

News from KSU Animal Sciences

February, 2009



Newsletter from the Department of Animal Sciences and Industry
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WHAT'S NEW....

- ↪ **Nomination Changes** - Please check the Youth Livestock Web site at www.youthlivestock.ksu.edu for the most up to date information on the Nomination Process. The KJLS board will be reviewing Family Nomination and Housing and Care forms on February 13. It will then move on to the KSF board and we will have more information to share at the end of February. These changes will have little impact on beef weigh-ins that we understand are occurring currently. The only required paperwork to the 2008 process will be of a housing and care form that may be filled out any time before the May 1, 2009 and June 15, 2009 nomination deadlines (depending on specie). New noseprint cards that reflect the fee change to \$6 are available from distribution but are not required. If you choose to use the old cards please make the correction by hand to \$6. For more information, contact Sharon Breiner, Youth Livestock Coordinator at sbreiner@ksu.edu.
- ↪ **2009 Protocols for Synchronization of Estrus and Ovulation** – Updated protocol diagrams and a written description of the protocols from the Beef Reproduction Task Force can be found at <http://westcentral.unl.edu/beefrepro/resources.html>. These same protocols and diagrams are found in the major semen provider catalogs and used in the [ISU Estrus Synchronization Planner](#) software. A 5-day CIDR program for fixed-timed AI in cows has been added. This protocol requires two full doses of prostaglandin given 8 hours apart to be effective. Audio, Powerpoint slides and a summary of presentations made at the Dec 2-3, 2008 Robert E Taylor Memorial Symposium: Applied Reproductive Strategies in Beef Cattle can be found at <http://www.appliedreprostrategies.com/>. These materials represent the most current information for producers on these topics and show a 2009 date. For more information contact Sandy Johnson, sandyj@ksu.edu or 785-462-6281.
- ↪ **Youth Livestock Listening Session** - Join us for the Youth Livestock Listening Session on Wednesday, April 15, 2009, at 1:00 p.m. The Kansas State Fairgrounds will host the event at the Hansen Auditorium in the Encampment Building. We are looking into the possibility of taping the event for those who cannot be in attendance. You are also welcome to submit written comments in your absence. The discussion will be focused on four key areas: 1) Changes to Nomination Process, 2) Programming Considerations, 3) Education Opportunities, and 4) Awards, Premiums, and Sales. All comments should relate specifically to the Kansas State Fair and/or Kansas Junior Livestock Shows. Please submit comments to Sharon Breiner, Youth Livestock Coordinator at sbreiner@ksu.edu.
- ↪ **BRANDS Spotlight - Suggestions for Elite Users** –
If you have missed any of the practice sessions for the BRANDS software program, the recorded versions are available online at the following links:
➤ January 22 – <http://connect.oznet.ksu.edu/p375333711/>
➤ February 5 – <http://connect.oznet.ksu.edu/p49364894/>
For more information, contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).
- ↪ **Zilmax Improves Performance of Implanted and Non-implanted Finishing Steers** - Crossbred steers (n = 2279) weighing 940 lb were used in a 91-day finishing study to compare performance and carcass traits with and without administration of Revalor-S and Zilmax, a beta-adrenergic agonist. Steers received a Revalor-S implant or no implant with and without Zilmax for the last 30 days on feed followed by a 3-day withdrawal. Performance was measured as average daily gain, feed:gain ratio, hot carcass weight, dressing percentage, subcutaneous fat, ribeye area, and marbling.
The Bottom Line.....Zilmax improves performance of steers administered steroidal implants. Zilmax and steroidal implants additively stimulate lean growth by steers during the last 30 days on feed. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact Chris Reinhardt (785-532-1672; cdr3@ksu.edu).

↳ **Information Needs Regarding the National Animal Identification System in the Livestock Auction Market Industry** – In a national survey of livestock markets, respondents ranked their knowledge of NAIS program standards, adoption methods, and costs; indicated concern of sale speed being adversely impacted due to NAIS adoption; revealed how they think NAIS will affect their business; and revealed whether their facility had adopted electronic animal identification systems. Results were used to determine if any systematic factors were related to responses to specific questions.

