



Ag Link



Fall 2000

Linking the MSU College of Agriculture with its Alumni and Friends

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Sustainable Ag Research: *Getting the answers producers want*

With a little help from the weather, three large sustainable pest management cropping sites in Montana are expected to answer producers' questions more completely than ever before.

The three together represent a large complex cropping systems research project, says Greg Johnson, principal investigator on the USDA-funded project and head of MSU's Entomology Department.

In addition, the research is structured to mainly use only equipment and inputs generally available to area producers.

The information from the sites will refine our knowledge of interactions between crop rotations, tillage systems, insects, diseases, weeds and inputs, says Johnson. Several research-



Producers sign in at the Integrated Pest Management Field Day at Moore.

ers and graduate students are tracking soil and water characteristics, insect and disease populations, as well as crop inputs and variations.

The site at the Mark Peterson farm north of Havre is completing its third year and provides a comparison of the benefits of tillage and no-till cropping systems.

The site on the Paul and Mike Tyler ranch near Moore is in its second year. It is structured to provide information on the effects of different levels of inputs, including a high and low input model as well as an organic system, says Johnson.

A new site this year is at the USDA-ARS research farm near Froid. The Froid site will compare the benefits of warm and cool-season

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The road to Argentina – MSU style

You think differently after experiencing another country. At least that's what some MSU students say since returning from Argentina in May.

"I guess I didn't think of the global aspect of things before, and now, even in little things, I think of how Argentina will think of things and the international aspects," says Jodi Clark, a senior in animal science from Dell.

Clark was one of 16 MSU juniors and seniors and a student from Fort Peck Community College who took a course called "From Conception to Consumption with an International Flavor: The Beef Industry in Montana and Beyond." The Fort Peck student participated in classes via video and then traveled with the others to Denver en route to Argentina.

Before getting on the plane in Denver, the students toured ConAgra's Greeley Plant and Kuner Feedlot, the Coors Plant in Golden, and the National Cattlemen's Beef Association.

"I couldn't believe how efficiently the packing plant in Greeley ran," says Brad Arntzen, an MSU animal science and livestock management senior from Hilger. "It was so computerized and the speed they moved the animals through was phenomenal."

The course is the second of three at MSU that deal with agriculture in a global context. The first was a course called "Follow the Grain." The third will be called "Produce or Perish:



Rachel Endecott checks a feed mix at a Greeley, Colorado packing plant.

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From the Dean

By Sharron Quisenberry
Dean of the College of Agriculture



The field days held at the research centers and other locations across the state this summer were well attended and very successful. Highlights included variety improvement trials, precision agriculture, electronic beef monitoring, weed management, alternative cropping systems, potato-sugar beet rotations,

fertilizer, weed, and insect management, and herbaceous plants. As a continuing element of our strategic planning process, the Research Centers Department will undergo an external review this fall to assess the program's strengths and needs.

I would like to express our gratitude to the Montana Beef Council for their extraordinary support of College of Agriculture programs. Their funding will support the Meats and Livestock Judging Team, new meats program and student activities.

The Board of Regents has approved a name change for the Plant Sciences Department. The new name, Plant Sciences

and Plant Pathology, better reflects the full range of activities in the department.

As a member of the search committee for the MSU President, I am pleased to report that we have excellent candidates in the pool. Finalists will be on campus for interviews in late September or early October. Look for more information on the MSU web page if you are interested in interacting with the candidates.

We have a fun-filled weekend planned for Ag Appreciation Weekend on November 3-4. I hope you will make plans to join us.

Faculty News

Mark Quinn is the interim head of the Department of Veterinary Molecular Biology effective July 1, 2000. A search will be conducted for the position in the next year.

Mark Quinn was one of six Americans selected to participate in the first FLAD/National Science Foundation International Bioethics Institute held in Lisbon, Portugal July 7-15, 2000.

Doug Dollhopf, professor of land rehabilitation, received a special award from the American Society of Surface Mining and Reclamation in recognition of his educational and research accomplishments in land rehabilitation sciences.

John Priscu, professor of aquatic ecology, joined the Land Resources and Environmental Sciences Department July 1.

