



# News from KSU Animal Sciences

## November, 2007

### WHAT'S NEW >>>>>>

- ☞ We are pleased to announce that Dr. Brian Faris has accepted the offer as Assistant Professor and **Sheep/Meat Goat Extension Specialist**. Brian will be starting soon after the first of the year.
- ☞ **KSU Equine Education Center Groundbreaking** – Approximately 175 people attended the groundbreaking for the new KSU Equine Education Center on Saturday, October 27. The program was emceed by Provost Emeritus, Jim Coffman. Other speakers were Fred Cholick, Dean and Director, Duane Nellis, Provost, Ken Odde and Duane Walker, Tee Jay Quarter Horses, Canton, Kansas.

K-State plans to build the equine education center in two phases. Phase I will include two buildings. One building will house a large indoor arena. The other will include a smaller indoor arena, horse stalls, classrooms and a space for K-State's Equestrian Team. The second phase will include a building with more stalls, a facility to serve as home for the KSU Rodeo Team, and space for a potential equine therapy program. For more information on the Equine Education Center, contact Ken Odde (785-532-1227; kenodde@ksu.edu) or Aaron Hund (785-532-7528; aaronh@found.ksu.edu).
- ☞ **Effects Of Adding Beef Tallow To Diets With Sorghum-Based Dried Distillers Grains With Solubles On Growth Performance And Carcass Characteristics In Finishing Pigs** - A total of 112 barrows (average weight of 158 lb) were used in a 65-d growth assay to determine the effects of adding beef tallow (a source of saturated fat) into diets with high inclusion of dried distillers grains with solubles (DDGS). The pigs were sorted by ancestry and blocked by weight with seven pigs/pen and four pens/treatment. Treatments were a corn-soybean, meal-based control and diets having 40% DDGS (US Energy Partners, Russell, KS) with none, 2.5, and 5% added tallow. Feed and water were consumed on an *ad libitum* basis until the pigs were slaughtered (average wt of 287 lb) to allow collection of carcass data and jowl samples. Fatty acid composition of the jowl samples was used to calculate iodine value as an indicator of carcass fat firmness. Overall (d 0 to 65), the corn-soy control supported greater ADG and ADFI with no difference in F/G compared to the DDGS treatments. Increasing fat additions from none to 5% in diets with DDGS did not affect ADG but improved F/G by 9%. As for carcass data, adding DDGS to diets reduced HCW ( $P<0.004$ ) and dressing percentage but increased iodine value of jowls compared to pigs fed the corn-based control diet. Among the DDGS treatments, hot carcass weight, dressing percentage, and backfat thickness responded positively as fat addition to the diets was increased from none to 5%. However, changes in iodine value indicated a trend for deposition of softer fat in pigs fed DDGS when additions of beef tallow were increased in the diet. In conclusion, adding beef tallow to diets with DDGS improved efficiency of growth and several carcass measurements but did not improve iodine value of jowl fat. More information is available in the 2007 KSU Swine Day Report at [www.ksuswine.com](http://www.ksuswine.com). (This study conducted by C. Feoli, J.D. Hancock, S. Issa, T.L. Gugle, S.D. Carter, and N.A. Cole.)
- ☞ **Mature Open Cows are Rarely Persistently Infected with Bovine Viral Diarrhea Virus** – Individual ear skin samples were collected from 1509 mixed breed, open cows and analyzed for presence of BVD persistent infection with an antigen capture ELISA test. Examination of Official Calfhood Vaccination (OCV) tattoos revealed age information on 63.4% (956 of 1,509) of the animals. Most of the cattle in the survey population were young to early middle-aged (vaccinated in 2000 or later). The demographics are very similar to animals that a herd owner would encounter when buying mature replacement animals for the breeding operation. Antigen capture ELISA test results were negative on all 1,509 animals. This test does not evaluate animals for acute infections, but rather should only identify persistently infected animals. In this population there were no persistently infected animals.

*Bottom Line...*Based on this research, importing mature open animals poses a very low risk for introducing a persistently infected animal; although still a potential risk, younger animals and the fetuses/calves carried by pregnant cows of any age are considered a much greater risk for introducing BVD to a herd. For more information, contact Brad White (785-532-4243; bwhite@vet.ksu.edu) or Larry Hollis (785-532-1246; lhollis@ksu.edu).

