

ANIMAL & RANGE SCIENCES NEWSLETTER

Volume 1, Issue 1 October 2008

Introduction from Bret Olson, Interim Department Head



Welcome to the Department of Animal and Range Sciences inaugural newsletter. Designed to be published quarterly, we hope that you will find the enclosed activities and accomplishments interesting and informative. We are now eight weeks into the fall semester. Students are discussing class projects in the hallway, and fretting over mid-terms. Some things never change. At least the weather will turn decidedly cooler soon, which should help the students concentrate on their studies.

Change, at the end of 2007, the department said goodbye to Carl Wambolt who retired after 30 plus years at MSU. However, Carl still contributes to the department and College of Agriculture part-time overseeing aspects of the Undaunted Stewardship Program. Many of you knew Ray Anotegui. For those of you who were not aware, Ray retired in December 2006, also with 30 plus years of dedicated service to the department. Given these departures, one goal for the department is to hire high-quality faculty to help maintain and improve the strength of our programs. We are currently in the midst of searching for a Beef Cattle Physiologist.

In August, work began on Montana State University's new, \$15.7 million Animal Bioscience teaching facility, a 40,000 square-foot building that will offer students state-of-the-art classrooms for instruction and research (drawing on page 8). The building is scheduled to be completed in 2010. The facility will house the Department of Animal & Range Sciences, which currently resides in 101 year old Linfield Hall. The building will have full videoconference capabilities—the ability for events to be viewed simultaneously in some, or all, of the classrooms. Common areas will have computer terminals for students and guests to use, and interactive displays where students, staff and visitors can learn more about the department, the College of Agriculture and the Montana Ag Experiment Station, and also view agriculture-related news in the state. Of the building's costs, \$12.5 million of it has come from private donations, primarily from Montana's agriculture industry. However, \$2.7 million is still needed to complete the third floor of the building, where the research laboratories will be located. You can track the construction progress at <http://ag.montana.edu/abs.htm>.

For many years, the A&RS Department has had beef cattle, sheep and equine advisory committees. With upcoming changes in faculty as a result of retirements and new hires, and the new Animal Bioscience building, I formed an Animal & Range Sciences Advisory Committee to provide advice and help guide the entire department (Beef, Sheep, Equine, Range/Natural Resources) into the future. In alphabetical order, current members are Diana Alkire (Bozeman), Kurt Alt (Bozeman), Taylor Brown (Billings), Dewey Emmett (Columbus), Jim Hagenbarth (Dillon), Bob Hanson (White Sulphur Springs), John Helle (Dillon), Dave Kelsey (Molt), Barbara Landgraf-Gibbons (Dillon), Bob Lee (Judith Gap), Betty Sampsel (Stanford), Vinita Shea (Lewistown), Carol Sparks (Plevna), Keith Stevenson (Hobson), Turk Stovall (Huntley) and Randy Tunby (Baker). We met last November and again in May of this year. Our next meeting is scheduled for November 14th, as part of Ag Appreciation Weekend. One purpose of having such a committee is to inform them about activities and accomplishments of the department, so hopefully they can share that information with others in their respective hometowns. They can also be the eyes and ears for the department. So if you have questions or concerns about the department, and you know one or more of these individuals, please contact them before our next meeting. Finally, students and staff here in Linfield will tell you that I literally have an open door policy. I welcome your input and advice in person, over the phone (994-3721), or via email (bolson@montana.edu).

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New Faculty Spotlight: Dr. Shannon Moreaux

After a nation-wide search, Dr. Shannon Moreaux joined the faculty of Animal & Range Sciences in January 2008 as an Assistant Professor of Equine Science. Shannon's primary responsibilities are to teach most of the equine-related courses in the department. Currently, over a third of the students working towards a BS in Animal & Range Science are in the Equine Science Option. Before joining the faculty, Shannon was an adjunct instructor in the department and a practicing veterinarian in the Gallatin Valley.

Q. You have quite a diverse background related to the horse industry. Please provide our readers with some of your history.

R. Before attending veterinary school at Oklahoma State University, I spent many years learning about the diversity of the horse industry. I was fortunate to have worked for accomplished race and stock horse trainers and take lessons from talented rodeo competitors from Southern Louisiana and Texas. At an early age I learned to shoe horses and continue to practice the art to this day. I was enjoying a career as a farrier and raising American Quarter Horses when the use of cooled, shipped semen and embryo transfer stimulated my involvement in the equine breeding industry. For several years, my interest in veterinary medicine grew as I managed breeding operations from the east coast pleasure horse industry to the Oklahoma cutting horse industry. When I returned to college to pursue a degree in medicine I continued to shoe horses and work in the breeding industry, not only in equine reproduction, but I also completed an internship in advanced bovine reproduction.