John Paterson, Animal and Range Sciences, was elected to the board of directors of the American Society of Animal Science.

Jane Boles, Animal and Range Sciences, received the American Meat Science Association Achievement Award

Dennis Cash, Animal and Range Sciences, spent a month in China with the U.N. Food and Agriculture Organization working on alfalfa seed production.

Don Kress, associate dean in the College of Agriculture, gave a presentation to the National American Society of Animal Science in Baltimore July 24-28.

Sustainable ag research: getting answers

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forages in wheat rotations. A weed problem this year led researchers to put the entire site into lentils, with the forage rotations slated to begin in the Spring of 2001.

The site at Havre is desperately low on moisture, impacting yields of some crops, says Johnson.

The site at Moore has a similar number of rotations and mainly involves direct seeding. It had good moisture through June and promised good crops of wheat, canola, mustard, field pea, chickpea and herbicide-resistant crops. It also has an organic system in the middle of the other systems.

Researchers hope the interactions and alternatives being evaluated at the three sites will lead to more pest management



Paul Tyler stands next to a field of canola. Paul and Mike Tyler own the Moore ranch that is host to the research project.

options that they can recommend to producers. The research sites were designed to specifically answer producers' questions, such as, "What are the economic benefits of managing agricultural pests with diverse crop rotations including field peas and canola in rotation with wheat?"

The committee that designed the three sites included producers, MSU Extension personnel and researchers. Producers are anxious for the results.

"I wish the general public could understand what research means to us," said Paul Tyler at the field day on his farm in June.

For information, contact Greg Johnson at 406-994-3863.

Eastern Agricultural Research Center helping to stimulate Mon-Dak economy

The Eastern Agricultural Research Center has been termed a model of innovative programs and both inter-agency and inter-state cooperation.

Its unique combination of support from Montana, North Dakota, the USDA and area producers is allowing it to experiment with higher-profit crops and entice companies that could contribute to value-added production.



Carol Flaherty

The development of growing systems for potatoes to meet the exacting specifications of potato French fry processors is an example of how the research center is working with area producers to add value to their irrigated farms.

The new low-pressure irrigation system at the center is fueling the planned expansion of the region's irrigated acreage. This could lead to an expansion of higher-value potato production in the "Mon-Dak" region.

Jerry Bergman, Eastern's superintendent, said during the center's recent field day that irrigated potato production in the area has increased from 420 to 1500 acres in the past year, and potato quality has been excellent.

Bergman says he expects the increased quality of

potatoes grown in the region might help entice a large potato company to build a processing plant in the Mon-Dak region. That could prompt further expansion of irrigated potato growing acres.

Already J.R. Simplot and Aviko, USA companies are offering contracts to area

producers. Potato production is expensive to get into, but it is a high-value crop for irrigated producers, says Bergman.

The inter-organizational cooperation is epitomized by sharing of the "physical plant." The Eastern research center is partly housed on MSU property in Sidney, but some staff offices are across the road in the USDA-Agricultural Research Service facility. Eastern also benefits from its proximity to the still-expanding USDA-ARS facilities, which will add to its research and laboratory capabilities in pest management.

Bergman is also the research extension director for North Dakota's ag research center at Williston.

The unique combinations have cultivated both traditional and value-added research programs, including:

- precision agriculture
- irrigated precision agriculture
- durum production and management
- malt barley management systems
- edible bean and vegetable production and marketing
- alfalfa hay quality
- identity-preserved wheats
- sugarbeet production
- plant disease and insect problems
- safflower development

The research center and its cooperators are emphasizing helping producers in other value-added areas, such as malting barley and enterprises such as MooJuice Dairy and Thunderbird Ranch Enterprises.

The potential for increased malting barley production is increasing, partly because companies like

Anheuser-Busch see the area as having less disease pressure than elsewhere, Dave Jacobsen of Busch Agricultural Resources, Inc., told a field-day crowd

in July.

"We're very serious about this area," said Jacobsen. Last year, 100 percent of the barley was acceptable malting quality when harvested, he added.