The Bottom Line..... Livestock market operators need additional and on-going information regarding NAIS standards, adoption requirements, and costs. This information will affect operators' adoption rates and views of the NAIS. View the complete report at www.asi.ksu.edu/cattlemensday. For more information, contact Kevin Dhuyvetter (785-532-3527; kcd@ksu.edu).

↳ **Hot Topics in Equine Nutrition** – *“I think my horse is predisposed to laminitis, and I know that high fructan content in grasses can cause pasture-induced laminitis (founder). When is fructan content highest?”*

- Fructans accumulate in the stems of cool season grasses as an energy store.
- Warm season grasses do not accumulate fructan rather they store their energy as starch.
 - A starch overload can also lead to laminitis, so owners still need to be careful, but warm season grasses are recommended over cool season grasses.
- Fructan and starch
 - Are more concentrated in plants in the vegetative state (actively growing) and during re-growth.
 - Tend to increase during the day (highest in the evening) and decrease during the night (lowest in the morning).
 - Are elevated when conditions limit plant growth (but allow photosynthesis to continue).
 - Tend to be higher when temperatures are cooler.
 - Tend to be higher on sunny (vs. cloudy) days.
 - Fructan is elevated in drought conditions.
 - Are reduced under conditions that promote growth. Application of fertilizer is associated with decreased starch.
- Mowing will cause the plant to re-grow, thus the plant will “consume” its fructan and glucose thus reducing the amount stored in the plant and consumed by the horse.

Bottom line – Limit grazing time during rapid spring growth. For more information, contact Teresa Slough, KSU Equine Nutritionist (785-532-1268; tslough@ksu.edu).

↳ **Effects of Feeder Adjustment on Growth Performance of Growing and Finishing Pigs** – Two studies were conducted to determine the effects of feeder adjustment on growth performance of growing and finishing pigs. Both experiments were conducted at a commercial swine research facility in southwest Minnesota. In Exp. 1, a total of 1,170 barrows and gilts (PIC, initially 129.0 lb) were used in a 70-d study. Pigs were blocked by weight and randomly allotted to 1 of 5 treatments with 9 replications per treatment. The treatments were feeder settings of 1, 2, 3, 4, or 5, based on settings at the top of the STACO stainless steel dry feeders. Pigs were fed corn-soybean meal-based diets. From d 0 to 28, pigs fed from feeders with increasing feeder openings had increased ADG and ADFI. For d 28 to 70, increasing feeder setting did not affect any growth performance traits. Overall (d 0 to 70), pigs fed from feeders with increasing feeder openings had increased ADFI. Changing feeder setting did not affect ADG or F/G. In Exp. 2, a total of 1,250 barrows and gilts (PIC, initially 77.3 lb) were used in a 69-d study to determine the effect of feeder setting and diet type on growth performance of growing and finishing pigs. Pigs were blocked by weight and randomly allotted to 1 of 6 treatments with 8 replications per treatment. The treatments were arranged in a 3 × 2 factorial with main effects of STACO stainless steel dry feeder setting (1, 3, or 5) and diet type (corn-soybean meal- or by-product-based (15% DDGS and 5% bakery by-product). Overall (d 0 to 69), there were no feeder setting × diet type interactions for growth performance. Diet type did not affect growth performance. Increasing feeder openings increased ADG and ADFI. Feeder setting tended to influence F/G with the best F/G at feeder setting of 3. In conclusion, feeding pigs from feeders with a more open feeder setting increased ADG and ADFI and tended to improve F/G at middle feeder settings compared with more closed feeder settings. With the dry feeders used in this study, feed should cover slightly more than half of the feed pan to avoid limiting pig performance. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.W. Dutlinger, S.S. Dritz, M.D. Tokach, J.M. DeRouchey, J.L. Nelssen, and R.D. Goodband.)

