



Newsletter from the Department of Animal Sciences and Industry
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February 2013

News from KSU Animal Sciences

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We Need Your Help!

Please send questions, comments or ideas for future newsletter topics to lschrein@ksu.edu or call (785) 532-1267.

UPCOMING EVENTS...

- ↳ **It's not too late to join us for the Kansas Junior Swine Producer Day** which will be held Saturday, February 16, in Weber Arena. This highly interactive, hands-on educational event will be a fun filled day of activities in which youth, parents, swine project leaders and adults can increase their knowledge and experience of swine production and management practices. Presentations and demonstrations will be given by K-State graduate students and faculty, as well as featured speaker, Kyle Baade. Walk-in registrations are welcome, but will not be guaranteed a t-shirt. Visit www.asi.ksu.edu/youthprograms or contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Kristine Clowers (785-532-1264; clowers@ksu.edu) for more information.
- ↳ **Animal Sciences and Industry Department celebrates 100th anniversary of KSU Cattlemen's Day** - The 100th annual **KSU Cattlemen's Day** (previously known as Livestock Feeders Day) will be held on Friday, March 1, 2013. The schedule is as follows:
 - 8:00 a.m. Commercial Trade Show (Weber Arena)
 - 10:00 a.m. Morning Presentations:
Inaugural Henry C. Gardiner Lectureship: Designing Meats and Meals, Steve Hunt, US Premium Beef
Keeping Your Farm in the Family for the Next Generation, Ron Hanson, University of Nebraska-Lincoln
Cattle Market and Industry Short Run Outlook and Long Term Perspective, Ted Schroeder and Glynn Tonsor, KSU
 - 12:00 Lunch - Commercial Trade Show
 - Afternoon Break-out Sessions:
 - Ammoniation: Stretching your Forage Supply – Dale Blasi and Justin Waggoner**
 - Beef Selection Systems to Meet Market Trends – Bob Weaber and Mike MacNeil**
 - Developing a Strategic Plan for Farm Family Succession (Panel Discussion) – Led by Ron Hanson/ Moderated by Gregg Hadley**
 - Is All Ground Beef Created Equally? – John Unruh**
 - To Clone a Dead Steer, as Long as It's Not Too Dead – David Grieger**
 - Heifer Development in a High Cost Environment – Sandy Johnson**

A ribbon cutting ceremony and dedication will be held at 3:00 p.m. for the Stanley Stout Center. The day will conclude with a Celebration Social immediately following the conclusion of the Legacy Sale at the Stout Center. The complete program and registration information is available at www.ksubeef.org or www.asi.ksu.edu/cattlemeniday. For more information, contact Jim Drouillard (jdrouill@ksu.edu; 785-532-1204) or Dale Blasi (dblasi@ksu.edu; 785-532-5427).

↳ **Ribbon Cutting Ceremony Planned for new Stanley Stout Center.** You are cordially invited to the ribbon-cutting ceremony for the Stanley Stout Center to be held on Friday, March 1, from 3:00 – 4:00 p.m. The Center is located at 2200 Denison Avenue. The Legacy Bull Sale will be held immediately following the ribbon-cutting ceremony. A celebration social will be held after the sale.

↳ **KSU Legacy Bull and Heifer Sale offers proven genetics balanced in many traits.**

The KSU Legacy Bull and Heifer Sale will be held on March 1, 2013, at the conclusion of the Ribbon Cutting Ceremony for the Stanley Stout Center. The sale will begin at 4:00 p.m. in the Center. The sale will include 80 bulls; 30 registered females; 6 elite show heifer prospects; and 6 AQHA ranch and performance horses. For more information or a sale catalog, contact Ryan Breiner (rbreiner@ksu.edu; 785-532-6127).