Q. As part of your appointment, you will be expected to conduct some applied research. What studies do you have on-going or planned for the near future?

R. I currently have three different and mutually interesting projects. As a veterinarian, I feel an obligation to provide the people of Montana with information that is useful and interesting. The goal of each of my current studies is to protect Montana's horse industry, improve the quality of life for our equine companions, and educate horse owners.

One thing I am studying is the prevalence of *Neorickettsia risticii*, the bacteria that causes Potomac Horse Fever. This disease is reported to occur in Montana, but there has never been any specific surveillance studies performed. Horses may develop mild, moderate or severe gastro-intestinal disease and possibly laminitis after accidentally ingesting aquatic insects carrying the bacteria. Horses that drink from rivers and streams that contain caddis and may fly larva are reported to be at high risk for becoming infected. I spent the summer months sampling horses and waterways in Western Montana and soon we will have results available for publication.

Another disease important to all Montanans and not just horse people is Methicillin-resistant *Staphylococcus aureus* or MRSA. MRSA is a potentially deadly bacterial disease that can be transmitted between horses and people. I am currently working with the Veterinary Molecular Biology Department and Dr. Jovanka Voyich-Kane to identify the potential prevalence of this disease in Montana's equine population.

As a farrier and veterinarian, I have a strong interest in laminitis. One of the more common recently recognized factors predisposing horses to developing this debilitating disease is equine metabolic syndrome or insulin resistance. A graduate student and I are investigating the metabolic and physiologic effects of psyllium supplements in horses. We theorize the supplementation will enhance insulin sensitivity, regulate glucose metabolism and subsequently prevent the cascade of events that result in founder.



Follow the Cattle Tour

The Montana Stockgrowers Association (MSGA) held an intensive four-day educational tour of various segments of the beef industry in August 2008. The tour, held every other year, is designed to expand the knowledge of participants in the beef industry beyond the fences of Montana ranches.



Lacey and Jane'a Elke

This year, the Follow the Cattle Tour focused on the effects of ethanol production on the cattle industry from the feedlot to the processing plant with tour stops in Colorado and Nebraska.

On Wednesday, August 20, 50 Montanans, a group of students, ranchers and agri-business representatives, met in Billings, MT and traveled to Fort Collins, CO where they toured the Anheuser-Busch Brewery. At the brewery, the participants learned how Montana-produced malt barley is brewed and the how spent grain by-product from the 12 U.S. breweries feeds four percent of the nation's dairy herd.

The next day, the group toured the JBS Swift and Company processing plant in Greeley, CO. The group then toured the Gilcrest Feedlot of Five Rivers Cattle Feeding, LLC, in La Salle, CO and Dinklage Feedyards in Proctor, CO. Five Rivers Cattle Feeding has 11 feedlots in five states, and the Gilcrest Feedlot has a capacity of 100,000 head.

In addition to feedlots, the group toured the Kapa Ethanol plant near Minden, NE. Kapa Ethanol was founded in 2002 and is one of the first ethanol plants in Nebraska. Today it is the largest farmer-owned ethanol plants in the state, shipping more than 50 million gallons of ethanol every year.

After touring the ethanol plant the group visited the Roman L. Hruska U.S. Meat Animal Research Center in Clay Center, NE. Administered by the U.S. Department of Agriculture's Agricultural Research Service, the U.S. MARC works to develop scientific information and new technology to solve high priority problems for the U.S. beef, sheep and swine industries.



Follow the Cattle group picture



Rocky Forseth, Jay Trotter, Jim Trotter and Janna Kincheloe

Quotes from the group



James and Tom Brown after tasting wet distillers grain

Rocky Forseth, an MSU sophomore in Ag Ed whose family ranches near Fairfield, MT said: *"It opened my eyes to where our product goes, how it is utilized and how we can change our operation for a more consumer-driven product. We can't drive from the backseat...the consumers are in the driver's seat because they control beef demand."*

Bryan Nichols, an MSU graduate student from OK stated: *"This tour was a great opportunity for me to spend time with MT producers and see the industry through their eyes. The tour was a real eye-opener. MSGA needs to be commended for organizing it and seeing the value it can bring to all cattle producers."*

Dr. John Paterson, MSU Professor, Animal Science said: *"The thing that always pleases me is how wide-eyed and open minded our producers are when they go on this tour. Visiting an ethanol plant, a 50,000 head feedyard or a packing plant shows them the importance of our role in the overall cattle industry. This is the "practical side" to the theory that we teach in the classroom. We inside the Animal & Range Sciences Department need to strive to get more students on tours like this."*