↳ **Effects of Feeder Design on Growth Performance and Carcass Characteristics of Finishing**

Pigs – Two experiments were conducted to compare the effects of feeder design (conventional dry vs. wet-dry feeder) on finishing pig performance. In Exp. 1, 1,186 pigs (PIC 337 × 1050) were used in a 69-d experiment. Pigs were weighed (avg. 70.8 lb) and allotted to 1 of 2 feeder types in a completely randomized design. There were 22 pens per feeder type with 26 to 28 pigs per pen. All pigs were fed the same dietary sequence in 4 phases (d 0 to 10, 10 to 28, 28 to 50, and 50 to 69). Overall (d 0 to 69), pigs using the wet-dry feeder had greater ADG, ADFI, and final weight compared with pigs using the conventional dry feeder. In Exp. 2, 1,236 pigs (PIC 337 × 1050) were used in a 104-d experiment. Pigs were weighed (avg. 63.2 lb) and allotted to 1 of the 2 feeder types in a completely randomized design. There were 23 pens per feeder type with 25 to 28 pigs per pen. All pigs were fed the same feed budget (diet 1 = 59 lb/pig, diet 2 = 88 lb/pig, diet 3 = 121 lb/pig, and diet 4 = 130 lb/pig). On d 84, the 3 largest pigs per pen were marketed. Afterward, all remaining pigs were fed a fifth dietary phase containing Paylean until d 104. Carcass measurements were obtained after pigs were transported to a commercial abattoir on d 104. Overall (d 0 to 104), pigs using the wet-dry feeder had greater ADG, ADFI, and final weight compared with those using the conventional dry feeder. However, pigs using the wet-dry feeder had poorer F/G and increased feed cost per pig than pigs using the conventional dry feeder. Carcass yield, fat free lean index, premium per pig, and live value/cwt were increased, whereas average back fat depth was decreased for pigs using the conventional dry feeder compared with pigs using the wet-dry feeder. The combination of these effects resulted in a numerically lower net income per pig for pigs fed with the wet-dry feeder. These experiments demonstrate that growth performance of finishing pigs was improved with a wet-dry feeder compared with a conventional dry feeder. However, because carcasses of pigs fed with a wet-dry feeder yielded less and were fatter, more research is required to understand the dynamics among feeder design, feed intake, and economic return. 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. Bergstrom, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J.M. DeRouchey, and R.D. Goodband.)

↳ **Genetic Background Influences Pig Growth Rate Responses to Porcine Circovirus Type 2 (PCV2) Vaccines**

- A total of 454 pigs (21 d of age, 13.4 lb) were used in a 130-d field study to investigate porcine circovirus type 2 (PCV2) vaccine effects on growth performance of boars and gilts of 4 different genetic backgrounds: AxA (Duroc-based sire and dam), BxB (synthetic line sire and dam lines derived from Duroc, Pietrain, and Large White), AxB, and BxA.

Pigs were identified as potential test pigs at birth and ear tagged for identification. Characteristics including litter, genetic background, gender, and birth weight were recorded and used in allotting PCV2 vaccine treatment groups. Pigs were vaccinated according to label dose with a 2-dose commercial PCV2 vaccine (Circumvent PCV, Intervet Inc., Millsboro, DE) at weaning (d 0) and again 14 d later. Vaccinated and control pigs were comingled within the same pen for the duration of the study. Pigs were individually weighed on d 0, 40, and 130 to measure growth rate. Backfat and loin depth were measured on d 130 by using real-time ultrasound. Blood was collected on d 0, 40, and 130 for indirect fluorescent antibody measurement of PCV2 antibodies and polymerase chain reaction (PCR) analysis for determination of PCV2 virus load.

By d 130, vaccinates were heavier than controls. However, the magnitude of the weight difference between control and vaccinates was almost 4 times greater in the AxA pigs than in the BxB pigs. On the basis of growth performance, the different genetic backgrounds responded differently to the PCV2 vaccination even though they were comingled in the same pen. In the 2 pure-line populations, even the best performing portion of the population appeared to benefit from vaccination, suggesting that growth performance of most pigs is being affected by PCV2 infection. Control pigs exhibited a late increase in PCV2 antibody levels, a consequence of natural infection. In contrast, vaccinated pigs did not exhibit a late-finisher antibody rise. Vaccinated pigs possessed a decreased viral load (as quantified by PCR PCV2 viral DNA) at both d 40 and 130. The data demonstrate that genetic background affects either the expression of porcine circovirus disease or the response to the PCV2 vaccine. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by M.L. Potter, L.M. Tokach, S.S. Dritz, S.C. Henry, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.L. Nelssen, R.R.R. Rowland, R.D. Oberst, and R.A. Hesse.)

