



Newsletter from the Department of Animal Sciences and Industry
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UPCOMING EVENTS...

June 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.

➤ **2013 Dr. Bob Hines' Kansas Swine Classic planned for July.** The 2013 Dr. Bob Hines Swine Classic is scheduled for July 12-13, 2013, at CiCo Park in Manhattan. This two-day event includes educational workshops, showmanship contest, and a prospect and market hog show. It is open to all Kansas youth ages 7 through 18 as of January 1, 2013. **New for this year - All purebred pigs (both prospect and market) must have registration papers provided at time of check-in to qualify for the purebred classes.** This year's Classic will feature an Extemporaneous Speaking Contest and Swine Photography Contest along with an educational program which includes information on "Nutrition Tips for the Last 30 Days Prior to the Show."

On Friday afternoon, individuals will have the opportunity to compete in a public speaking contest. Extemporaneous speaking involves drawing three livestock and agriculture-related topics out of pool of topics. The contestant will select which topic they wish to speak about from the three options and will be given 30 minutes to prepare a speech about the selected topic. Contestants will then give their 3-7 minute speech in front of a judge and spectators who wish to listen. Participants will register on-site for the contest at no cost. It is preferred that all contestants are participants of the swine classic show. There will be two age groups, Intermediate: 7-13 and Senior: 4-18, as of January 1, 2013. Topics will be chosen by K-State Swine Graduate students and faculty. Guidelines and criteria for the speech will be given to the contestants at check-in. Awards will be given to the top speakers of each age group.

For the Swine Photography Contest, youth may submit up to 2 swine photos. Photos should be 8x10 size and should not be framed or matted. Photos will be placed in plastic sleeves and displayed throughout the weekend. Outlined below is a schedule of this year's program.

Friday, July 12

| | |
|------------|---|
| 12:00 p.m. | All hogs in place |
| 1:00 p.m. | Swine photo check-in |
| 1:15 p.m. | Extemporaneous Speaking Contest Check-in |
| 1:30 p.m. | Nutrition Tips for the Last 30 Days Prior to the Show |
| 3:30 p.m. | Ice cream party by the show ring |
| 5:30 p.m. | Showmanship Contests |

Saturday, July 13

8:30 a.m. Prospect Hog Show followed by Market Hog Show
 Entries close on July 1, 2013 (must be postmarked by June 29, 2013).

More information and registration is available at www.KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu), Jim Nelssen (785-532-1251; jnelssen@ksu.edu), or Kristine Clowers (785-532-1264; clowers@k-state.edu).



↪ The **K-State's Beef Conference 2013** will be held Tuesday, Aug. 6 in Frick Auditorium of K-State's College of Veterinary Medicine in Manhattan.



For the convenience of those who are not able to travel to Manhattan in person, the conference will be broadcast remotely to several sites around Kansas.

More information about K-State's 2013 Beef Conference will be available in coming weeks at www.asi.ksu.edu/beefconference.

↪ **Flint Hills Beef Fest planned for August** - Make plans now to attend the Flint Hills Beef Fest which will be held August 23-25, 2013. Founded in 1986, the Flint Hills Beef Fest is an annual celebration of the grass cattle industry for which the Flint Hills region of Kansas is known. Cattle Division Events include a Grass Futurity Contest, Live Stocker Cattle Show, Feedlot Contest and Carcass Competition. Events will take place on the Lyon County Fairground in Emporia, Kansas. For more details and a complete schedule of events, please visit <http://www.beeffest.com>.

↪ The **Kansas Livestock Sweepstakes** has been scheduled for August 24-25, 2013. This all-around event will feature contests in Livestock Judging, Meats Judging, Livestock Skillathon, and Livestock Quiz Bowl. A special prize will be awarded to the county that does the best in all four contests. Rules and past winners can be found at www.YouthLivestock.KSU.edu. Registration forms will need to be postmarked by August 1. Complete information for 2013 will be available soon on the Youth Livestock Web page.

