



News from KSU Animal Sciences

December, 2006

WHAT'S NEW >>>>>>

↵ **Dr. Terry Houser has accepted the position of Assistant Professor in Meats Science** in the Department of Animal Sciences and Industry. After receiving his Ph.D. in Meat Science from Iowa State University, Dr. Houser served as Extension Meat Specialist at the University of Florida in Gainesville. His expertise is in the area of processed meats and meat processing technologies. He will be joining the faculty in mid-January. Please help welcome Dr. Houser to our team.

↵ **What can swine producers do with the high price of grain?** With sky rocketing corn and milo prices, producers are looking for any option available to lower feed costs. Sometimes alternative ingredients can be an option, but unless these alternative ingredient prices have been previously locked in, their cost increases proportionally with corn price. Therefore, for many producers moving to diets containing alternative ingredients is not an option. However one ingredient that is pricing in is fat. Right now adding fat is an economical option to evaluate. In addition the fat will reduce the amount of corn in a diet and may make your corn reserves last longer. Check with your swine extension personnel for more details on the economics of adding fat.

↵ **Feeding value of low and normal test-weight grain sorghum similar** - Growing conditions this year have produced grain sorghum with low test weights. Sorghum less than 55 pounds per bushel is docked an increasing amount as test weight decreases. At one northwest Kansas elevator, there was a \$0.12 dock for sorghum from 50.9 to 50 pounds and \$0.05 per pound for each pound less than that. Given that level of dockage at the elevator, a natural question is what is the feeding value of low test weight grain sorghum?

This question was addressed in growing and finishing steers at the Southwest Research and Extension Center in Garden City, KS. In the growing trial, 35, 45, and 55 pounds per bushel grain sorghum was used in either a limit-fed high concentrate or full-fed high roughage diet. Within a feeding level, average daily gain was not affected by sorghum test weight; however, gain tended to decrease with increasing test weight. Feed conversion in high concentrate steers was increased 11.4% compared to high roughage steers.

In the finishing trial, 35, 45, and 55 pounds per bushel grain sorghum was processed by either dry-rolling or steam-flaking. After 124 days on feed, average daily gain was similar for all test weights. Steam-flaking improved feed conversion compared to dry-rolled sorghum. Cumulative feed conversion was similar for the dry-rolled treatments at all test weights. However, steers fed steam-flaked, 55 pounds per bushel sorghum had a 10.8% improvement in conversion compared to the average of all other treatments. Carcass characteristics were not affected by sorghum test-weight.

Another study at the Agriculture Research Center in Hays compared 48 and 56 pounds per bushel grain sorghum in finishing steers. Feed consumption of steers fed the low-test sorghum was less and gain was slower than those fed normal sorghum. There was no difference in the net energy content of the two grains.

In light test weight sorghum, protein and fiber levels are increased, but starch content decreases as test weight declines. The higher protein content can be an advantage in ration formulation, especially for growing rations. Because of the smaller and variable seed size, fine processing is critical.

Relative feeding value of 40 to 55 pound grain sorghum is similar. Lower bulk density increases transportation, handling and processing time and cost and requires more storage space per ton. These costs should be considered when determining the value of low test weight sorghum. *Sandy Johnson, livestock specialist (sandyj@ksu.edu; 785-462-6281)*

☞ **Determining the effect of restricted feed intake on developing pigs weighing between 150 and 250 lb, fed two or six times daily.** Two 42-day studies were conducted to evaluate the effect of restricted feed intake and feeding frequency on the performance of pigs weighing from 150 to 250 lb. Our objective was to use the limit-fed finishing pig as a model for gestating sows who are also limit fed. In both experiments, pigs were housed in a 6 x 10 ft pen with half solid cement and half slatted flooring, and with one nipple waterer. The diet consisted of a diet based on corn-soybean meal, formulated to 1.15% TID lysine (1.29% total lysine) and 1,494 kcal of ME/lb. Energy and lysine were supplied to pigs to target an average growth rate of 1.75 lb/d, based on NRC values. Pigs were fed by dropping similar amounts of feed, either 2 or 6 times per day, by an Accu-Drop Feed Dispenser on the solid cement flooring with *ad libitum* access to water. In Exp. 1, there was an increase ($P < 0.01$) in ADG and a decrease ($P < 0.02$) in F/G for pigs fed similar amounts of feed 6 times per day, compared with pigs fed 2 times per day. In Exp. 2, increasing the feeding frequency of pigs fed a restricted diet from 2 to 6 times per day improved ADG ($P < 0.02$) and F/G ($P < 0.03$). These studies indicate that increasing the frequency of feeding may improve the metabolic efficiency of the growing pig fed a restricted diet. More research is needed to determine whether the greater gain is due to improved efficiency or whether there is another reason, such as a decrease in feed wastage. (This study conducted by J. D. Schneider, M. D. Tokach, S.S. Dritz, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey.)