UPCOMING EVENTS...

- ↪ The next BRANDS software training via Adobe connect will be February 19, 2009, at 10:00 a.m. To join the training, go to: <http://connect.oznet.ksu.edu/asi/>. If you have not attended a Connect Pro meeting within the past few months, you will need to test your system before joining the training. To test your connection, go to http://connect.oznet.ksu.edu/common/help/en/support/meeting_test.htm. For a quick overview, go to http://www.adobe.com/go/connectpro_overview. For more information, contact Dale Blasi (dblasi@ksu.edu), Justin Waggoner (jwaggon@ksu.edu), Karl Harborth (harborth@ksu.edu) or Sandy Johnson (sandyj@ksu.edu).
- ↪ **Cattlemen's Day 2009** –The 96th annual Cattlemen's Day will be held Friday, March 6, 2009, in Weber Hall. The Trade show and educational exhibits will open at 8:00 a.m.
The morning program will begin at 10:00 a.m. and include featured presentations by Nevil Speer, Western Kentucky University, on "*Implications of Federal Policy Changes for U.S. Beef Producers*," and Rosemary Mucklow, National Meat Association on "*Meeting the Needs of Beef Consumers*."
The afternoon program will include breakout sessions on the following topics:
 - Mineral Supplementation Strategies* – Justin Waggoner, SW Area Livestock Specialist
 - Enhancing Value of Bull Beef Cows* – John Unruh and Michael Dikeman, Meat Scientists
 - Optimizing Reproductive Performance* – Sandy Johnson, NW Area Livestock Specialist
 - Planning for the Future with a Sound Heifer Development Program* – John Jaeger, Hays
 - Cattle Market Outlook* – Jim Mintert and Ted Schroeder, Agricultural Economists
 - Prevalence, Detection, and Control of Persistently Infected (PI) BVC in Cows* – Bob Larson
 - Genetics of Feed Efficiency in Beef Cattle* – Jennifer Bormann, Beef Cattle GeneticistMorning refreshments and lunch are included with registration. For complete details on the schedule and registration, visit <http://www.asi.ksu.edu/cattlemensday> or call 785-532-1267. New for this year, we are able to accept credit card payments with online registration. The registration deadline is February 27. Registration for KSU Cattlemen's Day will be \$15 per person in advance or \$25 per person at the door. For more information, please contact Dale Blasi (dblasi@ksu.edu; 785-532-5427) or Jim Drouillard (jdrouill@ksu.edu; 785-532-1204).
- ↪ The **32nd annual Legacy Bull and Female Sale** will be held on March 6, 2009, at the conclusion of KSU Cattlemen's Day. The sale will begin at 3:30 p.m. at the Purebred Beef Unit. For more information or a sale catalog, contact Ryan Breiner (rbreiner@ksu.edu; 785-532-6127).
- ↪ The **2009 Goat Production and Marketing Conference** will be held on Saturday, March 7th, 2009 at the Phillips County Fairgrounds, Phillipsburg, Kansas. The Conference will run from 9:00 a.m. CST to about 4:00 p.m. and is intended to address current topics within the goat industry. A Trade Show for commercial exhibits will be offered during the conference. For more information, please contact the Phillips – Rooks District Extension Office at (785) 425-6851 or email rboyle@ksu.edu.
- ↪ The **2009 Western Dairy Management Conference** will be held March 11-13, 2009, in Reno, Nevada. This conference offers the latest up-to-date dairy information. The seminar schedule will be March 11 and 12 from 8:00 a.m. to 5:00 p.m. and March 13 from 8:00 am to noon. Seminar topics include: Don't Let Shrink Kill You with High Feed Prices; Heat Detection and AI Technician Evaluation; On-Farm Culturing for Better Milk Quality; and much more. For a complete schedule and registration information, go to www.wdmc.org. Online registration is available this year or you can register by mail or fax. For more information, contact John Smith (jfsmith@ksu.edu; 785-532-1203).
- ↪ Weber Hall will host the first **K-State Youth Meat Goat Day**, on Saturday, March 14, 2009, beginning at 8:45 a.m. This exciting interactive event is designed for all ages and skill levels. Participants will receive a t-shirt and lunch in addition to the program. Registration materials are available at www.youthlivestock.ksu.edu. For more information, contact Sharon Breiner (sbreiner@ksu.edu; 785-532-1264) or Brian Faris (brfaris@ksu.edu; 785-532-1255).
- ↪ The **Kansas Junior Swine Producer Day** will be held on Saturday, March 21, 2009, in Weber Hall. This fun-filled day of activities is designed for youth and adults to increase their swine knowledge. Participants will receive hands-on education to provide a foundation in management and care for youth swine projects. Activities will begin in Weber arena at 8:45 a.m. Registration materials are available at www.youthlivestock.ksu.edu. All participants will receive a show pig information booklet, T-shirt and a complimentary noon lunch. As an added bonus, we will be giving away over \$500 in show equipment as door prizes throughout the day. For more details, contact Sharon Breiner (sbreiner@ksu.edu; 785-532-1264) or Joel DeRouchey (jderouch@ksu.edu; 785-532-2280).

