



News from KSU Animal Sciences

December, 2016

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UPCOMING EVENTS...

PRE-GAME

with the

K-STATE COLLEGE OF AG

Tickets

To purchase tickets please use the following instructions:

1. Visit kstatesports.com/grouptickets
2. Enter the promo code: **AGALUMNI**
3. Click on Find Tickets.
4. Enter the quantity of tickets that you would like to purchase and click Add to Cart.
5. Select Delivery Method and click Checkout.

**Please ignore all messages and make to click Find Tickets.
**Tickets are only available while supplies last. For more information please contact the K-State Ticket Office at 785-532-7600.
\$10 of registration fee goes directly to student scholarships

When: January 14, 2017
1:00 - 3:00 PM
-K State vs. Baylor men's basketball tipoff at 3:30 PM

Where: Bill Snyder Family Stadium
West Stadium Center (WSC)

Cost: \$40 per person
\$15 3-12 year olds
2 and under FREE
-Price includes meal, drink, WSC tours, parking and short program **with remarks from K-State President, Richard B. Myers**
-Cash bar will be available

RSVP: By Sunday, January 8, 2017 at ag.ksu.edu/pregame



The 2017 **K-State Swine Profitability Conference** will be held on Tuesday, February 7, 2017. The location has changed to the Stanley Stout Center, 2200 Denison Avenue, Manhattan, KS. The schedule is as follows:

- 9:15 a.m. Coffee and Donuts
- 9:30 a.m. The Changing Landscape of the U.S. Swine Industry: What we are doing to keep our Producers Competitive
Barry Kerkaert, Pipestone Veterinary Services, Pipestone, MN
- 10:30 a.m. The Power of the Past, Leading People on the Farm and Surviving an Unknown Future
Nathan Smith, KS Smith Farms, Plains, KS
- 11:15 a.m. Our Barn Door is Open – How Telling our Farm Story is Rebuilding Trust
Brad Greenway, Mitchell, SD
- 12:00 noon Lunch
- 1:15 p.m. Pork Market Strategy Update
Kent Bang, AgStar Financial Services, Omaha, NE
- 2:15 p.m. Will the Real Pig Farmer Please Stand Up? We Want to Know You.
Chef Alli, ChefAllis.com-
- 3:00 p.m. Adjourn

Pre-registration fee is \$25 per participant by January 30; with registration at the door \$50 per participant. The complete schedule and on-line registration information can be found at www.KSUswine.org. For more information, contact Lois Schreiner at lschrein@ksu.edu or 785-532-1267.



↪ **K-State's Winter Ranch Management Series Set for January and February** - This seminar series, hosted in early 2017, will highlight 'Successful strategies for enhancing profit' for beef producers and allow producers to ask questions of their local, district and state extension specialists. With lower expected revenues from the sale of calves in 2016 and 2017 compared to 2014-15 prices many producers are seeking information on ways to improve their operations profit potential. With that in mind, the 2017 K-State Winter Ranch Management series of meetings will a series of short comments from extension educators on profit enhancing strategies practices for beef producers. The meetings will also feature a popular 'town-hall' style question and answer session between Kansas' cattle producers and extension specialists. The Winter Ranch Management Seminar series runs in January and early February.

The series has a history of being a successful stretch of meetings, which are hosted throughout the state of Kansas, said Bob Weaber, cow/calf specialist for K-State Research and Extension. Weaber, along with other state, district and local extension staff, will take part in the series to help answer producers' questions. The specialists will be prepared to answer a wide range of questions on beef cattle issues surrounding animal health, nutrition, management, genetics and reproduction during the Town Hall Q & A. Meeting times vary by location but all will include a meal. Participants are asked to RSVP for a selected location by the close of business one week prior to the event. Registration fees, which cover a meal, vary by location. Interested participants should contact their local host contact for registration and RSVP details. Locations and dates include:

Mound City, January 26, 2017
Syracuse, February 7, 2017
Salina, February 14, 2017
Olsburg, February 15, 2017
Atwood, February 21, 2017

More information about the K-State Winter Ranch Management Seminar Series is available at www.ksubeef.org. For more information contact Bob Weaber (bweaber@ksu.edu or 785-532-1460).

