# News from KSU Animal Sciences
## December, 2007

***WHAT'S NEW >>>>>>>***

*On behalf of everyone in the Department of Animal Sciences and Industry, I would like to wish all of you a very Merry Christmas and best wishes for a successful and prosperous New Year in 2008. 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 2008. Please let us know how we can better help you serve our joint clientele.*

*Thanks,*

*Mike Tokach, Extension State Leader, Animal Sciences and Industry*

- We are pleased to announce that Dr. Justin Waggoner will join the team on January 14, 2008, as the **Beef Systems Extension Specialist at the SWREC**. We would like to welcome Justin.

- The 2007 KSU Swine Day was a huge success with over 400 swine producers, allied industry representatives, and students in attendance. For a copy of the **KSU Swine Day presentations and complete research report**, visit www.ksuswine.org under the Swine Day Publications link.

  The presentations section includes an *Update on Current K-State Swine Research* by the K-State Swine Team as well as *Porcine Circovirus: What Have We Learned in the Last Year*, by Dr. Lisa Tokach and Dr. Steve Henry from the Abilene Animal Hospital and Faculty of the KSU College of Veterinary Medicine.

- **Validation Of Flank-To-Flank Allometric Equations In Predicting Weight Of Lactating Sows And Lactation Weight Change -** The objectives of this study were to validate the use of flank-to-flank measurement in predicting weight of lactating sows and to determine the accuracy of the developed models in estimating lactation weight change. A total of 70 lactating sows (PIC Line 1050) were used in this study. Flank-to-flank measurement and body weight were measured on each individual sow after farrowing and at weaning. Flank-to-flank measurement and weight of lactating sows was positively correlated ($R^2$ = 0.61) with the following equation: $BW^{0.33}$, kg = 0.0371 x Flank-to-flank (cm) + 2.161. Weights of sows post-farrowing and at weaning were lower when predicted with the previous allometric model developed from growing pigs and sows than their actual weights or weights predicted using the lactating sow model. Likewise, absolute residuals for post-farrowing and weaning weights using a previous allometric model developed from growing pigs and gestating sows were greater than those of the lactating sow model. There were no differences between the predicted weights using the lactating sow model and their actual weights. There also were no differences between the actual average weight loss and the predicted loss using the lactating sow model. Using the model previously developed with growing pigs and gestating sows resulted in 15.5 lb greater than the actual average weight loss. In conclusion, flank-to-flank measurement can be used as a predictor of weight of lactating sows, with the relationship having less accuracy than those used for growing-finishing pigs, gestating sows, and boars. The pig allometric equation cannot be used to estimate weights of lactating sows and lactation weight change. The developed lactating sow model was more appropriate in estimating weights and weight loss at the herd level, but needs to be validated on other sows before use can be recommended. More information is available in the 2007 KSU Swine Day Report at www.ksuswine.org. *(This study conducted by R. C. Sulabo, M. D. Tokach, S. S. Dritz, E. J. Wiedemann, R. D. Goodband, J. M. DeRouchey, and J. L. Nelssen.)*

- **Effects of Choice White Grease or Soybean Oil on Growth Performance and Carcass Characteristics of Grow-Finish Pigs. -** A total of 144 barrows and gilts (PIC) with an initial BW of 97 lb were used to evaluate the effects of dietary fat source and duration of feeding on growth performance and carcass fat quality. Dietary treatments included a corn-soybean meal control diet with no added fat or a 2 × 4 factorial arrangement with 5% choice white grease (CWG) or soybean oil and withdrawal of the fat 0, 14, 28, or 56 days before market (82 days). At the end of each feeding duration, pigs were switched to the control diet. At the end of the study (d 82), jowl fat and backfat samples were collected. Lengthening the duration of feeding soybean oil increased ADG and improved F/G. Increasing the feeding duration of CWG had no effect on ADG, but improved F/G. Increasing the feeding duration of CWG or soybean oil increased dressing percentage with the improvement being greater for pigs fed CWG compared to pigs fed soybean oil. Gilts had increased iodine value (IV; more unsaturated fat) compared to barrows. Increasing feeding duration of either soybean oil or CWG increased IV compared to pigs fed the control diet. In summary, adding fat to the diet improved pig growth performance but increased jowl fat and backfat IV. Feeding fat during any stage influenced jowl IV at market with duration of feeding having the greatest response with soybean oil. More information is available in the 2007 KSU Swine Day Report at www.ksuswine.org. *(This study conducted by J. M. Benz, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. M. DeRouchey, and R. D. Goodband.)*