↵ **Effects of Different Creep Feeder Designs And Feed Accessibility On Creep Feed Consumption And Litter Performance** - The objective of this experiment was to determine the effects of different creep feeder designs and increased feed accessibility on creep feed consumption and pre-weaning performance. A total of 54 sows (PIC Line 1050) and their litters were used in this study. Two groups of sows were blocked according to parity and date of farrowing using a randomized complete block design and allotted to three experimental treatments: Treatment 1 – rotary feeder with hopper (Control), Treatment 2 – rotary feeder without hopper, and Treatment 3 – pan feeder. A creep diet (1,614 kcal ME/lb, 1.51% TID Lys) with 1.0% chromium oxide was offered *ad libitum* at d 18 until weaning (d 21). A single lactation diet (1,586 kcal ME/lb, 0.97% TID Lys) was used, where sows were allowed free access to feed throughout lactation. Piglets were weighed individually at d 0 (birth), 18, and 21 (weaning) to calculate total and daily gains. Litter creep feed intake as feed disappearance was also calculated. Fecal samples from all piglets were taken twice using sterile swabs between 3 and 12 h before weaning for all treatments. Piglets were categorized as ‘eaters’ when the fecal sample was colored green at least once on any of the two samplings. Results showed no differences in pig and litter weights at weaning among litters using the different types of creep feeder. Total and daily gains of pigs and litters were also similar across treatments. Litters using the rotary feeder without the hopper or the pan feeder had 2.7 times greater total creep disappearance than those using the rotary feeder with the hopper. The average feeding frequency was 1, 2.3, and 4.2 times per 12 h for the rotary feeder with and without the hopper, and the pan feeder, respectively. Creep feeder design influenced the proportion of eaters created among piglets provided with creep feed. There were 69, 47, and 42% eaters in creep-fed litters using the rotary feeder with a hopper, rotary feeder without hopper, and pan feeder, respectively. In conclusion, the proportion of eaters in creep-fed litters can be influenced by non-dietary factors, such as creep feeder design. More information is available on this experiment and more in the KSU Swine Day Report at [www.ksuswine.com](http://www.ksuswine.com). (This study conducted by R. C. Sulabo, M. D. Tokach, E. J. Wiedemann, J. L. Nelssen, S. S. Dritz, R. D. Goodband, and J. M. DeRouchey.)

↵ **Effects of Dried Distillers Grains With Solubles On Growth Performance And Fat Quality Of Finishing Pigs** - A total of 1,112 pigs were used in a 78-d growth assay evaluating the effects of increasing dried distillers grains with solubles (DDGS, 0, 5, 10, 15, or 20%) on pig growth performance and carcass characteristics. At the end of the trial, jowl fat, belly fat, and backfat samples were collected and analyzed for fatty acid profile and iodine value (IV). From d 0 to 78, ADG and ADFI decreased with increasing DDGS with the greatest reduction occurring between pigs fed 15 and 20% DDGS. Feed efficiency tended to improve for pigs fed 5% DDGS compared with those fed other dietary treatments. Increasing DDGS decreased carcass weight and percent yield. There was no difference in loin depth, but increasing DDGS tended to decrease backfat and fat-free lean index (FFLI). Backfat, jowl fat, and belly fat iodine values and percentage C 18:2 fatty acids increased with increasing DDGS in both the “topped” pigs marketed 21 d before trial conclusion and pigs marketed at trial completion. Increasing DDGS decreased percentage saturated fatty acids in backfat and belly fat in both marketing groups and percentage saturated fatty acids in jowl fat with increasing DDGS in the diet in the pigs marketed at trial completion. Barrows had decreased belly fat iodine values and percentage 18:2 fatty acids when compared to gilts. Barrows also had increased jowl fat and belly fat percentage 18:2 fatty acids when compared to gilts. Based on these results and previous research trials, dried distillers grain with solubles from this source can be fed up to 15% before seeing reductions in ADG; however, the increase in iodine value and decrease in dressing percentage must be considered in determining the economic value of DDGS. More information is available on this experiment and more in the KSU Swine Day Report at [www.ksuswine.com](http://www.ksuswine.com). (This study conducted by J. M. Benz, S. K. Linneen, J. M. DeRouchey, M. D. Tokach, S. S. Dritz, J. L. Nelssen, and R. D. Goodband.)

↵ **Antioxidants May Reduce Heterocyclic Amines in Commercially Marinated Beef Steaks** – Eye of round steaks were marinated with one of three marinades for one hour before grilling at 400°F for five minutes on each side. The marinades contained: 1) rosemary, thyme and chives; 2) oregano, thyme, garlic, and onion; and 3) garlic and onion. Two controls included a non-marinated steak and a blank steak marinated with vegetable oil, water, and vinegar. The brown surface of grilled steaks was removed and analyzed by HPLC to measure the level of five HCAs: MeIQ, MetQx, Harman, non-Harman, and PhIP.  
*Bottom Line...* Commercial marinades containing antioxidants are suggested as useful approaches for HCA inhibition. For more information, contact J. Scott Smith (785-532-1219; [jsschem@ksu.edu](mailto:jsschem@ksu.edu)) or Liz Boyle (785-532-1247; [lboyle@ksu.edu](mailto:lboyle@ksu.edu)).