↪ **Make plans to attend Cattlemen's Day 2017** –The 104th annual Cattlemen's Day will be held Friday, March 3, 2017. All events for Cattlemen's Day will be held in Weber Hall. The Trade show and educational exhibits will open at 8:00 a.m. in Weber Arena.

Registration for KSU Cattlemen's Day will be \$20 per person in advance or \$30 per person at the door. Morning refreshments and lunch are included with registration. For more information and a schedule, visit www.asi.ksu.edu/cattlemensday or call 785-532-1267.

If you are interested in exhibiting at Cattlemen's Day or have any questions, please contact Dale Blasi (dblasi@ksu.edu; 785-532-5427) or Jim Drouillard (jdrouill@ksu.edu; 785-532-1204).

↪ **Dedication of new Purebred Beef Barn** – Plans are underway for the dedication of the new KSU Purebred Beef Barn. The Dedication Ceremony will begin at 3:00 p.m. on Friday, March 3, following Cattlemen's Day. Watch for more details.

↪ The **40th annual Legacy Bull and Heifer Sale** will be held on March 3, 2017, at the conclusion of the dedication for the new Purebred Beef Barn. The sale will begin at 4:00 p.m. at the Stanley Stout Center. For more information or a sale catalog, contact Tyler Leonhard at 785-565-1881 or john56@ksu.edu.

↪ The **2017 Kansas Junior Swine Producer Day** is scheduled for Saturday, March 11, 2017 in Weber Hall on the Kansas State University campus. This event will be a fun filled, educational day of activities in which youth, parents, swine project leaders, and adults can increase their knowledge and experience of swine production and management. This interactive, hands-on educational event will stimulate enthusiasm and provide a foundation for the management and care of youth swine projects. Presentations and demonstrations will be provided by K-State faculty and graduate students, as well as our guest speaker Kade Hummel. Kade works for JBS United as the Lindner United sales manager and was formally a field representative for the National Swine Registry for seven years. He has judged many prestigious shows across the country including the Houston Barrow Show, National Western, and numerous other state and county fairs.

Topics that will be covered include project selection, meat science, swine breeds and ear notching, proper grooming and clipping, nutrition and daily feeding, Youth PQA+ certification, daily care, the state nomination processes and update, VFD implications for show feed, and showmanship. A complimentary lunch and t-shirt will be provided for participants. Registration is due by February 22, 2017 and is \$15/person. Registrations received after February 22nd cannot be guaranteed a t-shirt and will be \$20/person. More information, a promotional flyer, and registration information may be found on the K-State Youth Livestock Program website: www.youthlivestock.ksu.edu under Kansas Junior Producer Days. Participants may register online at <https://commerce.cashnet.com/KSUASIND>. This event has been added to the university Pulse calendar. For more information, contact Lexie Hayes (785-532-1264; adhayes@ksu.edu).

↪ The **2017 Kansas Junior Meat Goat Producer Day** is scheduled for Saturday, March 25, 2017 in Weber Hall on the Kansas State University campus. This event will be an interactive, educational day in which youth, parents, meat goat project leaders, and adults can increase their knowledge about youth meat goat production and management. K-State faculty, staff, and guest speakers will cover topics such as market and breeding project selection, nutrition, health and wellness, the state nomination processes and updates, showmanship, and grooming. All ages and skill levels are invited to attend. A complimentary lunch and t-shirt will be provided for all participants. Registration is due by March 3, 2017 and is \$15/person. Registrations received after March 3, 2017 cannot be guaranteed a t-shirt and will be \$20/person. More information, a promotional flyer, and registration information may be found on the K-State Youth Livestock Program website: www.youthlivestock.ksu.edu under Kansas Junior Producer Days. Participants may register online at <https://commerce.cashnet.com/KSUASIND>. This event has been added to the university Pulse calendar. For more information, contact Lexie Hayes (785-532-1264; adhayes@ksu.edu).

