preferred candidates in the next few days, and will be requesting letters from their referees. We expect to conduct telephone interviews with half a dozen semi-finalists in August, and to have interviews with three or four finalists in September.

Search for Turfgrass Professor

by Bob Gough

The candidate search for the turfgrass position is in full swing. Deadline to begin screening applicants was July 15 and we have nearly a dozen applicants. The search committee has whittled the pool of applicants down to three strong possibilities and will meet the first week in August to follow through on reference checks for these folks. Our plan is to interview the strongest candidates early in the semester in part because our new department head will be on hand to participate in the interview process and in part because we plan to have the candidates interact with our student body. If all goes well, we'll have someone on board to handle turf Spring semester.

Horticulture Hotline (1-877-GRO-TIPS) continues to run smoothly and has been very well received by the public. One state senator commented to our Vice-Provost for Extension that the hotline "is the best thing we've done down here in 20 years". Whether you agree with that or not, it is certainly a strong positive comment for the continuation of this service.

The Hotline commenced operation on April 1 and is staffed from 3-5 p.m. every weekday. Martha has handled the majority of the calls and has done a great job. Advertisement for the service was slow in getting out around the state and that, coupled with a cool spring, resulted in relatively few calls during April and May. Things heated up after that. To date we've handled approximately 600 phone calls. The service was to cease 1 July, but I received additional funding to keep it going through September 30. If things continue to run smoothly and successfully, I will compile the pertinent data this fall and apply for funding to continue the service next year, perhaps with addition hours and additional staff.

Scholarship Awards

Congratulation to **Jeerapun Worapong** on receiving the International Graduate Student Award. These are based on GPA, recommendations, and the commitment to go back to their native country and use the knowledge they have gained here.

Field Days - Conrad

by Jamie Baley

The annual field days have come and gone. So, if you missed them here is a little recap of the events at the Western Triangle Experimental Station in Conrad

Montana. Greg Kushnak, Plant Science Dept., and Grant Jackson, LRES, put together a nice tour for the 40 local growers, industry representatives, and university personnel present. The Entomology duo of Wendell Morrill and David Weaver discussed recent advancements made in the recurring problem of wheat stem sawflies. They are seen as a flying menace because their larvae feed within wheat stems, cause cutting near harvest time, which result in added costs and headaches in harvesting. From there I presented a wheat varietal test, set up by Sue Brumfield and Mark Young, that displayed the variation in symptoms between popular wheat varieties inoculated with wheat streak mosaic virus. Wheat streak damage had been minimal around the State the last five of years, but the Triangle and Central regions have seen a marked increase in damage this year. This varietal test served as a nice segue to my thesis project on WSMV resistance. And, in the end, Luther Talbert and Tom Blake discussed recent varietal developments within their respective breeding programs. Most importantly, all researchers were able to present their efforts to benefit Montana Agriculture.

Arty Raffelson had the following to say about her experience at Field Days:

On July 12, 13, and 14, I traveled to Conrad, Havre, and Moccasin for Field days with Luther Talbert and Tom Blake. It was a great learning experience. It was nice to finally learn what Dr. Talbert and Dr. Blake do all day. For a while I wasn't real sure. I also learned about GPS and other small grains. It was nice to be out of the office but it is also nice to be back.

Search Committees

John Sherwood and Bob Gough will be serving on the Provost and Vice President for Academic Affairs Search Committee. The Committee hopes to name a new Provost by the Spring of 2000.