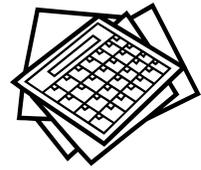
## UPCOMING EVENTS >>>>>>>>>

- ☞ A **Cattle Judging Contest** will be held on Friday, December 7. The Hutchinson Community College Block and Bridle have teamed up with the Kansas Beef Expo for this event. The contest will be held on the Kansas State Fairgrounds at the Horse Expo Pavilion. Registration is scheduled from 8:45 – 9:45 a.m. with a break into groups at 9:45 a.m. The contest will start at 10:00 a.m. sharp! Entry fee will be \$4.00/person and is due the day of the contest. For more information on the Judging Contest, contact Bill Disberger at 620-665-3482; [disbergerb@hutchcc.edu](mailto:disbergerb@hutchcc.edu).
- ☞ Dates for the **2007 KSU Dairy Days** have been scheduled as follows: December 11 at Valentinos in Seneca and December 13 at the Amish Community Center in Whiteside. For more information, contact John Smith (785-532-1203; [jfsmith@ksu.edu](mailto:jfsmith@ksu.edu)).
- ☞ The **2007 Range Beef Cow Symposium** will be held December 11-13, at “The Ranch” in Fort Collins, Colorado. This biennial symposium has a reputation of bring an excellent educational program offering practical production management information. The Bull Pen Sessions are said to be the most valuable part of the symposium. This is a time for attendees to have considerable discussion with the speakers and an opportunity to ask specific questions. For a schedule of events and more information, visit <http://www.rangebeefcow.com/>.
- ☞ A **By-Products Nutrition Conference** will be held December 12, 2007 at the Plaza Hotel in Garden City, Kansas. This conference will highlight feedlot research on the use of by-products from the production of biofuels, both ethanol and biodiesel. Researchers from Kansas State, Oklahoma State, Texas Tech and Texas A&M Universities will be presenting results of feeding by-products in feedlot finishing diets. Colorado State and Iowa State University researchers will be presenting information regarding potential toxicity issues associated with by-product feeding.  
Registration for the conference is \$40 before December 5; \$55 after that date. For more information, contact Chris Reinhardt ([cdr3@ksu.edu](mailto:cdr3@ksu.edu); 785-532-1672).
- ☞ Kansas State University Research and Extension and K-State’s Department of Animal Sciences and Industry will host its first **Junior Beef Day** on Saturday, December 15, 2007. The program will run from 9:00 a.m. to 3:30 p.m. in Weber Arena located on K-State’s campus. The day will be focused on the many aspects of the beef industry and show ring and is designed to provide a tool for both youth and parent interested in being more involved with a steer or heifer project. Several K-State faculty members will give presentations on nutrition, selection and management.  
Featured speaker for the event will be Kirk Stierwalt. Stierwalt, an ambassador for Purina Mills and Show Chow Feeds, is a national renowned clinician that is known for his clinics on clipping cattle and preparing them for the show ring. He is based in Oklahoma.  
More information and registration forms are available at all county and district K-State Research and Extension offices and on the Web, at [www.youthlivestock.ksu.edu](http://www.youthlivestock.ksu.edu). Further questions can be directed to Julie Voge at 785-532-1264 or [jvoge@ksu.edu](mailto:jvoge@ksu.edu) or Scott Schaake at 785-532-1242 or [simmi@ksu.edu](mailto:simmi@ksu.edu).
- ☞ For those interested in the **PQA Plus Training**, mark December 18 on your calendar. Plans are to hold a one-day training in Manhattan for agents and veterinarians that wish to become PQA Plus Advisors. With the recent changes in the PQA Plus program, only trained advisors are allowed to certify pork producers in the PQA Plus program. Several agents were trained as advisors in June, but we have had requests for an additional training. This training is for the Adult PQA Plus program. The PQA Plus Youth program trainings are being conducted in conjunction with the Quality Counts.  
The December training is for those that have not already been trained as advisors, but wish to receive the training. The registration deadline is December 7<sup>th</sup>. More details will be sent about the training after your registration has been received. For more information, contact Mike Tokach (785-532-2032; [mtokach@ksu.edu](mailto:mtokach@ksu.edu)) or Joel DeRouchey (785-532-2280; [jderouch@ksu.edu](mailto:jderouch@ksu.edu)).