- ↳ Make plans now to attend the **South Central Goat Conference** to be held on Saturday, March 21, 2009 at the Celebration Center in Lyons, Kansas. Featured speakers for the conference include Dr. Deb Mangelsdorf on “Artificial Insemination and Embryo Transfer” and Dr. Brian Faris on “The FAMACHA System.” The pre-registration deadline is March 13. For registration or more information, contact Jonie James, Harvey County Extension (jjames@ksu.edu; 316-284-6930) or Kent McKinnis, Reno County Extension (mckinnis@ksu.edu; 620-662-2371).
- ↳ **K-State Horse Show Judges Seminar & Youth Workshop** will be held on Saturday, April 4, 2009. All ages are invited to come learn more about equine evaluation! You can become certified to judge state shows or just sharpen your judging eye. The event will feature Mr. Aaron Callahan of Cambridge, IL as our guest speaker. Video classes will include halter, showmanship, western pleasure, western horsemanship, hunter under saddle and equitation. This seminar will also serve as the Kansas State Horse Show Judges Certification workshop. **Important change!** This clinic will not be offered in 2010 if you need to renew your certification in 2010 you will need to attend in 2009. In the future, we plan to alternate this clinic every other year. With this change renewal of certification will now be required every four years. Registration materials are available at www.youthlivestock.ksu.edu. For more information, contact Sharon Breiner (sbreiner@ksu.edu; 785-532-1264).
- ↳ **Youth Livestock Listening Session** - Join us for the Youth Livestock Listening Session on April 15, at 1:00 p.m. The Kansas State Fairgrounds will host the event in the Encampment Building. For more information contact Sharon Breiner, Youth Livestock Coordinator at sbreiner@ksu.edu.
- ↳ For a fun, educational day all about horses, don't miss the **High Plains Horseman's Day**, April 18th, at the Logan County Fairgrounds in Oakley. Learn about the hoof, nutrition, first aid, trail riding safety, and care of older horses. Doug Babcock, clinician and trainer, will present Common Sense Horse Training. Horse-crazy kid ages 7 to 12 can participate in the special “Cowpokes” session from 1-3 p.m. led by the Colby Community College Intercollegiate Horse Show Team. Cowpokes will learn all about the horse, what it eats, and what it likes. “Cowpokes” need not bring a horse but pre-registration is required. There is no charge to attend and lunch will be provided. Registration and displays open at 8 am. For more information or to register your “Cowpoke” contact Logan, Sheridan, or Thomas County extension offices or see www.thomas.ksu.edu.
- ↳ **K-State Animal Science Leadership Academy** - Kansas high school youth are invited to apply for participation in a dynamic new program designed to educate students about the livestock industry, through an engaging summer experience hosted by K-State Animal Sciences and Industry. The goal of this academy will be to further develop young leaders within the livestock industry and prepare them for a successful future in this field.

