

ANIMAL & RANGE SCIENCES NEWSLETTER

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Introduction from Bret Olson, Interim Department Head



Bret Olson outside the new Animal Bioscience Building

Welcome to the Department of Animal and Range Sciences! As I write this (mid-May), campus is relatively quiet. Finals ended May 7th, so most students have scattered to the wind hopefully to find gainful employment and enriching experiences.

In August 2008, construction began on our 40,000 square-foot Animal Bioscience Building, which will offer animal science and natural resources/rangeland ecology students state-of-the-art classrooms and laboratories for instruction and research. Two years later, almost to the month, we will be moving in, lock, stock and barrel in time for the freshman class of 2014 to begin.

About four years ago, we began planning the building, and the planning committee, besides myself, included two faculty members from the Department, Jan Bowman and Dennis Cash, and an undergraduate at the time, Anna Heryford. I was amazed how much time and effort it took in the initial stages of planning. The plan at times was adjusted based on the projected amount of funding. The downturn in the U.S. and Montana's economies has been unfortunate for many, but it has helped us to complete the building "on budget."

This building makes history on the MSU Campus, because when it opens, not only will it be totally paid for and debt-free, but about 50% of its funding has come from the private donations of over 500 ranchers, families, groups (like the 40 Cool Cats who each contributed \$250), and agri-businesses. Like never before, the livestock industry has come together to provide a truly remarkable facility for MSU! We heartily thank the individuals who put their own lives and businesses on hold, like Taylor Brown who volunteered to chair the Fundraising Committee, and Jim Peterson who came on board as Interim Associate Dean to develop the vision of a unique Animal Biosciences Complex, and many others.

More specifically, a few weeks ago, after a tour of the research labs and support rooms (currently under construction) by some of our research faculty and staff, I sent a thank you note to Taylor, Dean Jeff Jacobsen and the Dean's Assistant, Lisa Duffey for all of their time and effort to make the building a reality. Taylor responded that Jeff and Lisa "knocked themselves out to implement this project," and "after watching how hard they have worked to build it, I am starting to think that maybe raising the \$16 million was the EASY part! Ha!" So, if you get a chance in the future, thank all four for their efforts.

Finally, for our Spring 2010 graduates, the four (or plus?) years you spent with us may have seemed to go extremely fast for some, extremely slow for others. Congratulations to all of you, and best wishes in your future endeavors. I am confident that you will make your parents, your department, and Montana State University proud. And if you are ever traveling back through Bozeman, stop by and visit. We look forward to hearing from you - we continue to work for you!

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2010 Commencement Address Speaker for the College of Agriculture: Bob Lee

Bob Lee of Judith Gap—a longtime rancher who is widely recognized for his stewardship of the land—gave the 2010 commencement address for the College of Agriculture on Saturday, May 8th. Bob and his wife, Kathy, own and operate the Robert E. Lee Ranch Co. in the foothills of the Snowy Mountains. He loves what he does and considers it a privilege to care for “our greatest renewable resource—grazing land and farmland.” Bob has served in a variety of local and national leadership positions and has won numerous awards. These include the national Environmental Stewardship Award from the National Cattlemen’s Beef Association, and in Montana: Range Man of the Year, Soil and Water Conservationist of the Year, and MSU Agriculturist of the Year. For years, Bob was actively involved in Montana Range Days, a three day workshop that brings together 250-300 youth of all ages. I (Bret Olson) first met Bob in the early 1990s at Range Days where I was one of many volunteer instructors. Because of my respect for Bob, I asked him to be a member of the Animal and Range Sciences Department Advisory Committee when I formed the committee nearly three years ago. Bob is the current chair of the committee. Below are excerpts from Bob’s commencement address to the College of Agriculture’s graduates.



Dr. Marty Frick, Dr. Bret Olson, Dr. Jeff Jacobsen, Dr. Tracy Sterling, Dr. John Sherwood and Bob Lee presenting. Photo by Kelly Gorham

“Life is full of challenges like the two feet of snow we had at the ranch last week—now that was a challenge, but if it was easy everyone would do it. Challenges are a lot easier if you love what you do.

As I look back at the changes that have occurred since we started in agriculture, it’s amazing! But change is good. It’s how we address change that matters.

Tradition is a starting point. Learn from the past but prepare for the future. The world is changing, society is changing, ag is changing, but agriculture is the link for all nations. We need you to think outside of the box, apply what you have learned at MSU but have a vision - like the new Animal Bioscience Building. I am excited about the prospect of what will be produced within that building. Now we have to fill that building with new research, new data, and new outreach for our ranching and agriculture communities, so that we can continue to enhance our ability to produce high protein red meat for our growing world. I challenge you to help us continue our ability to do this both economically and socially.