Student Awards and Scholarships

The Department of Animal & Range Sciences is pleased to announce the recipients of the 2008-2009 scholarships and awards:

Martin Burris Scholarship: Kari Gillespie (Kevin, MT)

A.B. Cobb III Memorial Scholarship: Jeffrey Salmond (Choteau, MT)

Gallatin Cattlewomen's Scholarship: Sharlee Goss (Augusta, MT)

Grieco Animal Science Award: Whitney Lumsden (Loring, MT) and Elizabeth Wheatcroft (Ryegate, MT)

Hilger Ranch Memorial Scholarship: Erin Gernaat (Conrad, MT) and Sam Herreid (Ronan, MT)

Roy & Menga Huffman Sophomore Award: Torey Schledewitz (Culbertson, MT)

Dr. E. I. Moody Memorial Scholarship: Jesse Olsen (Molt, MT)

Kenneth Mortag Scholarship: Katlyn Nagel (Hettinger, ND)

Payne, Ryerson, Taylor Range Scholarship: Kami Kilwine (Fromberg, MT)

Sitz Ranch Management Team Endowment: Sarah Kossler (Salmon, ID)

Oscar O. and Carol H. Thomas Memorial Scholarship: Sean Winert (Bozeman, MT)

Verl M. Thomas Memorial Scholarship: Roy Redden (Mesquite, NM)

Fred S. and Violet E. Willson Fund: Katherine Hoffmon (Healy, AK)

Ray Woodward Incoming Freshman Scholarship Fund: Anna Marie Samson (Three Forks, MT) and James "Bo" Carey (Boulder, MT)

Chuck McGlothlin Outstanding Range Belt Buckle: Meaghan Huffman (Williams Lake, BC)

Northern Great Plains/Gerald Sharp: Stephen Smith (Lewistown, MT)

Don Ryerson/Ag Lenders: Jonathan Lamson (Helena, MT) and Leigh Spokas (Corvallis, MT)

Upcoming Dates

November 9-12:	Montana Farm Bureau Federation Annual Convention (Billings, MT)
November 14:	Animal & Range Sciences Advisory Committee Meeting (Bozeman, MT)
November 14-15:	Ag Appreciation Weekend: http://ag.montana.edu/excellence/agappreciation.htm (Bozeman, MT)
November 14-15:	Mountain/Plains Sheep & Goat Conference (Island Grove Park, Greeley, CO)
December 2-5:	Montana Grain Growers 53rd Annual Convention & Trade Show (Great Falls, MT)
December 4-6:	Montana Organic Association Annual Convention (Bozeman, MT)
December 5-6:	Montana Wool Growers 125th Annual Convention (Billings, MT)
December 11-13:	Montana Stockgrowers Annual Convention (Billings, MT)
December 19:	End of Fall 2008 Semester
January 14:	Classes Begin for Spring 2009 Semester

Animal & Range Sciences Extension Highlight: Dr. Rachel Endecott, Assistant Professor, Animal Science



Dr. Rachel Endecott joined the Animal & Range Sciences Department in November 2006. She is the MSU Extension Beef Cattle Specialist located at the Fort Keogh Livestock and Range Research in Miles City, MT. Rachel grew up on a ranch near Ennis, MT and received her bachelor's degree in Animal Science from Montana State University—Bozeman in 2001. She continued her education at New Mexico State University, where she received her MS (2003) and PhD (2006) in range beef cattle nutrition with a reproductive physiology minor. Rachel is excited to be back in her home state and has enjoyed renewing acquaintances and meeting new people involved in livestock agriculture in Montana and the region through her Extension work.

Rachel's research goals include continuing to investigate management strategies to lower unit costs of production to enhance sustainability of range beef cattle production. Rachel's office is located at 243 Fort Keogh Road, Miles City, MT 59301 and she can be reached by phone at 406-874-8286 (office) or 406-853-3956 (cell) or via email at Rachel.endecott@montana.edu.

Awards, Publications & Presentations

Jeff Mosley was awarded a three year USDA grant titled: "Restoration Strategies for Sulfur Cinquefoil-Infested Rangelands: An Integrated Ecological and Economic Evaluation."

Pat Hatfield received three grants this year: 1) USDA IPM "Using Sheep in Grain Fallow Management to Control Weeds and Insect Pests and Reduce Use of Pesticides and Fossil Fuels," 2) EPA "Incorporating Sheep into Farming Systems: Impacts on Pesticide Use and Green House Gases in a Pea Wheat Fallow Rotation in Which Chemical, Mechanical, and Sheep Grazed Fallow are Compared," and 3) USDA WSARE "Developing a Free On-Line Excel Based Budget Decision Support Program to Evaluate the Incorporation of Sheep into Farming Systems as an Alternative to Pesticide and Mechanical Methods of Weed and Insect Control."