- **Amino Acid Digestibility And Energy Content Of Corn Distillers Meal For Swine -** An experiment was conducted to determine the apparent ileal digestibility and standardized ileal digestibility of amino acids and energy of corn distillers meal in pigs. Five growing barrows (initially 150 lb) were allotted to one of two diets in a crossover design. One diet contained corn distillers meal (66.7%) as the sole protein source. The second diet was nitrogen-free to determine basal endogenous AA losses. Ileal digesta and fecal samples were collected during each period and analyzed for amino acid and energy contents. Based on these analyses, apparent ileal digestibility (AID), standardized ileal digestibility (SID), gross energy (GE), digestible energy (DE), metabolizable energy (ME), and net energy (NE) were calculated. Apparent ileal digestibility values of lysine, methionine, and threonine in corn distillers meal were 47.2, 79.4, and 64.1%, respectively while SID values of the same amino acids were 50.4, 80.4, and 66.3%, respectively. The ME, DE, and estimated NE values of the corn distillers meal were 1,137; 1,233; and 813 kcal/lb, respectively. More information is available in the 2007 KSU Swine Day Report at www.ksuswine.org. *(This study conducted by J. Y. Jacela, J. M. DeRouchey, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. L. Nelssen, R. C. Sulabo, and R. C. Thaler.)*

- **Longer Feeding Times Increase Response to Optaflexx in Feedlot Heifers -** Non-implanted crossbred heifers (281 heifers, 1049 lb initial body weight) were fed diets based on steam-flaked corn. A control diet (no Optaflexx) was compared to diets providing 200 mg Optaflexx per animal daily for periods of 28 or 42 days (200x28 and 200x42, respectively); 300 mg/d for 28 days (300x28); and a step-up regimen consisting of 14 days at 100 mg, followed by 14 days at 200 mg and the final 14 days at 300 mg (Step-up).

  *The Bottom Line* **…** Feeding Optaflexx to non-implanted finishing heifers generally improves carcass gain efficiency with minimal impact on carcass characteristics. Improvements in growth efficiency were greatest with the longer periods of Optaflexx feeding. Feeding higher doses provided no additional advantage. For more information, contact Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or Chris Reinhardt (785-532-1672; cdr3@ksu.edu).

- **Can hCG be Used as a Substitute for GnRH in the CO-Synch + CIDR Protocol? -** In the first experiment, beef cows were treated with GnRH or hCG to initiate CO-Synch + CIDR ovulation synchronization protocol before first timed AI at 62 hours (d 0) after CIDR insert removal. Pregnancy was diagnosed at 33 days after timed AI and reconfirmed at 68 days to determine pregnancy survival. In the second experiment, cows of unknown pregnancy status were injected with GnRH, hCG, or saline 7 days before the first pregnancy diagnosis in Experiment 1. At the time of pregnancy diagnosis, cattle found not pregnant were given PGF2α and inseminated 56 hours later. A second pregnancy diagnosis was conducted 35 days after the second insemination to determine pregnancy rate at the second AI.

  *The Bottom Line* **…** Injection of hCG is not a suitable replacement for GnRH because of reduced pregnancy rates. Re-insemination of non-pregnant cows treated 7 days earlier with hCG, GnRH, or saline produced similar pregnancy rates suggesting that, when diagnosing pregnancy by transrectal ultrasound at day 33 after AI, no upfront injection may be necessary to initiate a timed AI protocol for non-pregnant cows. For more information, contact Jeff Stevenson (785-532-1243; jss@k-state.edu) or Twig Marston (785-532-5428; twig@ksu.edu).

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

- A **PQA Plus Training** will be held on December 18 in Room 111, Weber Hall on the K-State campus. This is a one-day training 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. The PQA Plus Youth program trainings are being conducted in conjunction with the Quality Counts. The registration deadline is December 7th. 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) or Joel DeRouchey (785-532-2280; 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 t the First National Bank in Washington, Kansas. Area cattlemen should mark on their calendars and make plans to attend the 24th 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: Drs. Galen Erickson and Rick Rasby, University of Nebraska presenting information of nutrient quality, feeding and storage of distillers grains, Dr. Bruce Anderson, University of Nebraska presenting information about pasture renovation and interseeding, and a livestock producer from Dublin, Virginia, Tim Stuphin, presenting tools that he thinks impacts profitability.