Stay associated with your classmates, professors and this academic community. Be involved with organizations that support and promote your ideas and products. Don’t just join, but join to make a difference. If you tell someone you’ll do something Do It! Be politically active, we need your voice to be heard. With only 1.7% of the population involved in agriculture production, it’s not a big voice but over 20% of the U.S. population make their living from ag, be it processing, marketing, transportation, etc., but 100% of the people EAT. Do what you love and have a passion for the life journey you have chosen for yourself. Don’t do something just because someone else thinks you should do it. I believe you have all chosen agriculture in one form or another because it is a noble and honorable profession.

When we received the National Environmental Stewardship Award, people and media wanted to know what we were doing different than other ag producers. Probably not that much, just organization of the little things. Then we realized that we had a chance to tell our story to the general public, so we created a Powerpoint entitled “Ten Dimes to Make a Dollar”. Everyone relates to economics. We got their attention and used each dime to illustrate a management idea. Those were:

- 1) Goals - We’ve talked about already.
- 2) Measurements - You don’t know where you are going if you don’t know where you have been. Those with the most documentation win.
- 3) Environmental Limitations - Cards you are dealt.
- 4) Rangelands / Pasturelands - The heart and soul of the ranching business.

Bob Lee Commencement Address (continued from page 2):

- 5) *Water and Riparian Areas - A reflection of your surroundings.*
- 6) *Wintering Costs - Highest cost of animal agriculture.*
- 7) *Off Ranch Resources - MSU, Extension, NRCS.*
- 8) *Reputation and Quality Product - Your word is gold and your product is reliable, dependable and predictable.*
- 9) *Sustainability - Economically and Socially.*
- 10) *Passing the Ranch - This is a challenge, with estate taxes, family challenges, etc. But we need these places in Ag production, open space and family owned.*

All of these Powerpoint Dimes or ideas have connections to the MSU College of Ag and MSU Extension. This latest round of budget cuts is challenging, at best. It keeps us humble but focused on what we have to deal with. We have an important story to tell. Let's look at the departments in MSU's College of Agriculture...

1. *Ag Economics - More important than ever. We need these numbers and people who have the ability to sort and work through them. We are all limited by time, energy and money. All three of our kids valued Ag Business and Economics as helping them get where they are today. In fact, our oldest daughter Kim, travels around the nation giving classes on Financial Literacy to other teachers to take back to their classrooms.*
2. *Ag Education - Very important. We still need more students to fill this area. Our son Kenny received a degree in Ad Education; besides being a County Extension Agent, he uses his education working with others in the fields of embryo transfer, artificial insemination, and ranch management. In fact, he will forget more about cattle than I know.*
3. *Animal and Range Science is my life and my passion. I believe taking care of our animals, rangelands and pasturelands is an honor, not just because it is one of our greatest renewable resources but because it shares so many factors with our ecosystem, such as healthy riparian areas, proper functioning watersheds, forage for wildlife and our range animals. Our daughter Krista, graduated from this Department and uses her background and education every day in her business dealing with Natural Resource Issues - helping people understand ag's importance to our society. The use of animals to maintain and enhance the resource is so important. Animals convert forage into high protein red meat for our use and benefit.*
4. *Land Resources and Environmental Sciences. Very important for all of the reasons I have mentioned before and for our future. People want to know and understand how we function as an agricultural society and our relationship to the earth.*
5. *Plant Sciences and Plant Pathology - The nuts and bolts of our planet. I look forward to new research from MSU all year long, whether it's from campus or one of our Ag Research Stations. We have to continue to learn and be more efficient in farming enterprises. This year, we planted a certified spring wheat, Vida, which was developed here at MSU.*
6. *Veterinary Molecular Biology - I didn't know the value of having this department on campus until I was Chairman of the Montana Department of Livestock. The Dept of Livestock turned to MSU for help in developing new vaccines for the health of our domestic animals and wildlife, especially a better brucellosis vaccine with higher efficacy ratings. I believe that is the secret to this brucellosis issue we are facing. Prevent the passing of brucellosis between infected wildlife and domestic cattle.*

In closing, remember:

Ag is a game...Play it

Ag is a challenge...Meet it

Ag is an opportunity...capture it...