↳ **Dr. Dan Morrical, Iowa State University, will be featured speaker at K-State Sheep Day.** Kansas State University will host K-State Sheep Day on Saturday, March 2, 2013 at the K-State Sheep & Meat Goat Center. This meeting is open to everyone. The schedule is as follows:

8:30 a.m.	Registration and Explore the Facility
9:00 a.m.	Welcome – Dr. Brian Faris and Dr. Ken Odde, KSU
9:15 a.m.	Thinking Outside the Flock – Dr. Dan Morrical, Iowa State University Sheep Specialist
10:15 a.m.	New Facility...What now? – Goals for the K-State Sheep and Meat Goat Center – Dr. Brian Faris
11:00 a.m.	Controlling Feed Costs – Dr. Dan Morrical Burdell Johnson , Sheep Producer, North Dakota
12:00	Lunch
12:45 p.m.	Why Are “Numbers” Important to the Sheep Industry’s and Your Future? – Dr. Dan Morrical
1:45 p.m.	Critical Nutrients for Lamb Survival – Dr. Dan Morrical
2:45 p.m.	Kansas Sheep Association Annual Meeting – Nancy Smith, KSA President
3:45 p.m.	Ultrasound Technologies Demonstration – ...Measuring loineye depth and backfat ...Determining pregnancy
5:00 p.m.	Adjourn

You will not want to miss this opportunity to hear Dr. Dan Morrical, from Iowa State, give several talks that may offer ways to improve your sheep operation. Registration is \$35 in advance and \$45 at the door. For more information and registration, visit our website at www.asi.ksu.edu/sheepday. If you have any questions or would like to participate as an attendee or sponsor, please contact Dr. Brian Faris, K-State Extension Sheep & Meat Goat Specialist, at 785-532-1255 or [bfraris@ksu.edu](mailto:brfaris@ksu.edu).

↳ **Mark Saturday, March 23, 2013 on your calendar for the Kansas Junior Meat Goat Producer Day.** This event is dedicated to meat goat production and management practices. The schedule is as follows:

8:45 a.m.	Registration
9:15 a.m.	Welcome and Remarks
9:30 a.m.	Market/Breeding Goat Selection
10:30 a.m.	Break
10:45 a.m.	Facilities
11:15 a.m.	Skillathon
12:00 p.m.	Lunch
12:45 p.m.	Health and Wellness
1:30 p.m.	Market/Breeding Goat Nutrition
2:15 p.m.	Break
2:30 p.m.	Market/Breeding Fitting and Showing
4:00 p.m.	Closing and Awards

Registration is \$15/participant and due by March 8, 2013. All participants will receive a T-shirt, complimentary lunch, and a Meat Goat Show Guide. Participants with registrations received after March 8 cannot be guaranteed a T-shirt. For more information, contact Brian Faris (bfraris@ksu.edu; 785-532-1255) or Kristine Clowers (clowers@ksu.edu; 785-532-1264).

↳ Plan to attend the **36th Midwest Processed/Cured Meat Workshop** on Friday, April 5, 2013 in Weber Hall at KSU. At the Meat Processing Workshop, learn techniques for improving product quality. Dr. Terry Houser, will explore production practices, including grass feeding beef, that affect marbling and tenderness to help you know what to look for when purchasing cattle for processing. With Dr. John Unruh, experience a ground beef sensory panel in the KSU sensory lab and find out if differences exist within ground beef. This is also a great opportunity to see, hear and ask questions as state award winning Wayne Beckman demonstrates the manufacture and techniques in making award winning bacon. John Wolf, KSU Meat Lab Manager will demonstrate production of the popular KSU Pepperoni sticks. Patrick Feeney from Sealed Air will discuss how you can improve your product shelf life through the type of packaging that you use for your products. A representative from Victorinox will show you how to select the best knives for cutting and processing meat. Many of you answered a KSU survey exploring the perception of mold in meat plants. Graduate student Alex Christiansen will share the survey results with you during the workshop. Come to the workshop and learn techniques to improve product quality that could result in tastier product, longer shelf life, and greater sales and business opportunities. Registration is \$100.00 per plant and includes lunch for 2 people and a parking permit for one vehicle. Contact Liz Boyle at lboyle@ksu.edu for more information.

↳ A swine **PQA Plus Advisor Training** will be held on Wednesday, May 15, 2013, in Manhattan, KS. The National Pork Board has updated the PQA Plus curriculum. Thus this is a MANDATORY training for all current PQA Plus advisors, regardless of your renewal date, or anyone desiring to be a PQA Plus Advisor. Mark the date on your calendar and watch for more details. For more information, contact Mike Tokach (mtokach@ksu.edu; 785-532-2032) or Joel DeRouchey (jderouch@ksu.edu; 785-532-2280).

