News from KSU Animal Sciences
September, 2008

Newsletter from the Department of Animal Sciences and Industry
213 Weber Hall, Kansas State University, Manhattan, KS 66506
785-532-6131 - www.asi.ksu.edu

WHAT'S NEW....

- **IRM Redbooks for Sale** –The 2009 IRM Redbooks have arrived! This year the cost will be: For orders of less than 10 = $5.00/book; Orders of 10 or more = $4.75/book which includes postage. To order your supply of redbooks, please contact Lois (lschrein@ksu.edu; 785-532-1267).

- **K-State Horse Judging Reasons DVD** is now available. This DVD was created by the 2007 KSU Horse Judging Team that was undefeated in Oral Reasons. The DVD contains nine sets of collegiate World Show reasons. To purchase a copy of the DVD for $20 or for more information, contact Teresa Slough (tslough@ksu.edu; 785-532-1268).

- **Timed Artificial Insemination Conception Rates in Response to a Progesterone Insert in Lactating Dairy Cows** – Our objective was to determine the effectiveness of exogenous progesterone in the form of an intravaginal insert (controlled internal drug release, CIDR) in conjunction with an ovulation-synchronization protocol in lactating dairy cows. Cows received a Presynch protocol (two injections of prostaglandin $F_{2\alpha}$ [$PGF_{2\alpha}$] 14 days apart) beginning 30 and 36 days in milk, respectively, in two herds. Cows were inseminated after the second Presynch injection when estrus was detected. Remaining cows were treated with the Ovsynch protocol, and alternate cows were assigned randomly to receive a progesterone insert (CIDR). Blood was collected, and body condition scores (BCS) were assigned to treated cows. Pregnancy status was confirmed by palpation on day 38 post timed AI (TAI) and verified again 4 weeks later. Progesterone increased conception rates in treated cows when compared with controls (38 vs. 24%), but did not differ from early inseminated cows (38%). Pregnancy loss was numerically less in progesterone-treated cows than in controls (4.4 vs. 11.8%). More information is available on this experiment in the Dairy Day 2007 publication. For more information, contact Jeff Stevenson (785-532-1243; jstevens@ksu.edu).

- **Distiller's Grains Increase Ruminal Lactate and Decrease Ruminal Ammonia Concentration** - Our study used 16 ruminally cannulated steers fed dry-rolled or steam-flaked corn and 0 or 25% dried distiller's grains with solubles. Ruminal volatile fatty acid production, lactate, ammonia, and pH were analyzed. Additionally, digestibilities of dry matter, organic matter, neutral detergent fiber, starch, and fat were measured.

  The Bottom Line… Fed in conjunction with steam-flaked corn, dried distiller's grains increased ruminal lactate, decreased ruminal ammonia, and decreased ruminal pH at critical times during digestion. This could contribute to decreased animal performance in cattle fed combinations of flaked grain and distiller's grains. View the complete research report online at www.asi.ksu.edu/cattlemensday. For more information, contact Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or Chris Reinhardt (785-532-1672; cdr3@ksu.edu).

- **Restricting Vitamin A in Cattle Diets Improves Beef Carcass Marbling and USDA Quality and Yield Grades** – Feedlot diets containing either zero or seven times the NRC recommended amount of vitamin A were fed to early-weaned (137 ± 26 days) and traditionally-weaned (199 ± 26 days) Angus cross steers for 235 and 175 days, respectively. Body weights and blood samples were collected, and ultrasound images were obtained periodically throughout the experiment. Cattle were harvested when ultrasound backfat averaged 0.40 inches. Liver, muscle, and fat samples were analyzed for vitamin A and fat content, and carcass data were collected.

  The Bottom Line… Feeding no supplemental vitamin A to steers for up to 210 days increases carcass marbling and quality grade without increasing backfat or reducing retail yield. These advantages are enhanced when calves are early-weaned near 140 days of age. View the complete research report online at www.asi.ksu.edu/cattlemensday. For more information, contact Liz Boyle (785-532-1247; lboyle@ksu.edu) or Michael Dikeman (785-532-1225; mdikeman@ksu.edu).