The K-State Sheep & Meat Goat Center will be having their annual sale on the same date, following the Junior Meat Goat Producer Day. The program schedule will allow participants who would like to participate in both events to do so.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
January 14, 2017	Pre-Game with the K-State College of Ag	Manhattan
January 26, 2017	K-State Winter Ranch Management Series	Mound City, KS
February 7, 2017	K-State Winter Ranch Management Series	Syracuse, KS
February 7, 2017	KSU Swine Profitability Conference	Manhattan
February 14, 2017	K-State Winter Ranch Management Series	Salina, KS
February 15, 2017	K-State Winter Ranch Management Series	Olsburg, KS
February 21, 2017	K-State Winter Ranch Management Series	Atwood, KS
March 3, 2017	KSU Cattlemen's Day	Manhattan
March 3, 2017	KSU Purebred Beef Barn Dedication	Manhattan
March 3, 2017	Legacy Bull and Heifer Sale	Manhattan
March 11, 2017	KS Junior Swine Producer Day	Manhattan
March 25, 2017	KS Junior Meat Goat Producer Day	Manhattan

WHAT'S NEW.....

Merry Christmas and Happy New Year! The holidays provide a time to pause and reflect upon events of the past year. For livestock producers, 2016 overall was a very challenging year across all commodities. The ease of feed costs did provide needed relief but in many cases not enough to offset low market prices. As we look to 2017, we encourage producers to utilize the vast resources available through local, area and state Extension personnel. We are proud to be associated with the excellent team of professionals partnering in our mission to meet the needs of our clientele in the livestock industries.

*Thank you and have a Merry Christmas and Prosperous New Year.
Joel DeRouchey, Extension State Leader, Animal Sciences and Industry*

Management Minute "Maslow's Hierarchy and the Modern Workplace"

↪ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Maslow's Hierarchy and the Modern Workplace"

At the base of Maslow's hierarchy of needs, we strive to meet our physical and physiological needs, such as food, water, shelter, and safety and security. But very soon after these needs are met we have three levels which are very pertinent in the modern workplace.

1. Belonging. While the workplace may not be the most obvious source of our sense of belonging, many, for better or worse, derive their identity from their career. And others may simply not have a thriving social network or family for support. A healthy workplace, or at least one or more co-workers who are respectful, collegial, and compassionate can actually go a long way to fulfilling that role. With that need (at least partially) met, we move upward to...
2. Esteem. Again, there are many places from which we may derive our esteem, but the workplace can be a tremendous source of self-esteem for many. All too often, we focus on the ever-changing and evolving challenges extant in the workplace: budget cuts, interpersonal conflict, technological impediments, etc. What gets lost in the malaise of the daily grind is that we are, in fact, getting the job done. We are working, we are succeeding, we are producing. And each participant on the team has a hand in that ongoing success, and that needs to be acknowledged. The astute manager needs to intentionally prioritize acknowledgement, on a frequent and regular basis, not just after delivery of the big order or completion of the major project, but in the midst of the process, when tensions may be heightened or stressors may be greatest. This small effort by the team leader may go a long way to lifting morale, and providing that need of esteem. Although some people glean their self-esteem from tasks, others greatly benefit from personal recognition, no matter how small or private, of their value to the team. And after we feel that we belong to something greater than ourselves and something valuable, and once we feel that we have the esteem of knowing that we have contributed in a meaningful way to the success of the organization, team, or group to which we belong, we are on our way to the final rung of the ladder that is at the tip of Maslow's hierarchy...
3. Self-actualization.

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

Feedlot Facts "Prepare for the Cold"

↪ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Prepare for the Cold"

Successful cow/calf producers are ever vigilant of the body condition score of their cows during the winter and leading up to calving time. While the greatest drain on body condition is lactation without sufficient nutrient availability, especially late in the grazing season before the big, hungry calves are pulled off, and after the grass has lost much of its nutrient value.

Feedlot Facts – “Prepare for the Cold” (cont.)

However, possibly the second greatest drain on the cow's energy reserves is cold winter weather. It is difficult to feed on body condition after it is gone, especially during the third trimester when the gestating fetus is rapidly growing inside the cow and demanding nutrients, and while the cow is struggling to ward off cold winter weather to keep her own furnace stoked.