For more information, contact Jerry Bergman at 406-482-2208.

Genetically engineered grain: What's at stake for Montana producers?

Genetically engineered food is at the center of a hot international debate, as countries decide whether to purchase these products. As the marketing issues are being resolved, MSU is proceeding to develop certain genetically engineered crops. Patents to use most desirable genes are held by biotechnology companies, so development will be a joint venture between MSU and the companies. The details are being worked out now.

Use of patented genes could make certain seeds cost more. However, those costs will need to be offset by lower overall costs of production, or farmers will not choose to grow them, according to Jim Christianson of the Montana Wheat and Barley Committee.

Ultimately, MSU wants to do what is in the best interest of Montana's producers. And right now, many producers say they believe that Round-up ready wheat will help their profitability, says Luther Talbert, MSU's spring wheat breeder.

"If we don't develop these products, and competitors do, they could gain a competitive advantage over Montana's wheat producers," says Talbert.

"If we're looking after the best interests of Montana producers, we'll incorporate desirable genes into Montana wheat varieties that are well adapted for Montana's growing conditions," he says. "These genetically engineered varieties will be merely one more option for growers to consider. We are not lessening our efforts to develop traditional varieties, and farmers may choose to stay with non-genetically engineered varieties."

According to MSU researchers, genetically engineered wheats that incorporate insect or herbicide resistance could have an environmental benefit: The new wheats could require less pesticide or safer herbicides.

Ultimately, consumers will decide whether there will be a demand for these new varieties.

Internships provide MSU grads with real-work experience

A student internship can forge the first link in a chain of adult decisions.

"Internships can show students the relevance of classroom education," says Dean Sharron Quisenberry, "and on-the-job experience and a supervisor's recommendation can help students get that important first job after graduation."

The College of Agriculture encourages students to pursue these short-term work experiences in a field of interest to the student. Internships are required for animal science and biotechnology majors.

In College of Agriculture internships, students make arrangements for themselves, with supervision from their major department, and receive MSU credit. The student and the job supervisor both file reports about the process. Sometimes the student receives wages, depending on the agreement with the employer.

MSU students say they've learned from internships what a job is like and what other classes they need to take.

Sareca Vanecek, a senior in agricultural business from **Texas**, worked with the Montana Department of Agricultural Statistics this summer.

"I hadn't known I would need an additional statistics class to be considered for permanent employment here," says Vanecek. "But I had enough for the summer internship. I lack one class and am considering taking it."

Employers sometimes use internships as a way of learning about prospective permanent employees.

"We have interns every year," says Curt Lund of the Montana Agricultural Statistics Service, a part of the USDA's National



Sareca Vanecek worked this summer for the Montana Department of Agricultural Statistics.

Agricultural Statistics Service. "It's our method of recruitment."

Lund said quite a few MSU interns have gone on to work for NASS, which has 46 field offices in the United States and Puerto Rico. Lund named five former MSU interns who now work for NASS.

Carmen Rost Pennington, an MSU math education graduate in 1992, now works in the Helena office. Dave Mikelson, originally from **Billings**, interned with MDAS in 1995 and 1996. After getting a master's in statistics from MSU in 1997, he was hired and now works in NASS' office in New England.

Lisa Loftsgaarden Peterson, a **Missoula** native, graduated in 1991 with a major in horticulture. She works for MDAS in **Helena** as a supervisor enumerator. Jay Wells was a 1989 MSU ag business grad who interned in 1988, and now is at NASS

headquarters in Washington D.C.

"By getting a three month look at the intern, we can make a pretty good judgment about how well they would do for us," says Lund. "We've had a very high rate of retention of interns," says Lund.

Some students do an internship to broaden their experience but are not necessarily interested in full time employment.

Mykel Matthews, named MSU's outstanding agricultural graduate for 2000, interned first with the Montana office and then the Washington D.C. office of NASS.

Matthews, whose grandparents' ranch is near **Roberts**, begins a master's program at MSU this fall, but says that while her goal is to end up in Montana, she wants broader experience in agriculture elsewhere before deciding on a career.