↪ The **2013 KSU Beef Stocker Field Day** will be held on Thursday, September 26 at the KSU Beef Stocker Unit in Manhattan. Registration will begin at 9:30 a.m. and the day will conclude with a good old-fashioned Prairie Oyster Fry. Watch for complete details on www.KSUbeef.org. For more information, contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

| CALENDAR OF UPCOMING EVENTS | | |
|------------------------------------|--|-----------------|
| Date | Event | Location |
| June 17, 2013 | KSU Youth Horse Judging Camp Beginners Section | Manhattan |
| June 18-20, 2013 | Champions Livestock Judging Camp | Manhattan |
| July 12-13, 2013 | Dr. Bob Hines' Kansas Swine Classic | Manhattan |
| August 6, 2013 | KSU Beef Conference | Manhattan |
| August 23-25, 2013 | Flint Hills Beef Fest | Emporia, KS |
| August 24-25, 2013 | Kansas 4-H State Livestock Sweepstakes | Manhattan |
| September 26, 2013 | KSU Beef Stocker Field Day | Manhattan |
| October 2-4, 2013 | Developing and Implementing HACCP in Meat, Poultry and Food Processing | Olathe |

WHAT'S NEW.....

Management Minute **“Cattle Handling** **During the** **Summer”**

↪ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist
“Cattle Handling During the Summer”

During extreme weather conditions, both winter and summer, the rules need to change. Obviously, during or after a blizzard or ice storm, cattle handling considerations need to change, for the sake of the animals as well as the people.

However, these rules should also change during extreme heat conditions. Cattle comfort translates to cattle performance. Cattle don't have the capability to lie: if cattle are showing signs of distress, they are likely not comfortable and not performing well.

Physical activity causes the internal temperature of cattle to increase. So if cattle are processed during the heat of the day, cattle will have difficulty cooling themselves afterwards.

This leads to the question of when to process these cattle during hot, summer, conditions. Many producers will move processing activities to the very early morning hours if excessive heat is expected during the daylight hours. However, if cattle are not provided with several hours of cool morning temperatures after being returned to their home pen or pasture, their internal temperature may not return to normal prior to environmental conditions causing further heat stress.

Also, if environmental heat conditions during the day are excessive, and evening temperature and humidity does not fall sufficiently to allow cattle to cool their internal temperature, processing should probably be delayed until environmental conditions allow cattle to cool themselves both prior to and following processing. If the procedures are not an emergency, let it wait for cooler conditions.

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

↪ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist
“Heat Stress Abatement: Prevention IS the Cure”

Summer is upon us and is promising some record temperatures and heat conditions across the Midwest, and we're just coming into the time of greatest concern for heat stress. As beef producers and those of us who support the beef industry, it's our duty to prepare for all the possible contingencies that summer weather can bring. So, that being said, what are the tools we have in our toolbox to be better prepared to deal with the heat?

1. Pasture cattle fare better than confined cattle during heat events, provided that they can find adequate shade, elevated areas to catch more breeze, and abundant water quality and quantity to alleviate heat stress during the hottest times of the day.
2. Black-hided cattle sustain the greatest challenge due to absorption of more solar radiation compared to light-hided cattle, and the problem is exacerbated in heavy, long-fed cattle. Heat stress is caused by the combination of actual temperature, high humidity, lack of wind, and lack of cloud cover.
3. Shade works. Keeping solar radiation to a minimum during extreme heat events may eliminate the need for emergency intervention. Even some kind of temporary or portable shade structures which can be placed in pens prior to extreme heat events will give cattle relief and get you through the worst heat episodes.
4. Wind breaks contribute to heat stress. Even if no extreme heat stress may be evident, reducing potentially cooling breezes can make cattle less likely to consume and perform up to their full potential. If wind breaks are needed for the winter, consider some form of temporary wind break which can be removed for the summer months.

Feedlot Facts **“Heat Stress** **Abatement:** **Prevention IS the** **Cure”**

Feedlot Facts – “Heat Stress Abatement: Prevention IS the cure” (cont.)

5. Building mounds isn't just for during wet, muddy, conditions. Cattle will climb mounds for improved access to breezes. Cattle don't lie: if they're using shades and using mounds, they are probably more comfortable.
6. Extra drinking water space may provide comfort and alleviate the demand on the water system during peak heat hours. Remember: cattle cool themselves through evaporative cooling from their lungs and this can move a tremendous volume of water which needs to be replaced. Extra water space can be in the form of steel tanks or even feed bunks with tarps and sand bags on the ends to convert part of the bunk to an extended water tank. Space is critical as dominant cattle may simply stand at the water trough to breathe the cooler air over the water, and prevent others from getting needed water.
7. Bedding the pen with straw or light-colored hay provides a lighter-colored, reflective surface to provide cattle a (relatively) cooler place to lie down and rest, thus reducing their activity and comfort during already stressful conditions.
8. Sprinkling cattle may be essential. Spraying cattle is costly, time-consuming, and can contribute to increased humidity within the pen, but it also may be the difference between life and death for extremely heat-stressed cattle. Be hyper-vigilant for signs of extreme heat distress: open mouthed, labored, unabated, panting. Both cattle surface temperature and soil surface temperature are reduced as a result of spraying water which then evaporates, taking heat out of the surface. Have a full water truck on hand when the forecast calls for elevated temps, high humidity, minimal wind, and lack of cloud cover.