Pat Hatfield along with **Hayes Goosey** and **Sue Blodgett** have an invited paper in press with SARE Agricultural Innovations titled "Incorporating Sheep into Farming Systems: Using Grazing Sheep to Control Insect Pests and Weeds."

John Paterson was an invited speaker at the National Animal Science meeting July 2008 in Indianapolis, IN. John's talk was titled: "History of Extension."

Greg Johnson presented "Association of the Stable Fly, *Stomoxys calcitrans*, with West Nile Virus Infected Pelicans in Montana" at the Western SARE Sub-Regional Conference in Cheyenne, WY, October 27-29, 2008. What is unique about this work is that stable flies are primarily considered an economic pest of cattle; this is the first report of stable flies taking bloodmeals from birds and being infected with West Nile virus.

Lisa Surber was an invited speaker at the Weeds Across the Border Symposium in Banff, Alberta, Canada on May 28, 2008. Lisa's talk was titled "Vegetative Management Using Controlled Sheep Grazing."

Rodney Kott, Lisa Surber, and Jim Moore will be traveling to Greeley, CO for the Mountain Plains Sheep & Goat Conference, November 14-15, 2008. Rodney and Lisa will be presenting the latest information on targeted grazing using sheep and goats.

Jim Berardinelli was invited by the Board of Directors of the Montana Academy of Sciences to present his research as the Keynote Speaker at the Annual Meeting of the Montana Academy of Sciences in April of this year. His address was titled: "New Insight into the Biostimulatory Effect of Males on Reproductive Processes of Females." Note, Jim works with beef cattle, not humans.

Dr. Clayton Marlow's Summer Course "Balancing a World-Class Game Bird Population With Deer and Elk in the Judith Mountains"

This course was developed to give students majoring in Animal Science, Natural Resources and Range Sciences, Land Rehabilitation and Wildlife Biology an opportunity to apply classroom instruction to real private land resource problems. Such experiences have become increasingly rare because of declining support for management oriented field laboratories and practicums. Many students try to complement their campus training with practical land management skills picked up through summer employment or internships. Unfortunately, most work experience and internship opportunities are limited to field data collection. The *Wildlife Habitat Improvement Field Course* was developed to take students beyond collecting range condition and habitat utilization data to using that information to develop management actions, budgets and work schedules to improve livestock and wildlife habitat on private land. What sets this new course apart from similar undergraduate research

projects is that students live on

Student Quotes:

"I learned more in those eight days in August than I have in entire semester courses."

"Professor Marlow went to great lengths to provide us with this awesome opportunity."

"The week we spent on the Judith Mountain ranch was both very educational and eventful....very eventful."

"It was an awesome hands on learning experience, that could not have been achieved in a class room setting."

"It allowed us to take information that we have learned in different classes and apply it in an actual management setting."

tion, students will review the proposed grazing management strategy and determine the need for adjusting the proposed grazing schedule. Student creativity and insight into ecological processes and practical land management options were obvious this summer and will continue to grow as students build upon each others' experiences.



Dr. Clayton Marlow and students on the Judith Mountain Ranch.

the ranch and interact daily with the ranch owner to evaluate problem areas that he has identified. We have been very fortunate to work with a ranch owner, Mr. Gary Martin, Judith Mountain Ranch, who not only served as an instructor for the planning and development unit, but also agreed to implement the most cost-effective recommendations made by the student team. This attitude motivated the student team to go beyond course assignments to contact professional foresters and federal land managers and arrange a follow-up ranch visit to generate more management options to meet the landowner's goals. Equally important has been Mr. Martin's commitment to a longer term involvement with the Animal and Range Sciences Department to continue this field course.

In following years new student teams will evaluate the outcome of the management actions developed by previous student teams and make recommendations for further improvements. One example is the grazing management recommended by the 2008 team. Because of low habitat productivity this year's team recommended a series of rangeland seeding and shrub plantings to disperse mule deer and elk browsing pressure away from wooded draws being used by sharptail grouse. To enhance seeding and shrub planting success, the student team recommended no livestock grazing until 2011 and then to graze cattle under a deferred rotation schedule. Students enrolled in the 2009 and 2010 courses will evaluate seeding success, browse utilization levels, and range condition. From this information



Judith Mountain Ranch

Other News



Dr. Jane Ann Boles was granted tenure and promoted to Associate Professor, Animal Sciences. Jane Ann has a BS degree in Animal Science and a MS and PhD in Meat Science. Her research and teaching deals mostly with pork meat quality and value-added processing of beef. Jane Ann was also named the 2008 Outstanding Professor by the Collegiate FFA.