Prevention is much more effective than trying to play catch up.

A simple guideline for feeding cows is to remember that for every 1°F the effective ambient temperature (accounting for wind chill factor) drops below the cow's lower critical temperature (LCT: the lowest temperature at which the cow is “comfortable”), her energy requirement to maintain her body reserves increases by 1%. An English-continental-cross cow, with a good, dry, winter hair coat may have a LCT of 32°F. So if the temperature, with the wind chill factor, is 12°F, we need to be sure cows have access to 20% more energy. We can do this by providing a 20% greater amount of good quality hay; however, if cows are already consuming all they can of a medium quality or poor quality hay, we need to provide that increased energy in a more concentrated form.

If cows were already eating 25 lbs of a medium or poor quality hay, it will be difficult for them to consume an additional 5 lbs of hay to meet their energy needs; we need to supply additional concentrate. But that concentrate is better if it doesn't come in the form of a starch-based grain source. Instead, we need to seek out a fibrous energy source, such as distiller's grains, gluten feed, soy hulls, or wheat middlings.

The goal is to be aware of the increasing energy and protein needs of your cows as the gestating calf grows, and as the winter temperatures decrease. By supplying additional energy before the cow's body condition score slips, you can ensure that the cow will be in optimum body condition at calving time, which will give both the cow and the calf the best chance for post-calving success.

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

↳ **Research Assistant, Feedlot Manager position open** – Kansas State University is looking for a Research Assistant, Feedlot Manager. This is a full-time, 12-month, unclassified position. This position is to maintain the daily operations of the Beef Cattle Research Center which supplies support to graduate students and faculty for successful completion of their research and oversees procedures for detailed study documentation to comply with GLP/GCP standards. This position will direct, supervise and coordinate daily activities including employee supervision, posting research data, maintaining herd health programs and coordinating daily work and research activities of part-time employees. Please apply online at <http://www.k-state.edu/hcs/jobs/>. Screening of applications begins immediately.

↳ **IRM Redbooks for Sale** – We have a few 2017 IRM Redbooks left in the office to be sold on a first come first serve basis. The price will be: For orders of less than 10 = \$6.00/book; Orders of 10 or more = \$5.75/book which includes postage. To order your supply of redbooks, please contact Lois (lschrein@ksu.edu; 785-532-1267).

↳ **Freezing Strip Loin and Top Round Steaks Improves Warner-Bratzler Shear Force** – Choice strip loin, tenderloin, top sirloin butt, inside round, eye of round, and round flat subprimals were purchased from a commercial processing facility. *Longissimus lumborum* (LL), *psoas major* (PM), *gluteus medius* (GM), *semimembranosus* (SM), *semitendinosus* (ST), and *biceps femoris* (BF) muscles from their respective subprimals were fabricated into four steaks, vacuum packaged, and randomly assigned to treatments of fresh or frozen status and 7 or 21 days of aging. At the end of the designated aging time, fresh treatment steaks were cooked and frozen treatment steaks were blast frozen at -40°F for one week, and thawed for 12 hours in refrigerated storage prior to cooking. All steaks were cooked in a convection oven to 158°F, stored overnight, cored parallel to the muscle fiber orientation, and sheared using an Instron texture analyzer fitted with a Warner-Bratzler shear force blade attachment. Purge and cooking losses were measured to calculate total moisture losses.

Bottom Line... When designing research protocols and reporting results, it should be recognized that freezing may improve tenderness (lower Warner-Bratzler shear force) for the strip loin and inside round steaks, but has little impact on Warner-Bratzler shear force for the other hindquarter muscles. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Liz Boyle (785-532-1247; lboyle@ksu.edu).