The four-day event, June 10-13, will focus on increasing knowledge of Kansas' diverse livestock industry, as well as building participant's leadership skills. Twenty-five high school students will be selected to participate based upon educational, community, and agricultural involvement, as reflected through an application process. For application and information visit www.asi.ksu.edu/YouthAcademy or contact Sharon Breiner, Youth Livestock Coordinator at sbreiner@ksu.edu.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
February 19, 2009	BRANDS software training via Adobe connect	
February 26, 2009	KSU Dairy Day	Whiteside, Kansas
March 6, 2009	KSU Cattlemen's Day and Legacy Heifer & Bull Sale	Manhattan
March 7, 2009	Goat Production and Marketing Conference	Phillipsburg, Kansas
March 11-13, 2009	Western Dairy Management Conference	Reno, NV
March 14, 2009	KSU Youth Goat Day	Manhattan
March 21, 2009	Kansas Junior Swine Producer Day	Manhattan
March 21, 2009	South Central Goat Conference	Lyons, Kansas
April 4, 2009	K-State Horse Show Judges Seminar & Youth Workshop	Manhattan
April 6-8, 2009	Spring Action Conference	Salina, Kansas
April 15, 2009	Youth Livestock Listening Session	Hutchinson, Kansas
April 18, 2009	High Plains Horseman's Day	Oakley, Kansas
June 10-13, 2009	K-State Animal Science Leadership Academy	Manhattan

AS&I FACULTY SPOTLIGHT



Joe Hancock (jhancock@k-state.edu; 785-532-1230)
Professor - Swine Nutrition and Management

Dr. Joe D. Hancock was born in 1956 and raised on a dry-land cotton farm in West Texas. He earned a B.S. degree in Agricultural Education and a M.S. degree in Animal Science from Texas Tech Univ. and then completed a Ph.D. in Swine Nutrition in 1987 at the University of Nebraska. He has been on the faculty at KSU since that time.

Dr. Hancock's assignment is 50% teaching and 50% research. He teaches nutrition classes, counsels students at the undergraduate and graduate levels, and currently is advisor to the Block and Bridle Club and APO (a campus-wide service fraternity). His research activities have centered on factors that limit fat, protein, and carbohydrate utilization in weanling pigs and processing techniques to maximize nutrient utilization and minimize nutrient excretion in finishing pigs and sows. These activities have resulted in publication of more than 350 abstracts, technical reports, symposia proceedings, journal articles, and book chapters. These publications have resulted in invited presentations in 26 countries in Europe, Asia, South America, Africa, Central America, and Canada.



K C Olson (kcolson@k-state.edu; 785-532-1254)
Associate Professor – Cow/Calf Nutrition

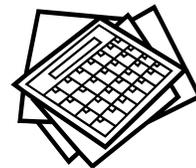
KC is an associate professor of cow-calf nutrition and management. He is actively involved in the undergraduate and graduate education programs at KSU and takes great pleasure in the privilege of helping to train the next generation of Great Plains ranchers and farmers. KC's research program is designed to address questions that directly affect beef industry profitability. Specific areas of research include: nutritional management of cattle grazing native range; effects of calfhod nutritional management on carcass quality and value; and factors influencing grazing behavior.

KC holds advanced degrees from Kansas State University and North Dakota State University. Prior to coming to KSU, he was on the faculty at the University of Missouri - Columbia. KC is active in the American Society of Animal Science, the Society for Range Management, the American Registry of Professional Animal Scientists, and the American College of Animal Nutrition.

KC originally hails from northwestern North Dakota, where he grew up on a commercial cow-calf and ranch horse operation. KC, his wife Karli, and sons Charles and Theodore reside northwest of Allen, Kansas. In his off-time, KC enjoys spending time with his family, being active in his church, and practicing the martial arts.

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.