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Animal Science Newsletter

Department of Animal Science

Fall 2016

News of the Department of Animal Science

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News of the Department of Animal Science

South Dakota State University

Fall 2016

Volume 36, Issue 2

Congratulations!



Dr. Rebecca Bott, Associate Professor with teaching, research and Extension appointments in the Department of Animal Science, was appointed Interim Dean of the Van. D. and Barbara B. Fishback Honors College. She began her new duties on July 22.

Megan Webb, Ph.D. graduate student, has been awarded one of seven \$10,000 scholarships by the Meat Industry Suppliers Alliance Foundation. The MISA Foundation is a non-profit tax-exempt organization formed to nurture, promote and develop state-of-the-art technology and technical information by furthering the education of meat and food science students.



On June 21, graduate student **Emmalee Northrop**, presented a seminar prior to her successful M.S. defense. The title of her presentation was *The effects of preovulatory estradiol on the uterine environment and embryo survival from fertilization to maternal recognition of fertility*. Emmalee studied under the direction of **Dr. George Perry**.



Graduate student **Darcy Burton**, presented a seminar prior to her successful M.S. defense on July 22. The title of her presentation was *Use of pork loin quality attributes to determine subsequent fresh and processed ham quality*. Darcy studied under the supervision of Dr. Stacy Zuelly and **Dr. Keith Underwood**.



Graduate student **Ethan Blom**, presented a seminar prior to his successful M.S. defense on July 27. The title of his presentation was *Effects of small intestinal starch digestion and dietary lipid on efficiency of nitrogen use in cattle*. Ethan studied under the supervision of **Dr. Derek Brake**.

Dr. Kelly Bruns, former SDSU Animal Science Professor and Livestock Judging coach, has been appointed Director for the West Central Research and Extension Center. Bruns has served as interim

Upcoming events



September 16 – Dedication of new Cow/Calf Education & Research Facility

September 17 - Beef Bowl
BBQ south of stadium 3:30-5:30 pm
SDSU vs Cal Poly 6 pm

September 20 - Animal Science Scholarship Banquet, Swiftel

September 22-24 – SD Stockgrowers Annual Meeting

September 27-29 – Extension Fall Conference

September 28 – Ag-Bio Career Fair

September 29 – President Dunn's Inauguration, Coolidge Sylvan Theater, 3 pm

September 30-October 1 – SD Sheep Growers Annual Convention, Rapid City

October 1 – Dedication of new Swine Education & Research Facility

October 22 - Hobo Day
SDSU vs Youngstown St 2pm

November 29 – SD Cattlemen's Association Convention, Watertown

March 31-April 1, 2017 Little I

July, 2017 - Livestock Judging Team Reunion

director since November 2015. In addition, Bruns will also serve as the director of the West Central Extension District within Nebraska Extension.

Joshua and Abbie Cribbs are new parents of Jesse Vess born June 10. He weighed 7 lbs and was 20 inches long. On July 25 friends in the department hosted a baby shower for Jesse and his mom, Abbie.



Dr. Bob and Karen **Thaler** became grandparents on August 31 when Charleigh Marie was born to Allyse (Thaler) and Mike Steffen of Salem. She weighed 6 lbs 10 ½ oz and was 19 inches long.

Welcome New Employees



Dr. Kyle Grubbs joined our department as Assistant Professor and Meat Scientist on July 22. Prior to joining our department, Dr. Grubbs was a Postdoctoral Researcher at Iowa State University for four years. He graduated with a B.S. degree in Animal Science from Auburn University in 2006; a M.S. degree in Growth Biology at Auburn University in 2010 and a Ph.D. degree in Meat Science at Iowa State University in 2012 with a dissertation titled *Protein profile and reactive oxygen species production in mitochondria from pigs divergently selected for residual feed intake*.

Warren Rusche began his new role in our department as Feedlot Extension Associate August 10.



Previously he was employed as a Cow-Calf Field Specialist at the Watertown Regional Center. Warren graduated with a B.S. degree in Animal Science from SDSU and received his M.S. degree in Animal Science from Kansas State where he conducted research on the effect of source and amount of dietary protein on the performance of first-calf heifers in a drylot setting. In addition, Warren has begun Ph.D. studies in Ruminant Nutrition.

Dr. Kristi Cammack began her new position as the Director of the West River Ag Center in Rapid City on June 22. Dr. Cammack most recently served as a faculty member at the University of Wyoming in the Animal Science Department.

Stephanie Perkins began work as a lab tech in the Reproductive Physiology/Genetics labs under the supervision of **Dr. George Perry**. Stephanie received her M.S. in 2016 in Animal Science.