Ben Larson, a **Columbus** native, will



Ben Larson spent the summer testing a fungus.

return as a senior to MSU this fall after an internship testing a fungus that might control grasshoppers at the USDA-Agricultural Research Service at **Sidney**.

"I came in thinking this would be a lot of work, and it has been," says Larson. "Right now I plan to finish my senior year, get a master's at MSU, and then go into industry as a technician."

The road to Argentina

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Technology and the Survival of Limited Resource Farmers." MSU, Fort Peck Community College and Dull Knife Memorial College in Lamedeer, Wyoming are participating in the courses.

The course "gives insight into how other countries think and do things," says Chad Denowh of **Sidney**. "When we're doing business with them, it's good to learn as much as we can about their culture, what they want and what they expect."

As part of the coursework before leaving, students met with representatives from MSU International Studies, who described the country and its culture.

The most striking difference, says Rachel Endecott, a senior from

McAllister, was their packing plants and how long they feed their cattle before they slaughter them.

"They feed their steers until they are two years old, and it's all on grass," says Endecott.

Students were accompanied on the trip by Pete Burfening, MSU Animal and Range Science Department head, and Myles Watts, MSU Agricultural Economics and Economics Department head. In Argentina, they visited several ranches — from a small commercial breeder to the largest ranch in Argentina — a beef packing plant, the largest livestock auction in the world, and the city of Buenos Aires before flying home.

"Montana exports a tremendous amount of semen and embryos to Argentina," says Burfening. "We wanted the students to see our customers and assess whether they might become our competitors in the future."

Other students included Ian Anderson from **Kila**, Scott Blain of **Joliet**, Jamie Cornwell of **Glasgow**, Clinton Johannes of **Sheridan**, Wyo., Courtney Kelly of **Billings**, Lars Hanson of **Laurel**, Michelle Mathison of **Manhattan**, Barry McCoy of **Bishop**, Calif., Katie Rein of **Big Timber**, Brenda Rouse of **Bozeman**, Susan Tomera of **Carlin**, Nev., and Vina Smith of **Fort Peck**.

For more information, contact Pete Burfening at 406-994-3721.

Steer a Year program revamped

If you want to donate a steer — or its market value — to benefit MSU undergraduate students, the revamped Steer a Year program allows a way to do that.

In the past, the program raised funds to benefit MSU athletic scholarships. But this year it has been revised to support MSU College of Agriculture student scholarships and the MSU Rodeo Team Activities Fund in addition to athletics.

“Now the program gives cattle producers more options to support undergraduate education at MSU-Bozeman,” says Sharron Quisenberry, dean of the MSU College of Agriculture.

The College of Agriculture, which in the past cared for the donated steers, has assumed the management of the program from the Athletics Department, which managed it for more than 30 years.

In addition to raising funds for student scholarships, the program offers a chance for agriculture students to feed and care for the steers. “The students get a hands-on way to learn about beef cattle finishing,” says Quisenberry.

Donated steers are entered in a judging contest November 3, and winners are recognized during Ag Appreciation Weekend in November on the MSU-Bozeman campus. Donors will also be recognized as scholarship donors or boosters by the program they contribute to.

All donated steers need to be delivered, pre-conditioned, to the MSU campus by November 2, 2000.

For information, contact Lisa Duffey at 406-994-4323. More information is also available at <http://www.montana.edu/agriculture/Common/SAY.htm>

Charitable unitrust can provide you with tax savings

What would you say about an arrangement that could provide you with:

- a substantial up front income tax deduction
- a lifetime income that may be favorably taxed
- a substantial federal estate tax savings
- an opportunity to divert some of your income to a lower tax bracket
- the ability to create substantial amounts of income for your retirement years.

Many people would say that sounds like an excellent tax and financial arrangement. What you may not know is that the arrangement that meets all of these goals for you can also provide significant financial support for the MSU College of Agriculture.

