

ANIMAL & RANGE SCIENCES NEWSLETTER

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Introduction from Bret Olson, Interim Department Head



Within a year and half, the Animal and Range Sciences Department will move into the new Animal Bioscience Building, thanks to the generous support of individuals, groups, corporations and two appropriations from the Montana Legislature. The second appropriation is pending the Governor's approval.

While we look to the future, I thought we should review the Department's past. The history of the Animal and Range Sciences Department is almost as old as Montana State University, which began in 1893. In 1898, Robert S. Shaw served as the first professor of agriculture and instructor in dairy husbandry.

F.B. Linfield, for whom Linfield Hall was named, was a professor of animal husbandry (dairy) from 1902-1903 before he became Director of the Montana Agricultural Experiment Station. The Animal Husbandry Department was formed in 1929 and headed by Louis Vinke until 1932 when he was replaced by D.W. Chittenden. That year, John A. Nelson was named head of the new Dairy Industry Department. R.T Clark became head of the Animal Husbandry Department in 1937, serving until 1946 when Fred S. Willson became Department head. Range Management was added to the Department that year, and the Department was named the Department of Animal Industry and Range Management. At the same time, a Department of Poultry Science was added to the College of Agriculture. In 1960 the Departments of Dairy Science, Poultry Science, and Animal Industry and Range Management were combined into the Animal and Range Sciences Department. Fred S. Willson continued as head of this combined Department until 1966. Dr. Robert L. Blackwell was head of the Department from 1966 to 1980. Dr. Art Linton was head of the Department from 1980 to 1990. The Department has had a series of interim and permanent Department heads since 1990.



Mike Frisina's ARNR 438 Field Trip (see pg. 4). (Margaret Frisina photo)

In the fall of 2007, I formed an Animal and Range Sciences Advisory Committee to provide advice and help guide the entire Department (Beef, Sheep, Equine, Range/Natural Resources) into the future. 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). Besides providing advice, these individuals are also our eyes and ears throughout Montana. Our next meeting will be in early June. Contact one of them if you would like to provide feedback about our Department. More directly I have an open-door policy and encourage you to visit the Department and myself. I can be reached at 406-994-3721 or by Email at bolson@montana.edu.

Special Thank You to Dr. Paul Grieco

Dr. Grieco, Professor of Chemistry, MSU, generously established the Beef Lectureship Series and Dr. Ted Schroeder from Kansas State University was the first recipient of this award.

Dr. Schroeder's lecture was entitled "Beef Industry and Consumer Demand: Prescription for Prosperity."

Drs. Ted Schroeder and Paul Grieco at the 2009 Montana Nutrition Conference.



Inside this issue:

Dr. Rodney Kott Awarded ASI Flock Guardian Award	2
Other News	2
The Montana Beef Quality Assurance (BQA) Program	3
BQA & Beef Magazine's 2009 Beef Study Tour - Focus Brazil	3
Administrative Team Highlight: Denise Thompson	4
Adjunct Professor Highlight: Dr. Michael Frisina	4
Dr. Jane Ann Boles - ARNR 316 Meat Science Course	5
Upcoming Dates	6
Awards, Publications & Presentations	6

Dr. Rodney Kott Awarded Prestigious American Sheep Industry Flock Guardian Award



Dr. Rodney Kott accepting his award from Burdell Johnson, ASI Past President

Outstanding U.S. sheep industry members were honored for their contributions at an awards luncheon on January 23, 2009 at the American Sheep Industry Association (ASI)/National Lamb Feeders Association (NLFA) Convention in San Diego, California. Dr. Rodney Kott, Professor of Animal Sciences and Sheep Extension Specialist was awarded the ASI Flock Guardian Award for his almost 30 years of implementing sheep and wool educational programs. In many instances, Dr. Kott has been the standard bearer in establishing extension programs that are timely, relevant and of high value to sheep producers and the agricultural community. Dr. Kott reinvigorated the Montana wool pools so that they may participate in a global market, participated in a national committee which developed the National Sheep Improvement Program, developed and continues to oversee the Montana Sheep Institute, and emphasizes the use of sheep to control large infestations of non-native, invasive weeds in Montana, among other current issues related to the sheep industry.