- ☞ Hoxie, Norton and Quinter will each serve as host locations for a **program on Beef and Ethanol** on December 18-19, 2007 sponsored by K-State Research and Extension. Speakers and topics for the program include: “Feeding Management and Storage Issues of Distillers Grains” by Twig Marston, KSU Cow/Calf Management Specialist; “Pros and Cons of Value-Added Programs” by Sandy Johnson, KSU Livestock Specialist; and “Ethanol, DDG’s and Cattle” by Jim Mintert, KSU Livestock Marketing Specialist.  
The first meeting will be held on December 18 at 9:00 a.m. at the Midwest Energy Building in Hoxie followed by a 2:00 p.m. start time at the 4-H Building in Norton that same day. The Q-Inn at Quinter will be the site of the meeting on December 19 with the program to begin at 9:00 a.m. Advance registration is necessary by December 14. To register, call the respective county office: Sheridan (785-675-3268), Norton (785-877-5755) or Gove (785-938-4480). There is no charge to attend. For more information, contact Sandy Johnson (sandyj@ksu.edu; 785-462-6281) or Twig Marston (twig@ksu.edu; 785-532-5428).
- ☞ The **4-State Beef Conference** will be held on January 9, 2008 in Washington, Kansas. Watch for more details. For more information, contact Twig Marston (twig@ksu.edu; 785-532-5428).
- ☞ The **2008 KSU Swine Profitability Conference** will be held Tuesday, February 5 in Forum Hall of the K-State Student Union. A great program has been lined up including presentations from Dr. Michael Swanson, Wells Fargo; Dr. Marie Locke Gramer, University of Minnesota; Michael Springer, Independence, Kansas; Dr. Mike Tokach, Kansas State University, Dr. Steve Henry, Abilene Animal Hospital and Dr. Larry Firkins, University of Illinois.  
Registration fee of \$25 per participant is due by January 25, 2008. For more details on the conference and a registration form, go to the Upcoming Events section of [www.ksuswine.com](http://www.ksuswine.com). For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).
- ☞ Mark your calendars for the **2008 KSU Cattlemen’s Day** to be held March 7 at Weber Hall. Watch for more details.

<b>CALENDAR OF UPCOMING EVENTS</b>		
<b>Date</b>	<b>Event</b>	<b>Location</b>
December 7, 2007	Beef Expo Judging Contest	Hutchinson
December 11, 2007	KSU Dairy Days	Seneca
December 11-13, 2007	Range Beef Cow Symposium XX	Fort Collins, Colorado
December 12, 2007	By-Products Nutrition Conference	Garden City
December 13, 2007	KSU Dairy Days	Whiteside, KS
December 15, 2007	Junior Beef Producer Day	Manhattan
December 18, 2007	PQA Plus Training	Manhattan
December 18, 2007	Beef and Ethanol Meeting	Hoxie and Norton
December 19, 2007	Beef and Ethanol Meeting	Quinter
January 9, 2008	4 State Beef Conference	Washington
February 5, 2008	KSU Swine Profitability Conference	Manhattan
March 7, 2008	KSU Cattlemen’s Day	Manhattan

## WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JANUARY.....



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

#### Cow herd management

- ☑ Historically, cull cow prices will increase over the next 2 or 3 months. Feeding cull cows can be a efficient and profitable
- ☑ Continue feeding or grazing programs started in early winter. Weather conditions may require wrapping up grain sorghum and cornstalk field grazing. Severe winter weather may begin to limit crop residue utilization, so be prepared to move to other grazing and feeding systems
- ☑ Supplement to achieve ideal BCS at calving.
  - ☞ Use this formula to compare the basis of cost per lb. of crude protein (CP):  
Cost of supplement, \$ per hundredweight (cwt.) ÷ (100 X % CP) = cost per lb. of CP.
  - ☞ Use this formula to compare energy sources on basis of cost per lb. of TDN:  
Cost, \$ per ton ÷ [2,000 X % dry matter (DM) X % TDN in DM] = 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 (gal.) of water per head per day, even in the coldest weather.
- ☑ Sort cows into management groups. BCS 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 conditioned 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%-65% of their mature weight by the start of the breeding season. Thin, lightweight heifers may need extra feed for 60-80 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 your breed association.
- ☑ Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The 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. 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](mailto:lschrein@ksu.edu), or phone 785-532-1267.