*You have so much in front of you...enjoy. Savor and share. More education is about to start. With your learning experience at MSU, I'm confident you'll do well. In fact, I'm counting on it. The Gate to Your Success is wide. We need you. I'm proud of you and thank you for choosing agriculture. **God Bless."***

Upcoming Dates

May 17	Classes Begin (Summer Semester)
May 31	Memorial Day Holiday Observed (no classes, offices closed)
June 14-15	Orientation Session
June 21-25	Youth Horsemanship Camp (Contact Julie at 406-994-7953, email: jhager@montana.edu)
June 28-30	Orientation Session
July 5	Independence Day Holiday Observed (no classes, offices closed)
July 12-14	Orientation Session

Faculty Spotlight: Dr. Rachel Endecott, Assistant Professor of Animal and Range Sciences

Dr. Rachel Endecott joined the Animal and Range Sciences Department in November of 2006 as an Assistant Professor of Animal Science.

Q. What led you to study Animal Science?

I grew up on a family cow-calf operation near Ennis, Montana and there was never any doubt that I would be a Bobcat. When I graduated from high school, I had a keen interest in genetics and enrolled in the Animal and Range Sciences Department at Montana State University. During my junior year, I took a nutrition class from Dr. Jan Bowman, which really piqued my interest in beef cattle nutrition. I got a job working for Jan at the Oscar O. Thomas Nutrition Center and had a great opportunity to do some undergraduate research, which influenced me to continue my education. My graduate degrees are both from the Animal and Range Sciences Department at New Mexico State University, where I worked with Dr. Mark Petersen, a former faculty member in the Department at MSU, and the current research leader at Fort Keogh in Miles City.

Q. How do you see your role as a faculty member in the Animal and Range Sciences Department stationed at the USDA ARS Livestock and Range Research Laboratory in Miles City?

My position is certainly a unique one, and the distance from campus sometimes presents a challenge, but so far, none of those challenges have been insurmountable. As an Extension Specialist, much of my time is spent on the road educating producers, youth, and other stakeholders throughout the state and region. I hope that interacting with me gives clientele a contact person with the Department, even though I'm located off-campus. I enjoy working with the ARS scientists at Fort Keogh as well, and I think my programming is strengthened by the opportunities to educate clientele and my fellow faculty members on campus about the research that is conducted in Miles City.

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

My first graduate student, Lindsey Voigt, will finish up her MS degree during summer 2010. Her research, conducted at Fort Keogh last summer, assessed how quickly the rumen of cattle adapts after their diets are abruptly switched from concentrate-containing to an all-forage diet. In the real-world, this might happen when replacement heifers or purchased bulls are developed on a grain-containing diet, then turned out to pasture for the summer. Lindsey's results indicate that the rumen adapts very quickly – within a few days – when the diet is abruptly switched from concentrate-containing to forage-only.

I also have collaborative research with some of my colleagues at Fort Keogh planned for this summer, where we will investigate the impact of development strategy on steer feedlot performance.

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.



Administrative Team Highlight: Susan Cooper

Susan Cooper is an Administrative Associate III with the Animal and Range Sciences Department. The main functions of her job are to act as the assistant to the Department Head, manage the main office, manage the Administrative Team, help with the Horseshoeing School and handle the daily fires that need to be put out! Susan has been with the department since November of 2007, but has been at MSU for 20 years.

Susan is a busy person and can be found in the department's main office. She says, "I can honestly say I still enjoy coming to work each day. I deal with so many different things in one day that my weeks/months fly by. The Animal and Range Sciences Department has been a great fit for me and I feel lucky to be working with such great people."



After just over one year on the job, Susan was nominated for the 2009 MSU Employee Recognition Award and was one of the winners. "This was such a wonderful moment in my career and really a boost for me personally. There is not much more you can ask for from a job than having your work appreciated by those around you!"

Born and raised in Columbus, Ohio, Susan is a Buckeye fan through and through. She and her husband, Todd, moved to Montana in 1990 and have made it home ever since.

When she is not putting out fires, Susan can most likely be found at a baseball park somewhere (her son, Cody, plays for the Bozeman Spikes), traveling, listening to local music, or just hanging out at home in Gallatin Gateway.

Other News



Dr. Jeff Mosley, Professor and Extension Range Management Specialist, was an invited participant at the White House Conference on America's Great Outdoors in April. The Conference was led by Secretary of Agriculture Tom Vilsack, Secretary of Interior Ken Salazar, EPA Administrator Lisa Jackson, and Nancy Sutley, Chair of the Council on Environmental Quality. President Obama addressed the conference, and senior administration officials facilitated breakout sessions that gathered input from conference participants to help the Obama administration shape its conservation strategy.