The Flock Guardian Award recognizes outstanding management of resources to enhance flock management. The award may be given to a producer or industry professional who works directly with producers and who has adapted innovative management techniques with positive benefits in the areas of grazing, controlling predators, or managing watersheds. Nominees should be dedicated to resource management and committed to teaching sheep producers new techniques of management to preserve resources or improve flock management.



One of his nominators, Dr. Douglas Steele, Vice Provost and Director of Montana State University Extension, said Dr. Kott has the unique ability to take research-based knowledge and put it to practical use for sheep producers in Montana and the West.

Other News



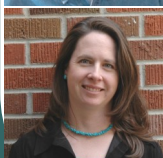
Dr. Jim Berardinelli was appointed to serve on the peer-review panel for the USDA-CSREES Agriculture & Food Research Initiative (AFRI) Animal Reproduction Program.



Dr. Jane Ann Boles was elected secretary of the Muscle Foods Division of the Institute of Food Technologists (IFT) in association with The Society of Food Science & Technology.



Thomas Bass, Extension Livestock Environmental Associate Specialist, was elected to office in the Montana State Chapter of the Soil and Water Conservation Society (SWCS). Tommy will serve as President-elect for a two year term, and then assume the presidency for 2011 and 2012. As president elect, he will be the Montana delegate at the annual international meeting of SWCS this summer. Tommy is also serving on the planning committee for that conference and will be co-hosting a sustainable agriculture symposium.



Rachel Frost, Range Research Scientist & Extension Associate, is the Chair-elect of the newly formed Targeted Grazing Committee for the Society for Range Management.

The Montana Beef Quality Assurance (BQA) Program

Beef Quality Assurance (www.mtbqa.org) is a pre-harvest supply chain management concept that ensures domestic and international beef consumers enjoy ready access to a safe, wholesome and healthy beef supply. BQA links beef producers with livestock production specialists, veterinarians, nutritionists, marketers, animal health companies and food purveyors interested in improving the quality of beef produced in the U.S.



*Clint Peck, BQA
Director*

In Montana, BQA programs are administered through the MSU Animal and Range Sciences Department and Montana Beef Network by Clint Peck, Mo Harbac and Dr. John Paterson. BQA programming is available to all cattle producers in Montana. The Montana Stockgrowers Association helps direct BQA programming throughout the state.

BQA and Beef Magazine's 2009 Beef Study Tour - Focus Brazil

The BQA program and Beef Magazine co-hosted the 2009 Beef Study Tour focusing on beef cattle production systems in west-central Brazil. The Montana participants were J.O. Miller and Diana Scollard, Absarokee; Bill Pelton, Billings; Sig Pugrud, Winnett; Eric and Lea Moore, Miles City and MSU student Cari Giem of Three Forks.



Clint Peck, Billings, director of BQA in Montana hosted the tour – his ninth such trip in the past 10 years. “In today’s global marketplace cattlemen need to know what the competition is up to and how they’re doing it,” said Peck. “We developed an itinerary designed to give beef producers around the U.S. the best possible look at Brazil’s beef production systems to assess their strengths and weaknesses as competitors in international markets.”

Peck and travel coordinator Renata Stephens of Brazilian Liaison (www.brazilianliaison.com) led the tour January 15-26, 2009. Stephens is a Brazilian native with extensive experience in South American excursions.

Gaucha Cari Giem in Brazil

With the world’s largest beef herd – about 190 million total cattle – Brazil leads global beef exports. But interestingly, the U.S. with 96 million head of total cattle, is the global leader in beef production – out-distancing Brazil by about 50% annually. The difference is productivity. For example, age at first conception in Brazil is 20-24 months compared with the U.S. at about 14-16 months. The average harvest age in Brazil is 40-42 months with a 53% dressing rate, compared with 18-20 months and 63% in the U.S.

Brazil’s beef herd is 85% Nelore genetics – a zebu-type *Bos indicus* breed. This white-hided breed can survive the heat, solar intensity, humidity and parasites typical of tropical environments.

Tour highlights included a two-night stay at a working family ranching operation- Pousada Dos Monteiros (www.pousadadosmonteiros.com.br) that caters to guests and tour groups. The ranch is located in the upper Paraguay River basin in the world’s largest wetlands area - the Pantanal – which straddles Brazil’s border with Bolivia and Paraguay. The Monteiro family operates Fazendas São Roque and São João, totaling over 20,000 hectares.