- **An Evaluation of an Enzyme Blend (Natuzyme®) in Diets for Weanling Pigs -** Two experiments were conducted to evaluate the effects of an enzyme blend (Natuzyme®) on nursery pig growth performance. In Exp. 1, a total of 210 pigs (initially 13.6 lb) were used in a 35-d experiment to evaluate the effect of increasing levels of Natuzyme® (0, 0.035, and 0.05%) on weanling pig performance. Natuzyme® was added to either a negative or positive control diet as a 2 × 3 factorial to form six dietary treatments. The negative control diet was a corn-soybean meal-based diet containing 12.5% soy hulls and no antibiotics. The positive control diet was a corn-soybean meal-based diet without soy hulls, and contained a feed-grade antibiotic (Neo-Terramycin with 140 g of neomycin and 140 g of oxytetracycline per ton). Pigs were blocked by weight and randomly allotted to treatment at weaning. Diets were fed in two phases from d 0 to 14 and d 14 to 35. For d 0 to 14, ADG and d 14 weight tended to improve by feeding the positive control diets with a feed-grade antibiotic. There were also trends for improved ADG, ADFI, and d 14 weight with increasing Natuzyme®. There were no differences in performance from d 14 to 35. For the overall trial (d 0 to 35), ADG and d 35 weight tended to be improved for pigs fed increasing Natuzyme® and for pigs fed the positive control diets compared with pigs fed the negative control.

  In Exp. 2, a total of 180 pigs (initially 14.0 lb) were used in a 35-d experiment to further evaluate the effects of increasing Natuzyme® in diets with or without an antibiotic. Natuzyme® (0, 0.35, and 0.05%) was added to either a negative or positive control diet as a 2 × 3 factorial to form six dietary treatments. The negative control diet was a corn-soybean meal-based diet without a feed-grade antibiotic. The positive control diet was similar to that of the negative control diet, however, contained a feed-grade antibiotic (Neo-Terramycin with 140 g of neomycin and 140 g of oxytetracycline per ton). Pigs were blocked by weight, and at weaning, randomly allotted to treatment with two dietary phases (d 0 to 14 and d 14 to 35). From d 0 to 14, pigs fed the positive control diet had improved ADG, F/G, and d 14 weight compared to pigs fed the negative control. Average daily feed intake tended to be greater for pigs fed the positive control diets. Also, pigs fed increasing Natuzyme® had improved ADG, F/G, and d 14 weight. From d 14 to 35, pigs fed increasing Natuzyme® had poorer F/G. Overall (d 0 to 35), ADG, ADFI, and d 35 weight were improved for pigs fed the positive control compared to the negative control diet. When the observations for pigs fed the positive control diets (diets containing feed-grade antibiotic) in both experiments were combined, ADG from d 14 to 35 was improved with increasing Natuzyme®. Also, pigs fed increasing Natuzyme® had improved ADFI from d 14 to 35. Overall (d 0 to 35), ADG, ADFI, and d 35 weight were improved by including Natuzyme® in the diet.

  In conclusion, pigs fed diets containing a feed-grade antibiotic had improved growth performance. The addition of Natuzyme® to corn-soybean meal-based diets also improved pig performance, particularly when included in diets containing a feed-grade antibiotic. However, in these studies, there did not appear to be a benefit to feeding more than 0.035% Natuzyme®. More information is available on this experiment and others in the KSU Swine Day Report at www.ksuswine.org. (*This study conducted by J.R. Bergstrom, M.D. Tokach, J.L. Nelssen, S.S. Dritz, J.M. DeRouchey, and R.D. Goodband.)*

- **Effects of Dietary Electrolyte Balance and Molasses in Diets with Dried Distillers Grains with Solubles on Growth Performance in Nursery and Finishing Pigs** – Two experiments were conducted to determine the effects of dietary electrolyte balance (dEB) and(or) molasses in diets with dried distillers grains with solubles (DDGS) on growth performance of nursery and finishing pigs. For Exp. 1, 126 nursery pigs (35 d old and average wt of 22.5 lb) were used with six pigs/pen and seven pens/treatment. Treatments were a corn-soybean meal-based control and diets with 30% DDGS without and with 0.93% sodium bicarbonate to adjust the dEB back to that of the control diet. Pigs fed the control diet had greater ADG and ADFI but did not differ in F/G compared to pigs fed diets with DDGS. Addition of sodium bicarbonate to nursery diets with 30% DDGS did not improve growth performance.