The tool that can accomplish these goals is a charitable remainder unitrust. A unitrust allows you to help the College of Agriculture without any loss of your personal income. Securities or real estate can be placed in a trust from which you receive income for your life. At your death the property passes to the College. You also can provide that income be paid to you and your spouse — or anyone else — for life. In addition to having income from the property for your life, you will also gain a substantial income tax charitable deduction, avoid capital gains tax and realize the satisfaction of knowing you are contributing to the future of agriculture in Montana.

If you are intrigued by the potential of a unitrust, call Sandra Germann at 406-994-7671.

— by **Marsha Goetting**
MSU Extension family economics specialist

For more information about estate planning, the MSU Extension Service provides 25 fact sheets which are available at <http://www.montana.edu/wwwpb/pubs/estate.html>. Also, a packet of information is available for \$10 from your county's MSU Extension Office or Extension Publications, P. O. Box 172040, Montana State University, Bozeman, MT 59717.

College web site to host alumni list

Calling all College of Agriculture alumni!

The college is posting a list of its alumni on the web page as a resource for our alumni. Please send us your name (maiden name, if applicable), graduating year, degree and program, and email address or other contact information you would like to include, to Lisa Duffey at lduffey@montana.edu or (406) 994-4323. And check out the list as it grows at <http://www.montana.edu/agriculture/College/Development/alumni.htm>.

MSU gears up for Ag Appreciation Weekend

Ag Appreciation Weekend is fast approaching. The 2000 Weekend is scheduled for November 3rd and 4th.

Juried Art Show. Art depicting agriculture or natural resources is requested for the Juried Art Show by October 20. The divisions include black and white or color photography, water color, oil, pen or pencil sketch, and sculpture. There is no entry fee. The art show will be on display in the Exit Gallery at the Strand Union Building over the weekend.

Friday Events. The weekend will kick off with a Community Outreach Day on November 3rd. Demonstrations and displays describing the education and re-

search areas of the College of Agriculture will be available for all ages.

Events will include a mini Bug Fest, a noxious weed jeopardy game and a petting farm. The Steer a Year judging and banquet for participants will take place on the evening of November 3rd.

Saturday Events. Activities include a tailgate picnic honoring FFA and 4-H alumni at 10:30 a.m., Bobcat Football at 12:05 p.m. with the results of the Kiss-a-Calf Contest at half-time, and Boots and Bow Ties banquet in the evening with dancing to the music of Montana Rose.

Ticket Information. Get tickets to the

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Ag Appreciation Weekend is Nov. 3-4

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Bobcat football game against Portland State by calling 406-994-CATS (2287). Boots and Bow Ties banquet tickets (\$50 per couple, \$30 per individual, \$15 per student) must be **reserved by October 30.**

For ticket information as well as general information about Ag Appreciation Weekend, call Lisa Duffey at 994-4323 or check <http://www.montana.edu/agriculture/College/Activities/AgAppreciation.html>.



MSU alum Bob Bellows, his wife Laura and son Norman enjoy the MSU football game during Ag Appreciation Weekend '99. Bellows retired in August after a 38-year career as a research scientist at the Fort Keogh USDA Livestock and Range Research Laboratory in Miles City. The college honored Bellows last year as one of Montana's outstanding agriculturists.

College to host "Team Approach to Ag Development" conference

The College of Agriculture will host a conference, "Partnering for Montana's Future – A Team Approach for Agricultural Development," Thursday, November 9 on the MSU campus. The meeting is open to the public.

The purpose is to discuss the potential for economic development through an expanded agricultural product base. Specific topics will include adding value to agricultural products, food processing, the legislative perspective and the role of research and education in this process. The meeting will also address how all interested parties might work together to benefit Montana agriculture.

For more information, contact the college at 406-994-3681. Or check out <http://www.montana.edu/agriculture/Common/TeamApp.htm>.

MSU to hold Horse Show Nov. 3-4

MSU's Horseman's Club and the International Horse Show Association Team will host an Intercollegiate Horse Association Show at Tri-H Stables on Friday, November 3 and Saturday, November 4.

The group is seeking donations of tack and volunteers for the weekend.

Please contact Melissa Kovanda-Kramer at 406-585-8079 for more information.

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Fall 2000

Linking the MSU College of Agriculture with its Alumni and Friends



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