Lab of the Month - Wheat Genetics Lab (419 LJH) by Dr. Luther Talbert

A primary responsibility of the Spring Wheat Breeding and Genetics Program is to develop varieties that Montana farmers will want to grow and the international grain trade will want to buy. Susan Lanning manages the varietal breeding project, working closely with colleagues in Bozeman and at

research centers around the state. The variety 'McNeal', which originated with the project of the previous spring wheat breeder Harry McNeal, was finished off and released by our program a few years ago. If you ever drive in the wheat growing areas of Montana in late July and August, the dark-colored wheat you see out your window is likely to be McNeal. (If you see a light-colored wheat with a bunch of tall plants giving the field a ragged appearance, this may be our previous release, 'Hi-Line'. These tall variants led to a great Ph.D. thesis, but growers were not too thrilled with them. They kind of annoyed the seed industry also). Our newest variety, Scholar, is undergoing seed increase by the Foundation Seed program and should be in farmers fields in a couple of years. The breeding program is based on crossing and selection, and a lot of hard work by Susan and her crew of students (Klidia Goga and Ryan Rosselott work for Susan this summer). We work closely with the Cereal Quality Lab to insure that our varieties have good end-use quality so that the grain trade will continue to buy Montana-grown wheat.

In addition to the applied breeding program, we conduct more fundamental research related to wheat breeding, genetics and evolution. Our lab is now located in 419 LJH, shared by Bruckner, Martin and Talbert. When you drop by, you will see Nancy Blake, Jamie Sherman, Yui Vanichanon, Gail Sharp, Kelly Titkemeier and Travis Gange, hard at work no doubt. If I promise not to spill anything dangerous or start a fire, I am hoping that they will let me back in the lab as soon as harvest is over. We do a lot of different things in the lab, mainly based on 1) whether it seems like fun, 2) whether someone will pay for it, and 3) whether it might be important. I have trouble judging the last one, so tend to rely heavily on numbers 1 and 2 to provide direction. I like to think that everything we do is related somehow to genetic improvement of wheat.

As an aside, I would like to thank everybody for your patience and assistance during the past year or so. It has been an honor to serve as your department head, and I wish you all the best.

Employee of the Month-Jamie Sherman (419 LJH)

My Life by Jamie Sherman (ghosted by N. Blake)



Jamie Sherman is a research assistant professor working with Luther Talbert. She started working with the Spring Wheat group in 1997, specifically on the Karnal Bunt project. Her research

project is the introgression of barley genes into wheat, particularly Karnal Bunt resistance, and involves verification of introgression by in situ hybridization and PCR. She is well qualified for this project as she had many years of experience in cell biology and cytology. She received an M.S. from Stephen Austin State University for work on fungal meiosis and her PhD. in 1994 from Colorado State University for research on synaptonemal complexes of tomato. Before moving to Montana she was a postdoctoral associate at Colorado State University and also taught genetics at two community colleges in Colorado.

Jamie moved to Montana in 1997 when her husband, Clark, became the priest and rector at St. James Episcopal Church. She has three children: a son who is a sophomore at MSU, a daughter who is a 4th grader and a second son just entering 1st grade, as well as two large dogs. She is also very active in her church and volunteers at Whittier School.

When she gets a little time away from her job, family and community activities, she loves to run, hike and cross-country ski. She finds Montana a great place for all these hobbies.

Office Corner

Concerning your August 11th paychecks - do not spend your check until you actually have it. Payroll is anticipating some problems due to the new Banner system. Please verify that your check or pay stub is accurate. It may not be exactly the same as previous months but there should not be a large difference. If you have questions about your check, please come to the office and we will call in to the Hotline and report

Future Plant Scientist

Congratulations to the following first time parents: Konduru (Krish) Krishnamurthy (Giroux Lab) and his wife welcomed their daughter Sunitha into the world on July 13. She weighed 6 lbs. 11 oz.

Ellen Li (Young Lab) and her husband welcomed their daughter into the world 6 weeks early on June 6.

Annie weighed 3 lb at birth but now weighs 9 pounds and is doing great!

August Birthdays

Barry Jacobsen	6
Jeung Ji-ung	7
Albert Scharen	9
Joanne Jennings	9
Ruschelle Edlin	15
James Baley	25
Kurt Blunt	25
David Sands	30

Happy Birthday!