  For Exp. 2, a total of 70 gilts (average wt of 196 lb) were assigned with two pigs/pen and five pens/treatment. The pigs were fed experimental diets for 26 d, a common diet for 6 d, and then reassigned to a different treatment for an additional 26-d assay. The end result was 10 pens/treatment. Treatments were a corn-soybean meal-based control and diets with 40% DDGS without and with molasses (5%) and sodium bicarbonate (none, 1, and 2%). Pigs fed the control diet had greater ADG, ADFI, and better F/G compared to those fed diets with DDGS. Adding molasses and(or) sodium bicarbonate did not affect ADG, ADFI, or F/G. In conclusion, adding sodium bicarbonate and(or) molasses to diets with high inclusion of DDGS did not improve growth performance in nursery or finishing pigs. More information is available on this experiment and others in the KSU Swine Day Report at www.ksuswine.org. (*This study conducted by C. Feoli, J.D. Hancock, S.M. Williams, T.L. Gugle, S.D. Carter, and N.A. Cole.)*

UPCOMING EVENTS...

- A **KLA/KSU Ranch Management Field Day** has been scheduled for Friday, September 26, 2008 at the Gant-Larson Ranch at Medicine Lodge, Kansas. The event will begin at 11:30 a.m., followed by lunch at noon and educational sessions in the afternoon. For a complete schedule and more information, visit the KLA website at www.kla.org under Events/Meetings or contact Dale Blasi (dblasi@ksu.edu, 785-532-5427) for more details.

- The **2008 KSU Beef Stocker Field Day** will be held on Thursday, October 2, at the KSU Beef Stocker Unit in Manhattan. It's not too late to register for this educational event. The program will include:

  9:30 Registration/Coffee
  10:15 Introductions
  10:30 Key Findings from the National Stocker Survey
  Wes Ishmael, BEEF Magazine/Stocker Trends
  11:15 New Realities of Conducting Business in the Stocker Segment
  Kevin Dhuyvetter, K-State
  12:00 BBQ Lunch by Coco Bolos/Cox Brothers
  1:00 Current Concepts in Medicated Feed Additives
  Denny Hausmann, Alpharma Animal Health
  2:00 - 5:00 *Breakout Sessions*

  - What is the Importance of Temperature when Diagnosing Sickness – Jason Nickell, KSU
  - Making Rational Choices for Stocker Therapy – Mike Apley, KSU
  - Use of Byproducts for Exploiting Efficient Performance – Chris Reinhardt, KSU
  - What are the Implications of Heavier Cattle Being fed for Shorter Days? – Michael Dikeman, KSU
  - A Visual Tour of the Progression of Pneumonia – Gary Anderson and Gregg Hanzlicek, KSU
  - Proper Injection Considerations for the Assurance of Quality Beef – Larry Hollis, KSU
  - How much do Cutting Bulls Really Cost? – Frank Brazle, KSU

  The day will conclude with Silencer Chute's complimentary Cutting Bull's Lament which includes rocky mountain oyster fry as well as dutch oven cowboy cuisine and pitch fork fondue. Registration fee is $25 per participant by September 15 or $35 at the door. For a registration form and more information, visit www.ksubeef.org or contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

- **Developing and Implementing Your Company's HACCP Plan for Meat, Poultry, and Food Processors** will be held October 8-10 in Regnier Hall, University of Kansas Edwards Campus, 127th & Quivira Road, Overland Park. Registration for the 2.5 day International HACCP Alliance accredited workshop is online at http://animalscience.unl.edu/haccp/KansasCity.html. The workshop fee is $250, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Liz Boyle (lboyle@ksu.edu; 785-532-1247).