↳ **K-State Animal Sciences Leadership Academy Planned for June 5-8.** Kansas State University will host the Fifth Annual K-State Animal Sciences Leadership Academy June 5-8 for young livestock industry leaders in Kansas. The program, hosted by the Department of Animal Sciences and Industry, focuses on increasing participants' knowledge of the Kansas livestock industry, as well as enhancing leadership skills.

Twenty high school students will be selected to participate, based on educational, community and agricultural involvement. Students will stay in campus housing and receive training in Weber Hall as well as tour the university's animal science facilities and Kansas livestock businesses. Students must apply by Friday, March 15. Candidates have to be enrolled in high school and able to participate in the entire academy. The academy is sponsored by the Livestock and Meat Industry Council.

More information, including registration forms, is available on the "Youth Programs" page of the Department of Animal Sciences and Industry website: <http://www.asi.ksu.edu/p.aspx?tabid=58> (Scroll to 2013 K-State Animal Sciences Leadership Academy). For more information, contact Kristine Clowers (clowers@ksu.edu; 785-532-1264).

↳ The **KSU Youth Horse Judging Camp – Beginners Section** will be held June 17, 2013 and the **KSU Youth Horse Judging Camp – Advanced Section** will be held June 13-14, 2013. Both camps will be held in Weber Arena on the KSU Campus. Registration for both camps is due May 1, 2013, with no late entries accepted. Camps will be limited to the first 30 participants for each. For more information and registration, visit the website www.asi.ksu.edu/p.aspx?tabid=1141 or www.YouthLivestock.KSU.edu. You can also contact Teresa Douthit, 785-532-1268, douthit@ksu.edu.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
March 1, 2013	KSU Cattlemen's Day – 100 th Anniversary	Manhattan
March 1, 2013	Stanley Stout Center Ribbon Cutting Ceremony	Manhattan
March 1, 2013	Legacy Bull and Heifer Sale	Manhattan
March 2, 2013	KSU Sheep Day	Manhattan
March 23, 2013	Kansas Junior Meat Goat Producer Day	Manhattan
April 5, 2013	Midwest Processed Meats Workshop	Manhattan
May 15, 2013	PQA+ Advisor Training	Manhattan
June 5-8, 2013	K-State Animal Sciences Leadership Academy	Manhattan
June 11-13, 2013	Developing and Implementing HACCP in Meat, Poultry and Food Processing	Manhattan
June 13-14, 2013	KSU Youth Horse Judging Camp Advanced Section	Manhattan
June 17, 2013	KSU Youth Horse Judging Camp Beginners Section	Manhattan
October 2-4, 2013	Developing and Implementing HACCP in Meat, Poultry and Food Processing	Olathe

WHAT'S NEW.....

Management Minute
“Experiencing Pain”

↳ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist “*Experiencing Pain*”

In Dr. Henry Cloud's book Necessary Endings, he discusses “pruning” of activities in our professional or personal life which may be using up precious resources that may better be implemented on higher impact activities---those very activities that we'd really like to be “about”.

One indicator of the need for change is whether our organization is experiencing “pain”. That “pain” could be lack of expected success in certain aspects of the business, poor interpersonal relationships in the workplace, or lack of clear leadership within a team.

Discomfort is normal for any organization, because change is normal. “Pain” can be temporary and part of normal growth such as: a downturn in the economy; loss of a key team member; a newly promoted manager is developing relationships and their own leadership style. This type of “pain” can be endured and will likely lead to future success.

However, other “pain” is chronic and not part of normal, healthy, growth. This “pain” must be dealt with and eliminated. Examples of abnormal and unnecessary “pain”: a poor workplace environment due to a disgruntled team member; lack of effective leadership on a team; permanent loss of sales due to a fundamental shift in the marketplace.

These are the signals that an ending is necessary, and this is the hardest and yet most important part of management. Like a surgeon, the effective manager must (1) diagnose the source of “pain”; (2) critically evaluate the prognosis (will it lead to healing on its own? or must the cause be eliminated?); and (3) take the necessary, and often difficult, steps to moving the organization forward.

This is the pathway to finding success on the other side of pain.

For more information, contact Chris at 785-532-1672 or cdr3@ksu.edu.