As summer heat comes at us, we all need to be prepared. Shade, extra water space, mounds to elevate cattle to catch extra breeze, and removal of wind breaks can help cattle effectively alleviate heat stress. Preparation is much more effective at reducing the costs of heat stress than interventions after extreme heat stress is obvious.

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

↳ **Byproducts Are Effective Alternatives to Corn for Receiving and Growing Cattle** - A 9-day study using steers was initiated at the Kansas State University Beef Stocker Unit in May 2012. All steers were completely randomized to diet treatments. Steers were assigned to 3 treatments with 8 pen replicates per treatment. The treatment groups included a traditional corn-based diet (Control), or diets in which corn, molasses, and a portion of a protein supplement were replaced with either 30% wet corn gluten feed WCGF or 30% WDGS.

Feeding WDGS during the receiving period increased dry matter intake but did not improve growth performance compared with cattle fed the Control and WCGF diets. Feeding WDGS during the growing period provided for increased gain and improved feed efficiency compared with cattle fed the Control or WCGF diets.

The Bottom Line: Replacing corn, molasses, and a portion of a protein supplement with 30% WCGF or 30% WDGS on a dry matter basis results in similar or improved growth performance. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact Dale Blasi (785-532-5247; dblasi@ksu.edu) or Larry Hollis (785-532-1246; lhollis@ksu.edu).

↳ **Calf Health and Performance During Receiving Is Not Changed by Fence-Line Preconditioning on Flint Hills Range vs. Drylot Preconditioning** - Calves were subjected to 1 of 3 ranch-of-origin preconditioning methods for 28 days: drylot weaning + dam separation (Drylot), pasture weaning + fence-line contact with dams (Pasture), and pasture weaning + fence-line contact with dams + supplemental feed delivered in a bunk (Pasture+Feed). After preconditioning, calves were shipped to a feedlot for finishing and placed on a grower ration for 60 days.

The Bottom Line: Health and performance of beef calves preconditioned in the Flint Hills was not improved by fence-line weaning. Best management practices may include beginning the transition to a grain-based diet on the ranch of origin. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact KC Olson (785-532-1254; kcolson@ksu.edu) or Bob Weaber (785-532-1460; bweaber@ksu.edu).

↳ **The Effects of Soybean Hulls and Their Particle Size on Growth Performance and Carcass Characteristics of Finishing Pigs** - A total of 1,235 pigs (PIC 337 × 1050; initially 68.4 lb) were used in a 118-d study to determine the effects of 7.5 and 15% ground or unground soybean hulls on growth performance and carcass characteristics of finishing pigs raised in a commercial environment. Pens of pigs were balanced by initial weight and randomly allotted to 1 of 5 dietary treatments in a completely randomized design with 26 to 28 pigs per pen and 9 replications per treatment. Treatments were arranged in a 2 × 2 factorial, and main effects were soybean hull particle size (unground or ground, 787 and 370 μ, respectively) and amount of soybean hulls (7.5 or 15%) in corn-soybean meal-based diets. The fifth treatment was a positive control, a corn-soybean meal-based diet. No particle size × soybean hull interactions occurred. Overall (d 0 to 118), increasing soybean hulls, regardless of particle size, did not affect ADG but numerically increased ADFI, resulting in poorer F/G. Although F/G became worse, increasing soybean hulls in the diet improved caloric efficiency on an ME and NE basis, indicating that published energy values undervalue the energy content of soybean hulls. Unexpectedly, grinding soybean hulls to a lower particle size worsened F/G and caloric efficiencies.

Because adding soybean hulls increases the dietary fiber content, pigs fed high amounts of soybean hulls would be expected to have greater gut fill, which is reflected by the lower carcass yield and HCW for pigs fed increasing amounts of soybean hulls. Increasing soybean hulls decreased backfat depth. The reduction in backfat resulted in an increase in percentage lean and fat-free lean index (FFLI) with increasing soybean hulls. Grinding soybean hulls to a finer particle size prior to diet manufacturing increased backfat depth and decreased percent lean and FFLI.