Welcome Graduate Students

Amy Abram, from Newcastle, CA has begun Ph.D. graduate studies in Genetics under the direction of **Dr. Michael Gonda**. She received her B.S. degree from California State University in 2012 and completed her M.S. degree at the University of Wyoming in 2016.



Subash Acharya has begun PhD. graduate studies under the supervision of **Dr. Derek Brake**. He has transferred from studies in Dairy Science.

Ethan Blom is pursuing his Ph.D. in Ruminant Nutrition under the direction of **Dr. Robbi Pritchard**. He completed his B.S. degree in Animal Science at SDSU in 2013 and received a M.S. degree in Ruminant Nutrition at SDSU in 2016. He is originally from Chandler, MN.



Christina Fehrman, from Lake Benton, MN has begun Ph.D. graduate studies in Meat Science under the supervision of **Dr. Keith Underwood**. She received a B.S. degree in Animal Science from SDSU in 2014 and completed her M.S. degree in Animal Science at the University of Minnesota in 2016.

Wes Gentry, from Lamesa, TX, received his B.S. degree in 2013 and his M.S. degree in 2016, both from West Texas A & M University. He has begun Ph.D. graduate studies in Ruminant Nutrition under the direction of **Dr. Robbi Pritchard**.



Sarah Mayes received her B.S. in Animal Science from SDSU in 2016 and has begun M.S. graduate studies in Ruminant Nutrition under the direction of **Dr. Cody Wright**. Sarah is originally from Minneapolis, MN.

Emmalee Northrup is pursuing her Ph.D. in Reproductive Physiology under the direction of **Dr. George Perry**. She completed her B.S. in 2013 at Michigan State University, and received a M.S. degree in Reproductive Physiology at SDSU in 2016. She is from Lansing, MI.



Emily Petzel is from Balsam Lake, WI and received her B.S. in Animal Science in 2016 from the University of Wisconsin-Madison. She has begun M.S. graduate studies in Ruminant Nutrition under the supervision of **Drs. Derek Brake and Jeffrey Held**.

Prakash Poudel, is pursuing his Ph.D. in Rumen Microbiology under the direction of **Dr. Ben St-Pierre**. He completed his B.S. studies in 2004 at Tribhuvan University (Nepal) and received his M.S. degree in Dairy Science in 2016 from SDSU. Prakash is originally from Besishahar, Lamjung.



Megan Taylor has begun M.S. graduate studies in Meat Science under the direction of **Drs. Keith Underwood and Amanda Blair**. She is from Estelline, SD and received her B.S. in Animal Science from University of Minnesota-Crookston in 2016.

Samantha Welu, of Milroy, MN is pursuing her M.S. degree in Monogastric Nutrition under the supervision of **Dr. Bob Thaler**. She received her B.S. in Animal Science from SDSU in 2016.



World Pork Expo



The Animal Science Department and College of Ag and Bio collaborated to host a booth at the World Pork Expo held in Des Moines, IA June 8-10. The new Swine Education and Research facility was featured in the display, along with fact sheets about the department and the Swine Science Certificate. **Drs. Joe Cassady and Bob Thaler** manned the booth, along with Ag-Bio Communications Director Lora Berg and intern Lorna Reimers.

69th Reciprocal Meats Conference

Ten members of the SDSU Meat Science program attended the 2016 Reciprocal Meat Conference (RMC) held June 19-22 hosted by Angelo State University in San Angelo, TX. **Heather Rode** competed in the graduate student poster competition and received honorable mention in the M.S. division with her poster titled *The impact of chromium supplementation on carcass characteristics and PPAR gamma expression in beef cattle*. **Megan Webb** also presented a research poster in the general poster session entitled *Effect of nursing calf implant timing on growth performance and carcass characteristics*. **Dr. Amanda Blair** (pictured) was invited to present *Fetal programming: implications in meat production* in the Advances in Applied Muscle Biology Concurrent Session. **Drs. Keith Underwood and Blair** were also members of the 2016 RMC Planning Committee and visited with potential students at the annual Career Fair. Undergraduate students **Carly Fritz, Josh Kirchenbauer, Logan Johnson, Shauna Kill and Maggie Vander Laan** competed in the Undergraduate Quiz Bowl competition. The Quiz Bowl team was coached by **Heather Rode and Megan Webb** and tied for fifth place out of 34 teams from around the country. **Adam Rhody**, Meat Lab Manager, was a member of the winning softball team. (submitted by A. Blair)



ASAS National Meeting (JAM 2016)