Feedlot Facts
“*Ionophores in the Cow Herd*”

↳ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist “*Ionophores in the Cow Herd*”

Use of ionophores in the feedlot industry is commonplace, but they are still a relative novelty in the cow/calf sector. It may help clarify the function and value of ionophores by starting with a refresher course on how the cow's rumen works.

We often say “the cow feeds the bugs, and the bugs feed the cow.” Rumen bacteria and other microbes break down the complex carbohydrates that are the major components of forage consumed by the cow, and in the process release much smaller compounds that the cow can use for energy. Some types of bacteria create byproduct compounds which have greater total energy value to the cow and produce less energetically wasteful byproducts, such as methane, than other types of bacteria.

Ionophores function by selectively killing certain types of bacteria in the rumen, which produce the less efficient fermentation, improving rumen environment for other bacteria that produce a more useful and efficient fermentation. By shifting the rumen population, the cow can get about 10% more useful energy out of a given feedstuff.

There are 2 ways to use this extra value. Since rumen volume and intake are limited by how much forage cows can consume, thin cows or heifers can get 10% more energy out of the same amount of forage, in order to put on body condition. But equally valuable is that we can actually reduce the forage needs for fleshy cows by 10% while still maintaining body condition.

It's up to the manager to decide how to make best use of the added efficiency, but given the current situation, it's nice to have these kind of choices.

For more information contact Chris at cdr3@ksu.edu.

↳ **Research Assistant, Beef Cattle Research Center** - The Department of Animal Sciences and Industry is looking for a Research Assistant to direct, supervise and coordinate daily activities at the Beef Cattle Research Center. This is a full time, 12-month, term position. B.S. in Animal Science or closely related discipline required. Possibility exists for Research Assistant to work on an advanced degree while in this position. Review of applications will begin February 26, 2013, and continue until the position is filled. View complete position announcement and application procedures at: <http://www.asi.ksu.edu/positions>.

↳ **LED Lighting Extends Color Shelf Life for Three Beef Products Compared with Fluorescent Lighting** – Beef loin steaks, inside round steaks, and ground beef were displayed in two refrigerated retail meat display cases equipped with LED or fluorescent lighting for up to 8 days. Internal product and case temperatures were measured, and products were evaluated for visual and instrumental color, *Enterobacteriaceae* and aerobic plate counts, and oxidate rancidity. Meat retail display cases with LED lighting had lower case temperatures, leading to greater efficiency in energy use and extended fresh meat color life of products compared with products under fluorescent lighting. Microbiological growth was not affected by lighting type, but some products had increased oxidation under LED lighting.

Bottom Line....Using LED lighting in retail meat display cases will save money by reducing overhead operational costs while extending the color life of beef loin steaks, ground beef, and beef inside rounds. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Liz Boyle (785-532-1247; lboyle@ksu.edu).

↳ **Pour-On Avermectins Are Not Effective for Elimination of Internal Parasites** – Forty cattle per pen from 10 pens within a single commercial feedlot were randomly assigned to receive either Ivomec (Merial Animal Health, Duluth, GA) pour-on or Vetrimec (Norbrook Laboratories Limited, Newry, Co. Down, Northern Ireland) pour-on avermectin. Rectal fecal samples were obtained on day 0 at the time of initial processing prior to treatment, and again on day 14. Animal weights were obtained on day 0, and again at production sort date. Fecal egg counts were obtained using the modified Wisconsin technique.

Cattle treated with Vetrimec pour-on avermectin had improved average daily gains compared with cattle treated with Ivomec pour-on (3.89 versus 3.74 lb/day, respectively). No differences were observed in parasite control between generic and name-brand products in this study, and neither treatment was entirely effective at reducing internal parasite burden.

Bottom Line....Generic and name-brand pour-on dewormers did not differ in efficacy, but neither was highly effective for reduction in internal parasites. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Dan Thomson (785-532-4844; dthomson@vet.ksu.edu) or Chris Reinhardt (785-532-1672; cdr3@ksu.edu).