Dr. Jeff Mosley, Professor of Range Science and Extension Range Management Specialist, has been elected to lead the International Society for Range Management (SRM). He will serve as second vice-president from 2008-2009, first vice-president from 2009-2010 and president from 2010-2011. Jeff is the first MSU faculty member to lead the SRM in its 60-year history.



Dr. John Paterson, Professor of Animal Sciences, has taken over the Steer-A-Year (SAY) program. SAY benefits students financially via scholarships and support of student activities. Donated steers are used in courses dealing with various aspects of beef cattle management and marketing. Students are involved in collecting performance data. Please see more about the Steer-A-Year program at: ag.montana.edu/steerayear or by calling John or Mo at (406) 994-4323.



Dr. Dennis Cash, Professor of Range Science, has become the coordinator for Montana's Western SARE professional development program (PDP). The Sustainable Agriculture Research and Education program (SARE, <http://www.sare.org/>) has supported numerous programs at MSU through grants for research, Extension and professional development since its inception in 1998. Dennis has served as a technical advisor on two Western SARE Farmer-Rancher grants, and recently completed a three-year research project on alfalfa stand persistence as primary investigator. Dennis will coordinate Extension activities that enhance training opportunities for Extension professionals, MSU faculty, NRCS and other agencies, non-governmental organizations, producers and others in sustainable agriculture.



Dr. Carl Wambolt retired in December 2007 (see Dr. Olson's remarks from page 1). Carl began his career at MSU as an Extension Range Specialist (1970-1980). He was a Professor of Range Science from 1980 until his retirement. We wish Carl the best on his well deserved retirement and his future endeavors.



Dr. Jim Berardinelli was nominated for the Montana State University's "Cox Faculty Award for Creative Scholarship and Teaching" to honor faculty members who best combine teaching with research or creative activities. Jim was also nominated for the MSU "Provost Award for Undergraduate Research/Creative Mentoring" to recognize the importance of involving undergraduates in substantive research projects. In this regard Jim mentored five undergraduates in research projects during spring semester and currently mentors three for this semester.



Concerned about AFO/CAFO issues and regulations? MSU Extension Livestock Environment Associate Specialist, Tommy Bass, will be hosting an AFO/CAFO Information Center booth at the Woolgrowers and Stockgrowers annual meetings this December. Please stop by to say hello or to have questions answered from a confidential third party perspective.

Animal & Range Sciences Graduate Students (Fall 2008)

Ashley Beyer, MS
Joshua Bilbao, MS
Wade Black, MS
Michael Borgreen, MS
Daniel Durham, MS
Roy Fenster, PhD
Hayes Goosey, PhD
Aimee Halfa, MS
Kristin Hale, PhD
Stacey Henderson, MS
Jennifer Keithly, MS

Karen Kitchen, MS
Bryan Nichols, MS
Jesse Olsen, MS
Jyme Peterson, MS
Roy Redden, PhD
Brenda Robinson, MS
Sarah Summerford, MS
Shaun Tauck, PhD
Justin Uhrig, MS
Lindsey Voigt, MS
Jarrod Wilkinson, MS

Spring '08 & Summer 08' Masters Awards

Katie Benzel (Dillon, MT)
Thesis "Defoliation Effects on Spotted Knapweed
Seed Production and Viability"
Degree awarded May 2008

Benjamin Hileman (West Glacier, MT)
Thesis "Forage Response to Simulated Sheep Grazing
of Leafy Spurge"
Degree awarded May 2008

New Degree Being Offered in Natural Resources & Rangeland Ecology (NRRE)

The NRRE degree integrates the sciences relating to the structure, function and interactions of soils, water, plants, animals, and humans in natural ecosystems. Students select either the Rangeland Ecology & Management or the Wildlife Habitat Ecology & Management option. Both options train students for careers with private industry or state or federal land management agencies, or prepares them for graduate school.

Help Support Animal & Range Sciences

A gift to the department is a great way to support student and faculty endeavors. Donations can be earmarked for student scholarship funds, faculty research, the new Animal Bioscience Building, and more.

For more information about making a donation to the department contact:

Dr. Bret Olson, Interim Department Head
P.O. Box 172900
119 Linfield Hall
Bozeman, MT 59717-2900
(406) 994-3721
bolson@montana.edu



Drawing of new Animal Bioscience Building

www.animalrange.montana.edu

*Newsletter edited & compiled by: Susan Cooper
With special thanks to the entire A&RS Administrative Team*