- The **2008 State 4-H Meat Judging Contest** has been scheduled for October 11 at KSU Weber Hall. More details will be forthcoming as they are available. For more information, contact John Unruh (junruh@ksu.edu; 785-532-1245).

- The **Kansas State University Wildcat Steer Futurity** is an educational program that allows beef cattle producers to learn about the cattle feeding industry, and provides producers with an information feedback system regarding the performance and carcass composition of their cattle. A minimum entry of five steers per producer is required. Only cattle weighing 450-850 pounds at feedlot entry will be accepted. Cattle will be received mid-November. Receiving date will be determined after nominations have been received.

  Nomination forms are due by October 17. For a complete list of Program Guidelines, along with a nomination form, contact Justin Waggoner (620-275-9164; jwaggon@ksu.edu) or Karl Harborth (620-431-1530; harborth@ksu.edu).

- The **Kansas Meat Goat Association 2008 Production** Sale will be held on October 18 at the Woodson County Sheep and Goat Sale Barn in Yates Center, Kansas. KMGA invites you to bring your quality consignments to offer for sale at this annual event. For more information, contact Vanessia Ochs (785-418-6530; goats2kid@yahoo.com).

- The new **SowBridge Breeding Herd Education Series** is being offered for 2008-2009. The SowBridge program is designed to deliver timely and relevant information in a convenient manner. Programs are delivered over the noon period to maximize learner participation while minimizing interruption of the normal daily work schedule. This program is designed to increase dissemination of information that will hopefully improve understanding and productivity in breeding herds and farrowing systems.

  The session cost of $250 includes all 12 sessions and supporting materials. The deadline is October 20 to participate in the first session. For a complete schedule and registration form, visit KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu).

- The **2008 KSU Swine Day** will be held Thursday, November 20 at the KSU Alumni Center. Our featured speaker for the 2008 KSU Swine Day will be Dr. Ron Plain, noted Agricultural Economist from the University of Missouri. He will have two presentations entitled, "Feed vs Fuel – What Will Be the New Trends for Corn and Soybean Meal Pricing?" and "What Can We Expect for Pork Prices in 2009 and Beyond?" Also included in the presentation will be an Update on Current KSU Swine Research by the K-State Swine Team.

  A special addition to this year's Swine Day will be an open house to view the new K-State Research facility at the K-State Swine Farm. This state of the art facility will have several new swine equipment ideas that will be worthy of your inspection. The K-State Tailgate Party will be held in the new facility. Watch for more details coming soon to www.ksuswine.org. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

- For those interested in the **Adult PQA Plus Training**, mark December 16th on your calendar. Plans are to hold a one-day training in Manhattan for agents and veterinarians that wish to become PQA Plus Advisors. Only trained advisors are allowed to certify pork producers in the PQA Plus program. The December training is for those that have not already been trained as advisors, but wish to receive the training. Details will be sent as soon as they are available to agents and veterinarians. For more information, contact Mike Tokach (785-532-2032; mtokach@ksu.edu) or Joel DeRouchey (785-532-2280; jderouch@ksu.edu).

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
September 26, 2008	KLA/K-State Ranch Management Field Day	Medicine Lodge, KS
October 2, 2008	KSU Stocker Field Day	Manhattan
October 8-10, 2008	HACCP Plan Workshop	Kansas City, KS
October 11, 2008	State 4-H Meat Judging Contest (tentative date)	Manhattan
October 17, 2008	Nomination Forms due for KSU Wildcat Steer Futurity	
October 18, 2008	KMGA Production Sale	Yates Center, KS
November 20, 2008	KSU Swine Day	Manhattan
December 16, 2008	Adult PQA+ Training	Manhattan