↳ **Aging Method, USDA Quality Grade, and Endpoint Temperature Affect Eating Quality of Beef Longissimus lumborum Steaks** – Boneless strip loins were purchased from USDA Choice (n=9) and USDA Select (n=9) carcasses, cut into halves, and randomly assigned to 1 of 3 aging treatments (vacuum aging, dry aging, or aging in a special bag; VAC, DRY, and SB, respectively). Loin selections were aged from the time they were received at 8 days postmortem at 4°F for 21 days. For all aging treatments, 1-inch-thick steaks were prepared and cooked to one of two endpoint temperatures (145 or 160°F) for Warner-Bratzler shear force determination and sensory analysis.

VAC-aged loins had dramatically less weight loss during aging than both DRY and SB aging methods (2.90% versus 15.56% and 13.48%, respectively). Quality grade did not affect trim loss, but both DRY and SB aging methods resulted in much higher trim loss than VAC aging. DRY and SB aging resulted in similar combined losses, but combined losses were dramatically lower for VAC aging. Neither quality grade nor aging method affected Warner-Bratzler shear force; however, Warner-Bratzler shear force increased from 6.42 to 7.44 lb as endpoint temperature increased. Cooking loss for steaks cooked to 160°F was about 5% higher than for steaks cooked at 145°F. Quality grade and aging method did not affect juiciness, but steaks cooked to 145°F were juicier than those cooked to 160°F. Neither quality grade nor aging method affected myofibrillar tenderness, connective tissue amount, overall tenderness, or off-flavor intensity, but VAC-aged loins cooked to 160°F has lowest myofibrillar tenderness score. Choice, VAC-aged steaks cooked to 145°F had higher beef flavor than those cooked to 160°F.

Bottom Line....All three aging methods improved palatability, but DRY and SB aging had excessive trim losses and required extensive labor. Our trained sensory panel revealed few, if any, difference among DRY, SB, and VAC aging. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Liz Boyle (785-532-1247; lboyle@ksu.edu) or Michael Dikeman (785-532-1225; mdikeman@k-state.edu).

↳ An Evaluation of Supplemental Vitamin D₃ on Growth Performance of Pigs Pre- and Postweaning, Nursery Feed Preference, and Serum 25(OH)D₃

Preference, and Serum 25(OH)D₃ – Three experiments were conducted to evaluate the effects of supplementing different concentrations and sources of vitamin D₃ on pig performance, feed preference, and serum 25(OH)D₃.

In Exp. 1, a total of 398 barrows from 80 litters (PIC 1050, initially 7 d of age) were used in a 38-d study in a 2 × 2 factorial to determine the effects of vitamin D₃ supplementation from either a single oral dose or from high levels of vitamin D₃ in early nursery diets on pig performance and serum 25(OH)D₃. On d 7 after birth, matched sets of pigs within litters were allotted to 1 of 2 oral dosages (none or 40,000 IU vitamin D₃) in a randomized complete block design. Pigs were weighed at d 7 and at weaning (d 21). Following weaning, a subset of 300 barrows were used from d 21 to 45 to determine the effects of the previously administered oral vitamin D₃ and 2 levels of dietary vitamin D₃ (625 or 6,250 IU/lb; 0.80% Ca and 0.63% available P) from weaning to d 31 on pig growth and serum 25(OH)D₃. A common diet containing 625 IU/lb of vitamin D₃ (0.70% Ca and 0.47% available P) was fed from 31 to 45 d of age. No dose × diet interactions were observed. Serum 25(OH)D₃ increased on d 21 and tended to increase on d 31 after dosing pigs with oral vitamin D₃ prior to weaning. On d 31, serum concentrations increased with increasing dietary vitamin D₃ levels. Weaning weight was not influenced by the oral dose of vitamin D₃. Supplementing vitamin D₃ by either dose or diet did not influence nursery performance.

In Exp. 2, a total of 864 pigs (PIC TR4 × FAST ADN, initially 21 d of age) were used in a 30-d study to determine the effects of water supplementation of vitamin D₃ on nursery growth performance and serum 25(OH)D₃. Upon arrival to the nursery (d 0), pigs were allocated to pens and pens were randomly allotted to 1 of 2 water vitamin D₃ supplementation treatments (none or 4,000,000 IU/gal). There were 24 pigs/pen and 18 pens/treatment. Pigs were provided the water supplementation treatments from d 0 to 10. From d 10 to 30, pigs were administered water with no supplemental vitamin D₃. Common diets were fed throughout the study and were formulated to contain 1,000 IU/lb added vitamin D₃. Twelve pigs per treatment were randomly selected to be bled on d 0, 10, 20, and 30 to determine serum 25(OH)D₃ concentrations. Water supplementation of vitamin D₃ increased serum 25(OH)D₃ concentrations on d 10, 20, and 30 of the study but did not affect nursery growth performance.