☞ **Predicting growth rates of adult working boars in a commercial boar stud** - There is almost no information on ideal growth rates for adult boars, but estimates can be made if the relationship between boar weight and age is known. Therefore, this study was aimed to predict growth rates in adult working boars in a commercial boar stud. A total of 214 adult working boars from two genetic lines in a commercial boar stud were individually weighed on a platform scale. Age of the boar was recorded at the time of weighing. A regression equation to predict boar weight as a function of age was developed by using PROC REG of SAS. The model was used to predict BW on a daily basis, and ADG was derived as the difference between two predicted BW values. Factorial estimates of daily ME requirement and feeding rates were determined. The energy requirement for weight gain was computed by using the predicted ADG as a guide in setting target weight gains. Results showed a positive curvilinear response ($P < 0.01$) to describe the relationship between boar weight and age. Predicted ADG decreased in a curvilinear manner as the boars aged. In conclusion, on-farm growth rates can be predicted effectively by relating weight with age, taken from a representative number of boars in a given farm population. These data can then be used to develop farm-specific feeding programs or to set different growth curves for experimental purposes. More information is available on this experiment and others in the KSU Swine Day Report at www.asi.k-state.edu/swine. (This study conducted by R. C. Sulabo, J. Quackenbush, R. D. Goodband, M. D. Tokach, S. S. Dritz, J. M. DeRouchey, and J. L. Nelssen.)

☞ **The Center for Animal Disease Modeling and Surveillance (CADMS)** is working on a project to model the spread of foot-and-mouth disease in the US. This model could be used to identify the best strategies, including vaccination, to contain an outbreak and minimize the impact to the livestock industry. CADMS has already gathered data from livestock producers (beef, dairy, sheep, goats and swine) in the state of California and now the model is being expanded to encompass the entire nation. In order to obtain the necessary information for the model an online survey is now available to livestock producers. The survey can be found at: <http://www.cadms.ucdavis.edu>. CADMS guarantees that all the information will be kept confidential and will only be used for modeling purposes. Because of our contacts in extension, they are asking for our help in spreading the word on their survey. For more information, please contact Pelayo Alvarez at 530-554-2988.

☞ The introduction of a **National Animal Identification System (NAIS) into the United States** has generated much confusion and controversy. The goal of the NAIS is to utilize 48-hour traceback in the event of an animal disease outbreak, identifying all animals that have had contact with the diseased animal, while also linking an animal to its premises of origin. The NAIS has led to new technology and guidelines with the potential to change the production and marketing landscape of the beef industry. Moreover, these advances have led to public policy issues that have changed the rhetoric of our industry. The objective of this study was to examine the perceptions and attitudes of cow-calf producers toward emerging beef technologies and policy issues through a nationwide mail survey. By understanding the demographic of today's producers, in addition to their current practices, we can work toward better educating and understanding the concerns of these producers. Watch for more details in the 2007 Beef Cattle Research Report. For more information, contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