Dr. Shannon Moreaux is an invited speaker at the upcoming (June 2010) Australian Equine Science Society Conference. Shannon will be traveling to Gold Coast, Queensland, Australia to present two research papers titled: "Psyllium lowers blood glucose and insulin in horses" and "Radiographic interpretation of the equine digit."

Dr. Moreaux and the Equine Science program was mentioned in an article in the Great Falls Tribune on May 18: <http://www.greatfalls Tribune.com/apps/pbcs.dll/article?AID=/201005180500/SPECIALSECTION09/5060329>



Dr. Reid Redden, a Research Associate and recent PhD graduate in the Animal and Range Sciences Department has accepted a faculty position as the Extension Sheep Specialist with North Dakota State University. Reid completed his PhD under the direction of Drs. Rodney Kott and Pat Hatfield and has worked as a Research Associate for the Montana Sheep Institute for three and a half years. Good luck Reid!

Lambing at the Red Bluff Research Ranch



Lambing was in full swing at the Red Bluff Research Ranch on the road to Norris, Montana in April 2010. Arriving at the lambing barn, the first order of the day is to start the coffee. After this, there is a walk around the lambing barn with the herder to see what's happened during the night and get a heads up on any problems. When we've been briefed, Raul heads to his wagon for a good day's sleep.

While it may look and sound like bedlam when you walk on the premises, there is actually a plan for the day. The first thing is a walk through the drop lots to check on ewes and any lambs that have arrived. There's a ewe in the corner cleaning off lamb number two so we'll stop back for her and the babies in a bit. Walking around the corner a lamb is having trouble breaking through its amniotic sack, and mom's not much help. A quick grab and the lamb lets out a shriek, and mom finally pays attention. This is a very important role, especially at the peak of lambing. We can identify the ewe and her lamb(s), and avoid mix-ups.

We check other recent arrivals and make sure the lambs are weighed, sexed, and the navel is dipped in iodine to protect against navel ill. This is also a good time to check the ewe's udder to see if she's got milk or if she may have mastitis. It is sometimes necessary to take a lamb, or bum it, if the ewe isn't capable of raising it. There is a waiting list of people wanting to purchase these bums and bottle raise them for meat or breeding ewes. Sometimes, a ewe loses her own lamb, and we graft a bum onto her.



After the new family unit is in the jug for approximately 24 hours, we put identification tags in the lamb's ear, dock the tail, castrate those males not in the running as breeding males, and put a paint brand number on the side of the ewe and her offspring. If we see that a lamb is not doing well, or a ewe looks sickly, we can find the mom or lamb to see what the problem might be. This is also when we check for problems such as inverted eyelids, crooked legs, parrot mouth, and other physical problems the lambs may have been born with. Notes are made and entered into the lambing book in the sheep database and used when deciding which lambs may become replacement stock or be sold as breeding animals.



This group of newly processed animals must then be moved out of the barn and the jugs cleaned, limed, and strawed to make room for the next group making their appearance. After a few days in these pens, the animals are moved into small pastures. This arrangement allows the ewes and lambs to find each other in larger and more confusing groups as the bond between them strengthens. After all ewes have lambed, we weigh all the animals, and they are ready to go to the mountains with the herder for the summer.

This amazing work was being accomplished this spring with the help of Pete Olind, Russel Maack, and Raul Franco-Urcos at Red Bluff, Corriena Gregg, Angie Henry, and Rita Owens, hired for the lambing season from the local area, and students Casey Willmore, Kelsey Gibbs, Amanda Hart, Kelly Rich, and Jesse Wallewein, and yours truly, K.C. Davis, Research Associate, Animal and Range Sciences.

ARNR 234: Livestock Management Class



Jonathan Carpenter and Jeff Swartz administering a vaccination

Branding time at the Bozeman Agricultural Research and Teaching Farm (BART) was the highlight of the semester for many of the 19 students of ARNR 234 (Applied Techniques in Livestock Management—Beef Cattle). The two sections of the class were able to demonstrate in a real-world atmosphere the cattle handling skills they learned throughout the semester.

“We have been working with cattle all semester, but this was a good chance to bring together everything they’ve experienced,” said instructor Clint Peck, MSU’s director of Beef Quality Assurance. “Our focus has been on not only quality beef production, but also on the well-being and welfare of the animals under our care.”

BART manager Bob Brekke was pleased with the results of the branding – and the class. “The students did a great job for us,” he said. “It’s great to see the enthusiasm they have for the cattle industry.”