  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 4th, 2008. The fee includes a beef meal and a copy of the conference proceedings. To register, contact your local county extension office or for more information, contact Twig Marston (twig@ksu.edu; 785-532-5428).

- **Calving Management Schools** – Timely, correct obstetrical assistance has been estimated to reduce calf death losses by over 50 percent. Dr. Bob Mortimer, DVM, Colorado State University is well known for his phantom cow demonstrations illustrating proper ways to assist with various types of calving difficulties. He will be the featured speaker at four calving management schools to be held from Jan. 14th to 16th across Kansas. Also on the program will be Dr. Dale Grotelueschen, DVM, with Pfizer Animal Health talking about management methods to improve calf health. Reservations are needed by Jan. 11th for meals and materials. There is no charge to attend. Times and locations are as follows:

  Jan. 14th – 5:30 pm, 4-H Building, St. Francis, KS (785-332-3171)
  Jan. 15th – 9:30 am, Phillips County Fairgrounds, Phillipsburg, KS (785-543-6845)
  Jan. 15th – 5:30 pm, Jackson Co Fair Building, Holton, KS (785-364-4125)
  Jan. 16th – 10 am, Community Education Conference Center, Cloud County Community College, Concordia, KS (785-243-8185)

  For more information, contact Sandy Johnson (sandyj@ksu.edu; 785-462-6281).

- 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. The schedule will be as follows:

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|---|---|
| 9:15 a.m. | Registration |
| 9:30 a.m. | Is Your Team All Driving in the Same Direction?<br>*Dr. Larry Firkins, University of Illinois* |
| 10:30 a.m. | PCV will NOT be the Last Virus to Have a Major Impact on the Swine Industry: Is Swine Influenza the Ticking Time Bomb?<br>*Dr. Marie Locke Gramer, University of Minnesota* |
| 11:15 a.m. | Returning to a Family Swine Business from K-State – What I've Learned<br>*Michael Springer, Independence, Kansas* |
| Noon | Lunch |
| 1:00 p.m. | Influence of Ethanol, Oil, and Land Prices on the Future of the Swine Industry<br>*Dr. Michael Swanson, Wells Fargo* |
| 2:15 p.m. | When, Where and Why: Marketing Decisions Based on Packer Matrixes and Pig Flow<br>*Dr. Mike Tokach, KSU and Dr. Steve Henry, Abilene Animal Hospital* |
| 3:15 p.m. | Adjourn |

  Registration fee of $25 per participant is due by January 25, 2008. Please add an additional $3.00 if you would like to order a parking permit. For more details on the conference and a registration form, go to the Upcoming Events section of www.ksuswine.com. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

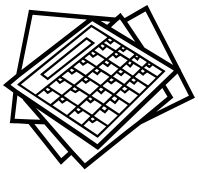
- Save the date for a trip to campus on February 16, 2008 for the **K-State Horse Show Judges Seminar and Youth Workshop**. Jon Wolf will be our featured speaker. Check back for more details at www.youthlivestock.ksu.edu.

- Mark your calendars for the **2008 KSU Cattlemen's Day** to be held March 7 at Weber Hall. Watch for more details coming soon to www.ksubeef.org under "Cattlemen's Day". 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).

## CALENDAR OF UPCOMING EVENTS

| Date | Event | Location |
|---|---|---|
| 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 |
| January 14, 2008 | Calving Management School | St. Francis |
| January 15, 2008 | Calving Management School | Phillipsburg and Holson |
| January 16, 2008 | Calving Management School | Concordia |
| February 5, 2008 | KSU Swine Profitability Conference | Manhattan |
| February 16, 2008 | Horse Show Judges Seminar and Youth Workshop | Manhattan |
| March 7, 2008 | KSU Cattlemen's Day | Manhattan |

## 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: Cost of supplement, $ per hundredweight (cwt.) ÷ (100 5 % CP) = cost per lb. CP. Use this formula to compare energy sources on basis of cost per lb. of TDN: cost, $ per ton ÷ (2,000 5 % DM 5 % 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 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.