The 2016 Joint Annual Meeting was held July 19-23 in Salt Lake City, UT. Attendees included **Dr. Derek Brake**, **Dr. Joe Cassady**, who is serving a three-year term as a Director-at-Large, and **Dr. Julie Walker**, who chaired Extension Education Symposium: Growing Extension's Impacts with Changing Budgets and Personnel. Faculty oral presentations were given by **Dr. Crystal Levesque**, *Oregano essential oil supplementation in gestation and lactation shortened birthing interval in primiparous and multiparous sows* and **Dr. Tofuko Woyengo**, *Nutritive value of cold-pressed soybean cake with or without extrusion or supplementation of multi-carbohydrase for pigs*. Faculty poster presentations were given by **Dr. Tofuko Woyengo**, *Nutritive value of cold-pressed camelina cake with or without supplementation of multi-carbohydrase for pigs* and **Dr. Ben St-Pierre**, *Investigation of equine hindgut microbiota development in young horses*.



Graduate students giving oral presentations included: **Brooke Brunsvig**, *Effect of stocking rate on performance, diet selection and apparent total-tract digestibility among heifers grazing cover crops*; **Janna Kincheloe**, *Impact of maternal protein restriction in first-calf heifers during mid-to-late gestation on gene expression, feedlot performance, and carcass characteristics of progeny*; **Jessica Reiners**, *Effects of acidity and silage type on lysine retention among two lipid-coated ruminally protected lysine products*; and **Wes Gentry**, recent Master's work from West Texas A & M, *Effects of roughage inclusion and particle size on performance*

and rumination behavior of finishing beef steers. Graduate students with poster presentations were **Ethan Blom**, *Impact of metabolizable protein source on pancreatic enzyme activity in finishing cattle fed dry-rolled cornbased diets* and **Jacob Koepke**, *Evaluation of cold pressed soybean meal and pea protein as alternative amino acid sources in swine diets*.

International Travel

Dr. George Perry presented an abstract at the Association for Applied Animal Andrology (AAAA) Meeting, June 24-26 in Tours, France. It was titled *Characteristics of epididymal and ejaculated sperm when cultured in extender media*. AAAA meetings are held biennially in Europe or North America in order to stimulate and disseminate information on applied animal andrology.

Tours, France was also the location of the 18th International Congress on Animal Reproduction (ICAR)



ICAR 2016

Meeting, held June 26-30. ICAR sponsors a major conference every four years in various countries around the world and includes the foremost academics, scientists and practitioners in the field of animal reproduction, namely animal physiology, animal pathology and reproduction technology. **Dr. George Perry** presented an invited talk titled *Factors affecting puberty in replacement beef heifers*. Two graduate students attended ICAR and presented data

from their master's projects: **Stephanie Perkin's** poster and talk was titled *Characterization of miRNAs and piRNAs in the seminal plasma of beef bulls with predicted high and low fertility*; **Emmalee Northrop's** poster and talk was titled *Influence of preovulatory estradiol on conceptus survival and uterine glucose transporter expression*. Graduate student **Jerica Rich** attended and presented a poster titled *Differences in abundance of GnRH-I and GnRH-II among bovine antral follicles*.

Dr. Michael Gonda travelled to Johannesburg, South Africa July 1-10 on a planning trip for a new student travel class to South Africa which will be offered during spring break 2017.

Dedication of New Education and Research Facilities

Cow-Calf Education and Research Facility dedication will be held Friday evening, September 16, beginning with a social and tours at 5:00 p.m. All are welcome. Program and dedication will begin at 6:00 p.m. followed by a Chuck Wagon BBQ and live entertainment. The facility is located at 2901 Western Avenue.



Swine Education and Research Facility dedication will be held Saturday afternoon, October 1. A social and tours begin at 11:00 a.m. with a 12 p.m. program and dedication. A Pork BBQ will be served at 12:30 p.m. All are welcome. The facility is located at 2221 Medary Avenue.

Travel Notes

May 11-12, QCA Board Meeting, Des Moines, IA

Heidi Carroll attended QCA board and planning meeting as a member of national committee creating a national youth quality care of animals program.

May 17-19, NCCC 308 Committee, Ames, IA

Dr. Robbi Pritchard attended as a committee member.

May 23-25, NCERA-57 Committee, Columbia, MO
Dr. Jeff Clapper attended committee meeting on swine reproductive physiology (Multistate Research Coordinating Committee and Information Exchange Group).

June 6-8, NCERA-214 Committee, San Angelo, TX
Dr. Jeffrey Held and graduate student Jessica Reiners represented SDSU at the regional sheep research committee meeting.