Mo Harbac, Montana Beef Network Program Manager, was very proud of the ARNR 234 students for the professionalism they demonstrated and the skills they have in handling cattle. As co-instructor, she was very happy to see their attention to the care and safety of the cattle as well as for their own personal safety.



Tara Turnbull and Kevin Green



Sierra Reyher branding

The class ended the semester with a tour to Headwaters Livestock near Three Forks where they participated in a cattle auction and received a tour of the facility by owner/manager Jack McGuinness.

“Participation is very important in a class like ARNR 234,” Harbac noted. “Everyone’s been great about pitching in, learning new cattle handling techniques and sharpening their cattle treatment skills.”

Student News:



Out of 209 student from 24 universities, Kailee Bickford, a senior in Natural Resources and Rangeland Ecology from Havre, MT, tied for third place in the individual category at the 2010 Undergraduate Range Management Exam in Denver, Colorado. This event was held at the annual meeting of the Society for Range Management. MSU students who took the exam, besides Kailee, were Daniel Pratt of Miles City, Daisy Garverich of Butte, Lynne Buckles of Wyola, Shaun Lingohr of Malta, Jennifer Esp of Big Timber, Elizabeth Smith of Glen, Ben Lynn of Clyde Park, Lindsay Wilsey of Big Timber, Tara Turnbull of Brockton, Brandon Hartz of Gallatin Gateway, and Jordan Rice of San Francisco. As a team, they tied with Texas A&M for fourth place.

The MSU Collegiate Cattlemen sponsored an educational forum at the Montana Livestock Forum and Nutrition Conference on the importance of the Beef Checkoff to cattle producers and con-



sumers alike. Attendees were introduced to some of the new advertising as well as the new nutritional information. Further, information on how checkoff dollars are allocated was presented. (Pictured left to right are Dr. Jane Ann Boles (advisor), Kailee Bickford, Kelsey Gibbs, Rachel Spangelo, Tara Turnbull, Lynsey Waid, Amanda Hart, Charlene Rich, Executive Director, Montana Beef Council, Lisa Murray, Director of Nutrition and Consumer Information, Montana Beef Council, Michelle Dandrea, Montana Beef Council Intern, and Sue Broyles, Business Manager, Montana Beef Council.

The MSU Undergraduate Research Celebration included a poster from Kelsy Payne of Amsterdam, Montana, a senior in Range Science. Kelsy spent all of last summer outdoors on tribal land near Polson, studying the effects of sheep on the noxious weed Sulfur cinquefoil and vice versa. She then continued her research in the lab. Kelsy said one thing she learned was that Sulfur cinquefoil didn't give the sheep enough protein, so they'd have to be fed protein supplements. Kelsy did her undergraduate research under the supervision of Drs. Rachel Frost and Jeff Mosley.



Awards, Publications and Presentations

Peggy Kelley was named one of the 2010 MSU Employee Recognition Award winners. Each year the Employee Recognition Awards Program honors outstanding performance and contributions by MSU professional (non-instructional) and classified employees. Sixty employees from across campus were nominated while five were selected as the winners. Congratulations Peggy!



strated outstanding leadership by promoting the benefits of horse ownership, advancing modern equine wellness programs and increasing the overall awareness of the industry.

The 2010 Montana Livestock Forum and Nutrition Conference was held at MSU in April. MSU Extension Beef Specialist and MSU Professor of Animal Science, Dr. John Paterson was the conference organizer. An endowment with the MSU Foundation set up by Paul and Barb Grieco established the Beef Cattle Lecture Series that brought Janice Swanson to this year's conference. Paul Grieco is a professor in MSU's Department of Chemistry and Biochemistry. Swanson is the director of the Animal Behavior and Welfare Group at Michigan State University. For an article of the conference go to: <http://www.montana.edu/cpa/news/nwview.php?article=8348>



Dr. Shannon Moreaux, DVM, Assistant Professor of Equine Science, has been awarded the Boehringer Ingelheim Vet-medica, Inc. (BIVI) Equine Leadership Award. The award is given to those in the equine industry who have demon-

Special Thanks



Special thanks to Dr. Jane Ann Boles and her ARNR 316 Meat Science class for the tasty lamb kebabs they made for our Department a few weeks ago as an end-of-the-semester treat. We appreciate Jane Ann and the students for preparing, barbecuing and sharing with all of us. We thank the lamb, too.



Help Support Animal and 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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Newsletter edited and compiled by Susan Cooper

With special thanks to the entire A&RS Administrative Team



Construction of the new
Animal Bioscience