Among the other stops were an Embrapa federal beef cattle research center and a high-tech cattle seedstock operation. One of Embrapa’s major goals is to increase forage productivity, develop crossbreeding systems, and eradicate foot-and-mouth disease (FMD).

“In some ways, visiting this region is like going to another planet,” says Eric Moore. “The differences in climate, grasses, cattle, and production systems are that extreme.” However, he says in some ways it’s like being in any small town in rural America. “Some ranchers sit on mounds of old family money, some barely scratch by. Some are good operators, some places look like a dump. Farmers get together and gripe about the weather, the packers, and the government.”



J. O. Miller at Fazenda São João

Plans are already underway for a 2010 Beef Study Tour in Argentina and Brazil tentatively set for Feb 2-15. Keep watching the BQA website (www.mtbqa.org) for more information.

Administrative Team Highlight: Denise Thompson



Denise is the Student Records Manager for the Animal and Range Sciences Department. She started with this Department in the fall of 2000 after having worked in the MSU Registrar's Office for ten years.

One of the most important parts of Denise's job is being an ambassador for the Department and the College of Agriculture. As the student records person, Denise is often the first person students and parents have contact with. Denise helps prepare students by supplying information about the Department and all of its degree programs. When students want to visit, she sets up advising appointments with appropriate faculty. Denise then provides faculty with the information they need to help in this process. Denise also initiates and updates student files, orders class books, updates the schedule of classes and changes in the university catalogue, processes undergraduate and graduate applications for degrees, and keeps current on all university rules and policies. Denise works closely with undergraduate and graduate students.

"I am very fortunate that I work with a wonderful group of faculty who support me and the students and are there for me when I need their help. Because of the size of our Department, students, faculty and I work together as one. We know undergraduate and graduate students by first name and they know they can come in at any time. This makes it a very comfortable atmosphere for all of us."

"I was raised in a horse and ranch family in Montana buying, selling and showing quarter horses. It was a great way to grow up...a lot of hard work and meeting lifelong friends. I believe my background helps me understand our students and their goals easier than if I didn't have that background."

Adjunct Professor Highlight: Dr. Michael Frisina

For many, an airplane crash might be a sign—to consider another line of work. Dr. Mike Frisina saw it as "getting it over with." The crash during his graduate study of bighorn sheep in the Sun River led to a decade of headaches, a master's degree in Fish and Wildlife Management from MSU, and a wildlife biology career entering its 40th year. During that time, Frisina has led scientific expeditions in Mongolia, China, Pakistan, Kazakhstan and Argentina. In 2007, Mike lectured for one month as a visiting scholar at Beijing Forestry University. He continues research on large ungulates in Asia.

Most of Mike's career has centered on issues involving wildlife and livestock. As Range/Habitat Coordinator for the Montana's Department of Fish, Wildlife and Parks, Mike is instrumental in the design and implementation of wildlife-livestock grazing systems across the state. In 1989, Mike shared the US Forest Service's National Range Management Award with rancher E. Maynard Smith (Glen, Montana) and Forest Morin, USFS, for the Fleecer Wildlife Management Area project.

Mike has published over 100 scientific and popular articles, a book on wild sheep of the world in 2007, and most recently a chapter on wildlife/livestock management in Pakistan in *Recreational Hunting and Rural Livelihoods* (Wiley-Blackwell publisher) based on a presentation he gave to the London Zoological Society. With Dr. Richard Keigley (USGS), Mike co-authored a book on evaluating browse use on wildlife ranges. The book is used widely by agencies and researchers across the west.

Mike is proud of his honorary doctorate in agriculture from MSU awarded in 2004. Mike enjoys sharing real-world lessons with the next generation of professionals. Students enjoy his wealth of knowledge and experience, and his stressing the importance of agriculture as a major piece of the wildlife puzzle. At the moment, Mike teaches Topics in Wildlife-Livestock Habitat and Wildlife Habitat Ecology.



MEAT, IT'S WHAT'S FOR DINNER

Dr. Jane Ann Boles — ARNR 316 Meat Science Course



Dr. Jane Ann Boles cutting up meat.

Students in Meat Science soon discover that meat is more than what is on the table for dinner. Myosin, calpastatin, somatotropin, estradiol benzoate, Escherichia coli, and exanguination are just a few of the words students in ARNR 316 Meat Science learn during the class. Students in Meat Science will learn how decisions on genetics, nutrition and health will affect the meat produced.