In Exp. 3, 72 pigs (PIC 327 × 1050, initially 28 d of age) were used in 2 14-d feed preference comparisons to determine whether pigs discriminate in their choice of feeds containing different concentrations of vitamin D₃. On d 0, pigs were weighed and allotted to pens based on BW with 6 pigs/pen and 6 pens per feed comparison. The first preference comparison was between diets containing either 625 (control) or 6,250 IU/lb vitamin D₃, and the second comparison was between diets containing 625 (control) or 20,000 IU/lb vitamin D₃. Total pen feed intake was measured, and intake of each diet was expressed as a percentage of total intake. The percentage of feed intake did not differ between the control diet and the diet containing 6,250 IU/lb, but pigs chose to consume a greater percentage of the control diet (77%) than the diet containing 20,000 IU/lb of vitamin D₃.

Bottom Line...These experiments demonstrated that providing high levels of vitamin D₃ in an oral dosage, in the water, or in feed increased serum 25(OH)D₃; however, preweaning and nursery pig growth performance was not influenced by elevating vitamin D₃ above normal dietary levels. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (*This study conducted by J. R. Flohr, M. D. Tokach, S. S. Dritz, S. C. Henry, M. L. Potter, N. S. Shelton, L. Greiner, J. Connor, C. W. Hastad, D. Murray, R. Cain, K. Frerichs, E. L. Hansen, E. Fruge, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey.*)

↳ Effects of Increasing Dietary Wheat Middlings and Dried Distillers Grains with Solubles on Nursery Pig Growth Performance

A A total of 180 pigs (PIC 327 × 1050, initially 26.9 lb BW) were used in a 21-d trial to evaluate the effects of increasing dietary wheat middlings (mdds) and dried distillers grains with solubles (DDGS) on nursery pig growth performance. Pens of pigs were balanced by initial BW and were randomly allotted to 1 of 6 dietary treatments with 5 replications per treatment. The 6 corn-soybean meal-based diets were arranged in a 2 × 3 factorial with main effects of DDGS (0 or 20%) and wheat mdds (0, 10, or 20%). Diets were not balanced for energy, so as wheat mdds increased, dietary energy concentration decreased.

Overall (d 0 to 21), no DDGS × wheat mdds interactions were observed. Pigs fed increasing wheat mdds had decreased ADG and poorer F/G. Feed cost/pig and revenue/pig both decreased with increasing wheat mdds. Feeding pigs a diet containing 20% DDGS did not affect growth performance but decreased feed cost/pig.

Bottom Line...These data suggest that adding DDGS to diets containing wheat mdds can be used to decrease feed costs when formulating nursery pig diets; however, increasing wheat mdds decreased growth rate and economic return in this experiment. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (*This study conducted by J. A. De Jong, J. M. DeRouchey, M. D. Tokach, R. D. Goodband, S. S. Dritz, and J. L. Nelssen.*)

AS&I Faculty Spotlight



Luís Mendonça (mendonca@k-state.edu; 785-532-2652)
Assistant Professor/Dairy Extension Specialist

Dr. Luís Mendonça received a D.V.M degree in 2006 at Universidade Estadual de Maringá, Brazil. In 2007 he worked in a private practice that specialized in reproductive management and technologies (i.e. embryo transfer and in vitro embryo production), providing services to clients across various states of Brazil and in Bolivia. In 2008 he was hired as a postgraduate researcher at the Veterinary Medicine Teaching and Research Center in Tulare, CA, where he worked in large dairy operations and was involved in different aspects of dairy production research. He obtained his M.S. degree and completed his residency in Dairy Production Medicine (2012) at the College of Veterinary Medicine, University of Minnesota.

Dr. Mendonça joined the Department of Animal Sciences and Industry at Kansas State University in 2013 as a State Dairy Extension Specialist where he now has a 30% research and 70% extension appointment.