UPCOMING EVENTS >>>>>>>>>>

- ☞ Area Cattlemen Should Make Plans to Attend the **23rd Annual 4-State Beef Conference**. The conference planning committee has designed an excellent program that should have something of interest to all beef producers. Speakers and their topics for the 2007 conference are as follows:
- Dr. John Lawrence, Iowa State University – *What is the State of the Beef Industry?*
 - Dr. Rick Rasby, University of Nebraska – *Utilizing Co-Product Feeds—Storage, Purchasing, etc.*
 - Dr. Rob Kallenbach, University of Missouri – *Grazing Management*
 - Dr. Larry Corah, Certified Angus Beef – *Why is Percent Choice Declining?*
- The conference is scheduled for Wednesday, January 10th and Thursday, January 11th, 2007. The Wednesday morning session will begin at 10:00 a.m. in Holton, Kansas at the Jackson County Fair Building, and the afternoon session will begin at 4:00 p.m. in Tecumseh, Nebraska at the Community Building. The Thursday morning session will also begin at 10:00 a.m. in Lewis, Iowa at the ISU Armstrong Research Farm, and the afternoon session will start at 4:00 p.m. in Bethany, MO at the Community Center.
- The 4-State Beef Conferences are designed to give beef cattle producers in Iowa, Kansas, Missouri, and Nebraska an annual update on current cow-calf and stocker topics. The registration fee is \$25.00 per person and reservations are requested by January 5th, 2007. The fee includes a beef meal and a copy of the conference proceedings. For more information, contact your local county extension office, or visit our website at: www.extension.iastate.edu/feci/4StBeef/.
- ☞ The **Tri-State Cow/Calf Symposium** will be held on January 27, 2007, at the Dundy County High School in Benkelman, NE. For information, contact Sandy Johnson (sandyj@ksu.edu; 785-462-6281).
- ☞ The **32nd Midwest Processed Meat Workshop** is scheduled for January 27-28, 2007, in Weber Hall on the KSU campus. Speakers for the event will include a national expert in the area of Natural/Organic processed meats along with local cured meats contest champions and one from a neighboring state, to speak about making processed meats. A block of rooms (under Meat Group) is at the Clarion Hotel (formerly the Holiday Inn). More program details will follow soon. For more information, contact Dave Schafer at 785-539-7842.
- ☞ Plans are underway for the **KSU Swine Profitability Conference** to be held February 6, 2007, at the KSU Student Union. We have again invited outstanding speakers to present the latest information related to key decisions for new swine technology. Our morning program will begin with Dr. Robert Desrosiers, from Boehringer-Ingelheim (Canada), presenting the Jack and Pat Anderson Lecture on “*Current Understanding of the Transmission and Control of PCVAD.*” Alan Haverkamp, Bern, Kansas, will discuss “*How We’ve Grown Our Agribusiness with the Help of Family and Friends.*” The morning program will conclude with Dr. Mike Brumm, from Brumm Swine Consultancy, on “*Troubleshooting Growing-Finishing Production.*”
- The afternoon program will begin with Dr. John Lawrence from Iowa State University, presenting “*Will There be Enough Corn to Go Around? – Impact of Biofuels on Corn and Soybean Meal Prices.*” Stan Weber, color announcer on radio network for K-State sports, will conclude the day with this presentation on “*Life Lessons that can be Learned from the History of K-State Football.*” The program will adjourn at 3:15 p.m. Registration deadline for the 2007 Swine Profitability Conference is January 25. Brochures, including registration forms, will be mailed in early January. If you have any questions on the KSU Swine Profitability Conference, contact Jim Nelssen at jnelssen@ksu.edu; 785-532-1251.
- ☞ The **K-State Horse Show Judges Seminar** will be held on February 17, 2007, at Timbercreek Stables in Manhattan, Kansas. Dr. Steven Cooper will be the featured speaker. Steven judges many horse shows across the U.S. in addition to being a carded judge for the American Quarter Horse Association and the National Snaffle Bit Association. Live classes will include halter, showmanship, western pleasure, western horsemanship, hunter under saddle, equitation and trail. This seminar will serve as the Kansas State Horse Show Judges Certification workshop. Registration begins at 8:30 a.m. and the seminar will conclude by 2:00 p.m.
- Total fee for the seminar is \$10.00 per person, which includes a light lunch. Pre-registration is highly suggested and due by Friday, February 1. For more information, contact Julie Voge (785-532-1264; jvoge@ksu.edu).