June 5-10, NAEAA Conference, Hackettstown, NJ
Dr. Sara Mastellar attended National Association of Equine Affiliated Academics, Inc. an equine workshop hosted by Centenary College.

June 6-28, National Gamma Sigma Delta Conclave, Baton Rouge, LA Dr. Michael Gonda represented SDSU at the assembly.

June 7-10, World Pork Expo, Des Moines,
Drs. Joe Cassady and Bob Thaler met with supporters, attended swine seminars and the industry trade show in conjunction with the Expo.

June 13-17, Beef Improvement Federation Annual Meeting, Manhattan, KS.
Dr. Joe Cassady attend the meeting as Past Executive Director.

June 16-20, American Society of Microbiology, Boston, MA Dr. Ben St-Pierre attended Microbe 2016 and presented a poster *Investigation of sulfate reducing bacteria populations and their activity in anaerobic manure digesters.*

June 21, Outreach and Education Workshop, Becker, MN Heidi Carroll attended a workshop at Snake River Farms to continue learning about low stress bison handling and the growing bison industry.

June 28-30, I-29 Moo University, Rochester, MN
Heidi Carroll toured multiple dairy farms and a goat farm to observe current best management practices.

July 8, Feed Yard Assessment Training, Akron, IA
Heidi Carroll and Warren Rusche attended the training session.

July 11-14, Poultry Science Association Annual Meeting, New Orleans, LA Dr. Tofuko Woyengo attended PSA to meet with company representatives regarding research projects.

July 11-14, Chilean Tour Group, Various Sites in NE
Dr. Ken Olson accompanied a group of Chileans as they toured facilities to study management of an enterprise from conception to slaughter.

July 22-23, National Sheep Improvement Program Center of Nation Sale, Spencer, IA,
Ann Kolthoff transported and presented SDSU consignments at the sale. She also gave a talk titled *Shrink is Stealing Money from your Lamb Check.*

July 23-27, International Society of Animal Genetics Conference, Salt Lake City, UT
Dr. Michael Gonda attended the genetics conference.

July 26-27, National Pork Board Summer Meeting, St. Louis, MO Dr. Joe Cassady attended the meeting to represent SDSU.

July 27, Communication Workshop, Pipestone, MN
Heidi Carroll attended *Talk the Talk – Through Public Eyes* interactive workshop.

July 31-August 5, Feedlot Nutritionist Bootcamp, Amarillo, TX Dr. Robbi Pritchard and graduate student Ethan Blom attended the 'camp' which included 30 graduate students (primarily PhD students) from 13 states. Dr. Pritchard gave two presentations: *Evolution of the Consulting Nutritionist* and *The Truth about Ingredient Energetics.*

August 3, Pork Quality Assurance, Norfolk, NE
Dr. Bob Thaler collaborated with the University of NE on PQA advisor training.

August 7-10, W2012 Multistate Project Meeting, Scottsbluff, NE Dr. Ken Olson attended the annual meeting of the Multistate Research Project, and presented *Enhancing management, production, and sustainability of grazing ruminants in extensive landscapes.*

August 8, Minnesota Soybean, Starbuck, MN
Dr. Bob Thaler reported on the new swine building at the Minnesota Soybean Producers meeting.

August 10, Gate to Rail Lamb Carcass program, Russell, MN Evaluators weighed lambs and collected carcass data at a Superior Farms-Denver buying station near Russell. The researchers included **Dr. Jeff Held, Heidi Carroll, Ann Kolthoff and Lexi Slack.**

August 15-16, US Meat Animal Research Center, Clay Center, NE Dr. Derek Brake travelled with graduate students **Brooke Brunsvig, Erin Beck and Jason Griffin** for a tour and training at US MARC.

August 23, CAB Feeding Quality Forum, Grand Island, NE / August 25, CAB Feeding Quality Forum, Amarillo, TX Dr. Robbi Pritchard gave a talk *When Are Your Cattle Done?* at the forum(s) where current industry experts shared insights on research, science and raising beef cattle.

August 23-25, BFRDP Directors Meeting, St. Paul, MN Dr. Ken Olson attended as a Director, Beginning Farmers and Ranchers Development Program.

August 24, MN State Fair, St. Paul, MN Adam Rhody, Meat Lab Manager and graduate students **Megan Webb, Christina Fehrman, and Megan Taylor** served as judges at the MN State Fair Meat Judging Contest.

August 25-26, NC-1038 Regional Research Project Annual Meeting, Kansas City, MO Dr. George Perry attended the multistate research project meeting to report on research projects.

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Submitted by Carol Kleinjan, Editor