His current roles and responsibilities include development of an extension and research program addressing issues facing the Kansas and U.S. dairy industry. His goal is to develop and carry out research related to immune function, health, heat abatement and reproductive management of dairy cattle



Lindsey Hulbert (lhulbert@k-state.edu; 785-532-0938)
Assistant Professor/Animal Behavior

Dr. Lindsey Hulbert began her career in Animal Welfare research 11 years ago through the Howard Hughes Medical Institute Undergraduate research Program at Texas Tech University. Dr. Hulbert's research first started in understanding how housing and management conditions affect the behavior and stress responses in swine. Her research evolved into how stress affects the health and immune systems in other species, including laboratory rodents, beef and dairy cattle, and poultry. She also worked for 3 years for the USDA-Agriculture Research Services, Livestock Issues Research Unit in Lubbock, TX, where she studied the influence of cattle temperament on stress responses after transportation and handling. She achieved her PhD in 2010 and her dissertation focused on the research with the USDA, as well as the effects of feeding and weaning strategies in dairy calves. For the last 2 years, Dr. Hulbert did her post-doctoral work with Drs. Frank Mitloehner and Kirk Klasing at the University of California,

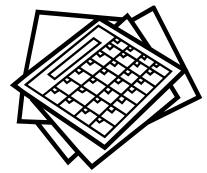
Davis. At UCD, her research projects included examining the influence of space allowance and group housing on dairy calf behavior stress responses and immunity.

Dr. Hulbert joined the Department of Animal Sciences and Industry at Kansas State University in January 2013.

What Producers Should Be Thinking About.....

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN APRIL.....

BEEF -- *Tips by Dale Blasi, Extension Beef Specialist*



Many producers should consider calving in this month. Stress is minimized and forage/grass management may be optimized.

- Keep calving areas as clean and dry as possible. Give each calf a dry, comfortable and clean environment.
- Supplement and feed cows to maintain or improve body condition prior to the breeding season (cows should be in moderate body condition by the start of the breeding season to maximize fertility).
- For thin, young cows, consider feeding fat to improve rebreeding rates. Research indicates that when feeding about 0.4 lb. per head per day of a plant source (soybean, sunflower, safflower oils), fat can increase first-service conception and pregnancy rates (0% to 15%). Feeding fat can be effective both before and after calving. Consult your nutritionist.
- Mineral supplementation should include greater levels of magnesium (intake should be between 15 to 30 grams (g) per head per day, or at least 11% of the mineral mix) for grass tetany prevention.
- Plan your breeding season, both AI and natural service. Make sure all supplies and semen are on hand prior to the breeding season. For natural-service programs assign yearling bulls to 10-15 cows, 2- and 3-year-old bulls to 20-25 cows, and older bulls to 25-40 cows. Breeding for 65 days should be long enough; less than 90 days is a key sign of good management. Some suggest the service capacity of a yearling bull (less than 24 months) is equal to his age in months at turn out.
- Bulls should be in good body condition prior to the breeding season. Thin bulls can run out of stamina. Now is the time to make sure bulls are physically capable of performing for the upcoming summer breeding season.
- Breeding soundness examinations are recommended for all bulls!
- Consider using estrus synchronization and AI. Several synchronization systems to overcome anestrus are available. Selection depends on labor, facility and implementation costs.
- Consider breeding heifers three weeks prior to the mature cow herd to give them a greater chance to rebreed.
- Maintain top management concerning calf scours (sanitary conditions, early detection, electrolyte/dehydration therapy).
- Vaccinate calves as per veterinarian consultation. Castrate males that are not candidates for breeding stock prior to pasture turnout. Implant calves that will be sold at weaning.
- Wait for fly control until critical numbers are reached (100 to 200 horn flies per animal).
- Deworm cows and bulls if needed. Expect performance response to be variable dependent on location, weather, grazing system, history, infestation level and management.
- Use prescribed burning techniques to eradicate Eastern Red Cedar trees and improve forage quality.
- Good fences make good neighbors. Summer pastures should have had fences checked, repaired or replaced by now.
- Check equipment (sprayers, dust bags, oilers, haying equipment) and repair or replace as needed. Have spare parts on hand; downtime can make a large difference in hay quality.

*We need your input! If you have any suggestions or comments on **News from KSU Animal Sciences**, please let us know by e-mail to lschrein@ksu.edu, or phone 785-532-1267.*