↪ **Effect of Enzymatically Fermented Soybean Meal and *Lactobacillus Plantarum* on Nursery Pig Performance** - A total 360 pigs (PIC C-29 × 359, initially 12.2 lb) were used in a 45-d trial to determine the effects of enzymatically fermented soybean meal (EFS) and *Lactobacillus plantarum* (LP1) on nursery pig performance. Pigs were allotted by BW and sex, and randomly assigned to 1 of 4 dietary treatments, with 9 replications per treatment. Dietary treatments were arranged in a 2 × 2 factorial with main effects of added EFS (0 vs. 8% replacing soybean meal) and LP1 (0 vs. 0.1%). Experimental diets were fed in two phases (Phase 1: d 0 to 14 and Phase 2: d 14 to 24) with a common diet fed to all pigs from d 24 to 45 post-weaning. From d 0 to 14, pigs fed diets containing EFS had decreased ADG, ADFI, and d 14 BW compared with pigs fed diets without EFS. However, there were no differences in growth performance observed for LP1. From d 14 to 24, pigs fed diets containing EFS had improved F/G; however, there were no differences in ADG or ADFI among treatments. Furthermore, no differences in growth performance were observed for LP1. From d 0 to 24, pigs fed the diet containing EFS had a tendency for decreased ADFI compared to pigs fed diets without EFS; however, no differences were observed for ADG and F/G. In addition, pigs fed diets containing LP1 had a tendency for improved F/G compared to pigs fed diets without LP1, but no differences were observed for ADG or ADFI. During the common period (d 24 to 45), there was a tendency for increased ADFI for pigs previously fed diets containing LP1 compared to pigs previously fed diets without LP1; however, there were no differences detected for ADG or F/G. Overall (d 0 to 45), a LP1 × EFS interaction was detected for F/G where LP1 and EFS individually each improved F/G, but when combined, F/G was similar to the control diet. No differences were observed for the main effects of EFS or LP1.

Bottom Line... In conclusion, pigs fed EFS had decreased ADFI which led to lower growth rates immediately post-weaning. Interestingly, the addition of LP1 and EFS in nursery diets improved F/G when fed independently from one another, but when combined, no growth benefit was reported. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.M. Jones, J.C. Woodworth, J.M. DeRouchey, S.S. Dritz, M.D. Tokach, and R.D. Goodband.)

↪ **Determination of Probiotic and/or Chlortetracycline Inclusion Effects on Nursery Pig Growth Performance** - A total of 300 nursery pigs (DNA 200 × 400, Columbus, NE; initially 13.0 lb BW) were used in a 42-d study evaluating the effects of feeding chlortetracycline (CTC) in combination with probiotics on nursery pig performance. Probiotics are a class of antimicrobial alternatives designed to enhance growth performance and digestive tract health. Pigs were weaned at approximately 21 d of age and allotted to pens based on initial BW. Pigs were fed a common pelleted starter diet for 4 d and then weighed, and pens were allotted to 1 of 6 dietary treatments based on BW in a completely randomized design. The treatments were arranged in a 2 × 3 factorial with main effects of chlortetracycline (0 vs. CTC at 400 g/ton from d 0 to 42) and probiotic (0 vs. 1 lb/ton Bioplus 2B (Chr. Hansen USA, Inc., Milwaukee, WI)) vs. 1 lb/ton Poultry Star (Biomim America, Inc., San Antonio, TX). Experimental diets were fed in 2 phases (Phase 1: d 0 to 14 and Phase 2: d 14 to 42) and fed in meal form. On d 14 and 28, CTC was removed from the diet according to FDA regulations. For overall performance, there were no interactions between added probiotics and CTC. However, pigs fed CTC had improved ADG, ADFI, and overall BW compared with those fed diets without CTC.

Bottom Line... While adding Poultry Star to the diet increased BW and ADFI on d 14, there were no consistent benefits of feeding either probiotic alone or in combination with CTC. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by H.E. Williams, M.D. Tokach, S.S. Dritz, J.C. Woodworth, J.M. DeRouchey, R.G. Amachawadi, T. G. Nagaraja, and R.D. Goodband.)