Bottom Line...In summary, increasing amounts of dietary soybean hulls to 7.5 or 15% did not affect ADG, ADFI, or final BW in growing and finishing pigs; however, F/G became poorer and carcass yield and HCW decreased. Thus, producers using soybean hulls in finishing diets may want to withdraw or reduce levels prior to market to decrease the negative impact on carcass yield. Further processing soybean hulls by grinding to a finer particle size provided no advantages in performance and actually worsened F/G. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by D. L. Goehring, J. M. DeRouchey, S. S. Dritz, M. D. Tokach, R. D. Goodband, and J. L. Nelssen.)

↳ **Effect of Diet Form and Feeder Adjustment on Growth Performance of Nursery Pigs** — Two experiments were conducted to determine the effect of feeder adjustment and diet form on growth performance of nursery pigs. In Exp. 1, a total of 210 nursery pigs (PIC 1050 × 327, initially 26.2 lb BW) were used in a 21-d trial. In Exp. 2, a total of 1,005 nursery pigs (Fast × PIC sows × TR4 boars, initially 31.1 lb BW) were used in a 28-d trial. Treatments in both experiments were arranged as 2 × 3 factorials with main effects of feeder adjustment and diet form. The 2 feeder adjustments consisted of a narrow feeder adjustment (minimum gap opening of 0.50 in.) and a wide adjustment (minimum gap opening of 1.00 in.). The feeders were adjusted to the minimum gap setting, but the agitation plate could be moved upward to a maximum gap opening of 0.75 or 1.25 in, respectively. The 3 diet forms were meal, poor-quality pellets (70% pellets and 30% fines), and screened pellets with minimal fines. Pigs were weighed weekly to calculate ADG, ADFI, and F/G.

In Exp. 1 (d 0 to 21), no differences were observed in ADG, ADFI, or F/G among pigs fed from feeders with different adjustment settings. Surprisingly, pigs fed the meal diet had increased ADG and ADFI compared with pigs fed the 70% pellets + 30% fines or screened pellets. Pigs fed screen pellets had improved F/G compared with pigs fed meal or 70% pellets + 30% fines. In Exp. 2 (d 0 to 28), pigs fed from the wide feeder adjustment had increased ADG and ADFI. There was no difference in F/G among pigs fed from the different feeder adjustments. Pigs fed screened pellets or 70% pellets + 30% fines had increased ADG compared with pigs fed the meal diet. No difference in ADFI was observed among pigs fed different diet forms. Similar to Exp. 1, pigs fed screened pellets had improved F/G compared with pigs fed meal or 70% pellets + 30% fines.

Bottom Line...The combined results suggest that feeding nursery pigs from a wide feeder gap may provide benefits in ADG and ADFI with no negative effects on F/G. An improvement in F/G was observed only in pigs fed the screened pellets; therefore, the percentage of fines in the diets must be minimized to obtain maximum benefits to feed efficiency from pelleting. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J. E. Nemecek, M. D. Tokach, E. Fruge, E. Hansen, S. S. Dritz, R. D. Goodband, J. M. DeRouchey, and J. L. Nelssen.)

AS&I Faculty Spotlight



Terry Houser (houser@ksu.edu; 785-532-1253)
Associate Professor/Meat Processing

Dr. Terry A. Houser was born in Cambridge, Nebraska in 1975. He is the youngest of seven children born to Clifford Houser Sr. of Cambridge, Nebraska and Verna Raye Horton of McCook, Nebraska. He attended the University of Nebraska-Lincoln from 1994-1998 for his B.S. degree and competed on both the Meats Judging Team and Meat Animal Evaluation Team while being very active in Alpha Gamma Rho Fraternity. In addition to campus activities, Terry completed two internships including one at Usinger's Famous Sausage in Milwaukee, Wisconsin and the other at Wimmer's Meat Products in West Point, Nebraska.

In 1999 Terry started his graduate program at Iowa State University in the area of Meat Science under the guidance of Dr. Joseph G. Sebranek and graduated with a M.S. in 2001 and a Ph.D. in 2004. His graduate research focused on irradiation, non-meat ingredient functionality, and needleless injection technologies for delivering vaccines to livestock. Upon completion of his Ph.D. he started his career as an Assistant Professor and Extension Meat Specialist at the University of Florida in Gainesville. In January 2007 he joined the Animal Science Faculty at Kansas State University with a 50% Research and 50% Teaching appointment in the area of Meat Science.

Terry's hobbies include hunting (deer, pheasant, turkey, and elk), competing in BBQ contests, fishing, and raising livestock.