The class consists of a lecture and lab. The lecture portion introduces the students to growth and development of muscle, evaluation of carcasses and muscle structure, and

how the latter affects meat tenderness. A class project accounts for all aspects of the industry. The students develop a beef alliance where they must decide on the goals of the alliance and how they are going to reach those goals. They must also address what will be done with animals that do not meet the criteria of the alliance. The culmination of this project is an oral “sales” pitch to recruit ranchers to their alliance.

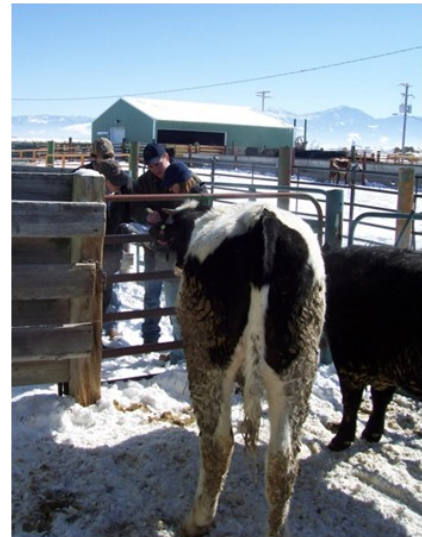
The lab is centered around evaluating market animals and how visual cues can be used to predict the value of an animal. Students work in groups

based on their “alliance”, and with a free dinner on the line, the students are motivated to make sure they understand and can price live animals. When evaluating cattle, steers from the Steer-A-Year program are used.

The students evaluate the steers live and decide what price should be paid for the animals. After the animals are harvested, the class evaluates the carcasses and see how close their live estimates were to actual carcass data. After evaluating the carcasses, students cut the carcass into wholesale and retail cuts. This helps them understand what meat yield to expect from a carcass. After all of the species (cattle, sheep, pig) have been evaluated, the group that makes the most money or loses the least gets a free dinner from Dr. Boles.



Misti Crawford, Senior in the Livestock Management and Industry option from Choteau, MT evaluates a beef carcass.



Austin "Tate" Switzer, Katie Phillips, Kelsey Gibbs and Jeff Garberg evaluate live cattle in class to determine carcass value.

Student Comments:

James Brown, Senior, Agricultural Economics major with a minor in Animal Sciences: “Meat Science courses at Montana State University show students how livestock genetics and management decisions impact total carcass value.”

Katlyn Nagel, Senior Animal Sciences major: “One of the most practical classes offered at MSU. I learned everything from pasture to plate. I now understand the perspective of both ranchers and meat inspectors. After taking this class, I will be a better producer.”

Upcoming Dates

May 8:	MSU Spring 2009 Semester Ends
May 9:	MSU Commencement
May 18:	MSU Summer 2009 Semester Begins
May 25:	Memorial Day Holiday
July 3:	Independence Day Holiday

Awards, Publications & Presentations

New publication: **Boles, J.A.**, D.L. Boss, K.I. Neary, **K.C. Davis** and **M.W. Tess**. 2009. Growth implants reduced tenderness of steaks from steers and heifers with different genetic potentials for growth and marbling. *Journal of Animal Science* 87: 269-274.

Rachel Frost was an invited speaker at the Idaho Weed Control Association Meeting and Convention in Nampa, ID in January. Rachel's talk was titled: "The Use of Domestic Livestock for Vegetation Management."

Jeff Mosley was an invited speaker at the Montana Society of American Foresters annual meeting. Jeff's talk was titled: "The Role of Livestock and Wildlife in Forest Resource Management."

Congratulations to the new grant recipients awarded by the USDA SARE program: **Jane Ann Boles** "Infrastructure Support for Small Livestock Processing Facilities", **Jeff Mosley** (with **Rachel Frost** and Tracy Brewer of MSU Extension Service - Park County) "Integrating Biological Control with Prescribed Sheep Grazing to Suppress Spotted Knapweed", and **Thomas Bass** (with Darrin Boss of the Northern Ag Research Center and Joel Schumacher of MSU's Agricultural Economics and Economics Department) "Composting Recommendations and Marketing for Livestock Operations in Cold Semi-Arid Environments."

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:

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Drawing of the new Animal Bioscience Building

www.animalrange.montana.edu

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With special thanks to the entire A&RS Administrative Team