AS&I Faculty Spotlight



Jennifer Bormann (jbormann@k-state.edu; 785-532-1222)
Associate Professor/Genetic Improvement of Beef Cattle

Originally from Muscatine, Iowa, Dr. Jennifer Minick Bormann grew up with Shorthorn cattle and horses. She earned a B.S. in Animal Science from Iowa State University in 1997, an M.S. in Animal Science from Oklahoma State University in 1999, and a Ph.D. in Animal Breeding and Genetics from Iowa State University in 2004. She joined the faculty at Kansas State University in 2004 with a 75% teaching and 25% research appointment. Dr. Bormann specializes in beef breeding and genetics and has worked on a number of projects, including collaborations with the NCBA and the American Angus Association. Currently, she teaches Genetics, Animal Breeding Principles, Advanced Animal Breeding, Equine Genetics and Introductory Horse Lab, and advises undergraduate students. She also is the head advisor for the KSU Pre-Vet Club.

Dr. Bormann, her husband Dale, daughter Kate, and son Luke reside south of Manhattan with their horses and dogs



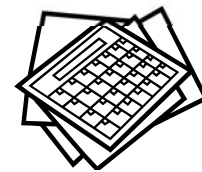
Lindsey Hulbert (lhulbert@k-state.edu; 785-532-0938)
Assistant Professor/Comparative Stress Physiology and Behavior

Dr. Lindsey Hulbert grew up in the southwest (AZ, NM) then began her career in animal physiology and behavior in Lubbock, TX through an undergraduate research program at Texas Tech University. Her first research projects involved 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 calves, and poultry. She also worked for the USDA-Agriculture Research Services, Livestock Issues Research Unit in Lubbock, TX. Dr. Hulbert was a post-doctoral at the University of California, Davis before moving to KSU in January of 2013. Dr. Hulbert has a passion for animals, science, and training students. In addition, she enjoys spending time with her family and her hobbies include Zumba and Salsa.

Dr. Hulbert's research team studies: Development and validation of automated technologies to monitor health and welfare of domestic animals; Understanding the effects of early-life stressors on nutritive and non-nutritive oral behaviors and immunity in calves; Improving resilience to stressors and immunocompetence through housing, management, and feeding strategies in calves and pigs; and Determining biomarkers of stress and inflammation for predicting and identifying disease

What Producers Should Be Thinking About.....

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



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

- Historically, cull cow prices are beginning to rise. Finish culling cows in order of priority:
 1. Those that fall within the "Four-O Rule" (Open, Old, Onry, Oddball).
 2. Those with physical/structure problems (feet and legs, eyes, teeth, etc.)
 3. Poor producers.
- Continue feeding or grazing programs started in early winter. Fully utilize grain sorghum and cornstalk fields, severe winter weather may begin to limit crop residue utilization, be prepared to move to other grazing and feeding systems.
- Supplement to achieve ideal body condition scores (BCS) at calving.
- Control lice, external parasites will increase feed costs.
- Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gallons of water per head per day, even in the coldest weather.
- Sort cows into management groups. Body condition score and age can be used as sorting criteria. If you must mix age groups, put thin and young cows together, and feed separately from the mature, properly conditions cows.
- Use information from forage testing to divide forage supplies into quality lots. Higher-quality feedstuffs should be utilized for replacement females, younger cows, and thin cows that may lack condition and that may be more nutritionally stressed.
- Consult your veterinarian regarding pre- and postpartum vaccination schedules.
- Continue mineral supplementation. Vitamin A should be supplemented if cows are not grazing green forage.
- Plan to attend local, state and regional educational and industry meetings.
- Develop replacement heifers properly. Weigh them now to calculate necessary average daily gain (ADG) to achieve target breeding weights. Target the heifers to weigh about 60 to 65% of their mature weight by the start of the breeding season. Thin, light weight heifers may need extra feed for 60 to 80 days to "flush" before breeding.
- Bull calves to be fed out and sold in the spring as yearlings should be well onto feed. Ultrasound measurements should be taken around one year of age and provided to the association.
- Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The lower critical temperature (LCT) is the temperature at which a cow requires additional energy to simply maintain her current body weight and condition. The LCT for cattle varies with hair coat and body condition (Dry, heavy winter coat = 18 degrees, wet coat = 59 degrees). Increase the amount of dietary energy provided 1% for each degree (including wind chill) below the LCT.

*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.*