- ☞ Mark your calendar for February 15, 2007, for the upcoming **KOMA Beef Conference** to be held at the Fort Scott Sale Barn, Fort Scott, Kansas.
- ☞ Plans are underway for the **KSU Sheep Day/Youth Sheep Day**, which will be held March 10 at Weber Hall. Watch for more details coming on this educational and fun event! For more information, contact Julie Voge (785-532-1264, jvoge@ksu.edu) or Cliff Spaeth (785-532-1255, cspaeth@ksu.edu).
- ☞ The **3rd Annual Sheep Breeders Showcase** will coincide with the Youth Sheep Day 2007. This is a great place for youth to meet the breeders and producers from the state. Many first time sheep owners are unaware of all the great breeders and people that are possibly right under their noses! This year will offer a new format concerning sponsorship for this exciting event. Sponsor categories will include Buckle (\$200 and above); Silver (\$150-\$199); Bronze (\$100-\$149) and Banner (\$50-\$99). Booth space will be in Weber Arena and time is scheduled for everyone to stop by your booth and visit with you about your product. If you are interested in being a part of the showcase/trade show, contact Julie Voge (785-532-1264; jvoge@ksu.edu).
- ☞ The **Western Dairy Management Conference** is set for March 7-9, 2007 in Reno, Nevada. For more information, including activities in and around Reno, visit the Western Dairy Management website at www.wdmc.org or call 785-532-2370.
- ☞ The **2007 Junior Swine Producer Day**, will be held on Saturday March 24th, 2007, in Weber Hall on the KSU campus. This program was last held in 2005, with almost 400 participants from across Kansas. The event this year will be a fun filled day of activities in which youth, parents, swine project leaders, and agents can all increase their knowledge and abilities associated with a swine project. More information and registration forms will be available in January. This event would be great for anyone interested in learning more about swine. The level of information presented will help anyone regardless of his or her level of experience in this area. This event would be a great family activity to help make the swine project a positive experience.

CALENDAR OF UPCOMING EVENTS

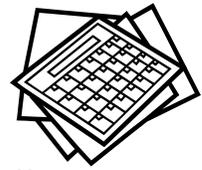
Date	Event	Location
January 10-11, 2007	4-State Beef Conference	
January 27, 2007	Tri-State Cow/Calf Symposium	Benkelman, NE
January 27-28, 2007	Midwest Processed Meats Workshop	Manhattan
February 6, 2007	KSU Swine Profitability Conference	Manhattan
February 15, 2007	KOMA Beef Conference	Fort Scott, KS
February 17, 2007	K-State Horse Show Judges Seminar	Manhattan
March 2, 2007	KSU Cattlemen's Day	Manhattan
March 7-9, 2007	Western Dairy Management Conference	Reno, Nevada
March 10, 2007	KSU Sheep Day and Youth Sheep Day	Manhattan
March 24, 2007	KSU Junior Swine Producer Day	Manhattan
April 7, 2007	Wildlife Habitat Evaluation Contest	Manhattan

On behalf of everyone in the Department of Animal Sciences and Industry, I would like to wish all of you Happy Holidays and best wishes for a successful and prosperous New Year in 2007. As partners of the outreach component of Kansas State University, we are proud to be working with you to meet the needs of our clientele in the livestock industries. Thank you for all of your hard work in the past year as we look forward to a successful 2007. Please let us know how we can better help you serve our joint clientele.

Thanks,

Mike Tokach, Extension State Leader, Animal Sciences and Industry

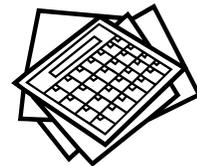
WHAT PRODUCERS SHOULD BE THINKING ABOUT IN FEBRUARY.....



BEEF -- Cowherd Tips by Twig Marston, K-State Beef Extension Specialist, Cow/Calf

- 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. Use this formula to compare the basis of cost per lb. of CP: $\text{Cost of supplement, \$ per hundredweight (cwt.)} \div (100 \times 5\% \text{ CP}) = \text{cost per lb. CP}$. Use this formula to compare energy sources on basis of cost per lb. of TDN: $\text{cost, \$ per ton} \div (2,000 \times 5\% \text{ DM} \times 5\% \text{ TDN in DM}) = \text{cost per lb. of TDN}$.
- Control lice, external parasites could 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.

WHAT SWINE PRODUCERS SHOULD BE THINKING ABOUT



- Because of the high price of grain swine producers should:
 - ✓ Check particle size of the diet
 - ✓ Properly adjust feeders to minimize wastage
 - ✓ Make sure diets are thoroughly mixed
 - ✓ Double check to see feed budget targets are being met.

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.