John Unruh (junruh@k-state.edu; 785-532-1245)
Professor/Chair Food Science Undergraduate Program

Dr. John Unruh grew up on a diversified crop and registered Angus farm near Warden, Washington. The family ranch was also involved in commercial sheep production and was a charter member of the American Simmental Association.

John attended Washington State University and received his B.S. and M.S. degrees in Animal Sciences. He enjoyed competition on the Livestock and Live Animal and Carcass Evaluation Teams and later coached both teams while pursuing a M.S. degree. John received his Ph.D. in Meat Science (Animal Sciences and Industry) at Kansas State University.

Following completion of his graduate studies, John joined the faculty in the Department of Animal Sciences at Washington State University. He was the State Extension Specialist for Meat Science and Swine Production and later became Project Leader for Livestock Production, Management and Marketing.

John returned to KSU accepting a teaching and research position in the Department of Animal Sciences and Industry. While coaching the meat judging team from 1989 to 1996, the team won two national and four reserve national championships. Internationally, he has worked with university and producer organizations in Mexico and Costa Rica to improve the production, composition, and quality of meat. He has also led student agriculture study abroad groups to Costa Rica, Mexico, New Zealand, and Italy. His research interests integrate live animal production and management, carcass composition and quality, and sensory evaluation of meat.

In 2009, John became chair of the Undergraduate Food Science program. He has been recognized with several teaching awards including the American Meat Science Association Distinguished Teaching Award and Meat Judging Meritorious Service Award. John and his wife, Judy, live in Manhattan, KS and enjoy a variety of outdoor activities.

What Producers Should Be Thinking About.....

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



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

August is when forages are maturing, weaning time is approaching, and weather dictates several key management decisions.

Breeding Season

- Given high feed price inputs, ruthlessly cull all unsound cows from the herd. Cull cows that do not conceive after three services by a fertile bull.
- Limit the breeding season. Remove bulls after 60 days with cows, 45 days with heifers.

These methods contribute to a more uniform calf crop, makes winter feed management easier, and increases the success rate of next year's breeding season.

Cowherd Nutrition

- Provide ample amounts of clean, fresh drinking water.
- Conduct an inventory of forage needs for the winter feeding period
- Plan ahead and price availability of byproducts, such as wheat-middlings, dried distillers grains, etc. prior to typical seasonal price increases.

Herd Health

- If pinkeye is likely to be a problem, consider the following preventive and therapeutic measures.

Preventive:

- ◆ Make sure the herd is receiving adequate vitamins and trace mineral in their diet.
- ◆ Consider using a medicated trace mineral package.
- ◆ Consider vaccination for pinkeye and IBR (consult your local veterinarian).
- ◆ Control face flies.
- ◆ Clip pastures with tall, coarse grasses that may irritate eyes.

Therapy:

- ◆ Administer an intramuscular injection of long-acting oxytetracycline when symptoms are first noticed.
- ◆ Shut out irritating sunlight by patching eyes, shade, etc.
- ◆ Control flies.
- ◆ Consult your veterinarian.

- Consider revaccinating for the respiratory diseases any animals that will be taken to livestock shows.
- Vaccinate suckling calves for IBR, BVD, PI3, BRSV, and possibly pasteurella at least 3 weeks prior to weaning.
- Revaccinate all calves for blackleg.
- Vaccinate replacement heifers for brucellosis (4 to 10 months of age).
- Monitor and treat footrot.

Forage/Pasture Management

- Enhance grazing distribution with mineral mixture placement away from water sources.
- Observe pasture weed problems to aid in planning control methods needed next spring.
- Monitor grazing conditions and rotate pastures if possible and(or) practical.
- If pastures will run out in late summer, get ready to provide emergency feeds. Start supplemental feeding before pastures are gone to extend grazing.
- Harvest and store forages properly. Minimize waste by reducing spoilage.
- Sample harvested forages and have them analyzed for nitrate and nutrient composition.
- Plan for sufficient standing pasture for winter grazing needs.
- For stocker cattle and replacement heifers, supplement maturing grasses with an acceptable degradable intake protein/ionophore(feed additive) type supplement.

General Management

- Avoid unnecessary heat stress - Don't handle and/or truck cattle during the heat of the day.
- Repair, replace and improve facilities needed for fall processing.
- Order supplies, vaccines, tags, and other products needed at weaning time.
- Consider earlier than normal weaning, but have a marketing plan in place.

*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.*