AS&I FACULTY SPOTLIGHT

Joel DeRouchey (jderouch@k-state.edu; 785-532-2280)
Associate Professor/Extension Specialist

Dr. Joel DeRouchey was born in 1975 and grew up on a diversified purebred swine, cattle and sheep operation in Pukwana, SD. He graduated with his B.S Animal Science from South Dakota State University in 1997. He then obtained his M.S. (1999) and Ph.D. (2001) in Swine Nutrition at Kansas State University, and was hired as the Northeast Livestock Extension Specialist for Kansas State University as an Assistant Professor with an 80% Extension and 20% Research appointment. In 2004, Joel made a transition into the Department of Animal Sciences and Industry as an Environmental Management and Livestock Nutrition Specialist with a 40% Extension, 40% Research, and 20% Teaching appointment. A brief listing of Joel's Extension and Research interests involve:

1) Develop and help implement on farm technologies to improve animal production and environmental quality.
2) Conducting applied swine nutrition research to increase the profitability of swine producers.
3) Coordinate youth swine activities to increase swine industry knowledge, husbandry and awareness of careers in swine production.

Joel currently teaches ASI 320 (Spring) Principles of Feeding jointly with Dr. Jack Riley. In addition Dr. DeRouchey is the faculty coordinator for ASI 890 and ASI 990 Graduate Student Seminar, and is a frequent guest lecturer in ASI 535 Swine Science. Joel has been the major professor for 2 M.S. degree students and has served on graduate committees for an additional 14 M.S. and Ph.D. students.

Joel and his wife Julene have three young children, James, Jenna and Jacob. They are diehard tailgaters and K-State football fans, and currently live on a small farm near St. Mary's, KS.

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

Originally from Muscatine, Iowa, Dr. Jennifer Minick Bormann grew up showing Shorthorn cattle and riding horses in her spare time. She earned a B.S. in Animal Science from Iowa State University in 1997. From there she went to Oklahoma State University to earn her M.S. and then back to Iowa State University to complete a Ph.D. in 2004.

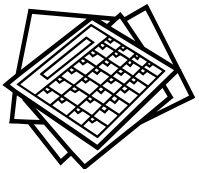
Dr. Bormann specializes in Beef Cattle Breeding and Genetics and has worked on a number of projects including collaborations with the NCBA and the American Angus Association. Currently she teaches Genetics, Animal Breeding Principles, Advanced Animal Breeding, Equine Genetics and Introductory Horse Lab, as well as advises undergraduate students. She also is the head advisor for the KSU Pre-Vet Club. She has a 75% Teaching and 25% Research appointment in the department.

Dr. Bormann's personal interest and love for showing horses has also allowed her to branch out into teaching some equine courses, including the introductory horse labs and an equine genetics course.

Dr. Bormann and her husband Dale reside south of Manhattan with their horses and dogs.

WHAT PRODUCERS SHOULD BE THINKING ABOUT...

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN NOVEMBER…….



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

Spring Calving Cows

Cowherd Management

- ☑ Pregnancy Check (if not already completed)
- ☑ If candidates for culling were not selected in September or October, it should be completed now.
- ☑ Consider feeding cull cows to increase body weight, value, and utilize cheap feedstuffs. Value of gain is equal to the difference between the ending value and beginning values divided by the gain. Compare this to cost of gain figures. When cost of gain is less than value of gain, profit will be realized.
- ☑ Body Condition Score
  - o Provide thin cows (body condition score 3's and 4's) extra feed now. Take advantage of weather, stage of pregnancy, lower nutrient requirements, and quality feedstuffs.
- ☑ In late fall and early winter, start feeding supplement to mature cows using these guidelines:

Dry grass	1½ - 2 lb supplement/day of a 40% CP supplement
Dry grass	3 - 4 lb supplement/day of a 20% supplement
Dry grass	10 lb good nonlegume hay, no supplement needed

  - o Compare supplements on a cost per pound of nutrient basis.
- ☑ Utilize crop residues.
  - o Average body condition cows can be grazed at 1 to 2 acres/cow for 30 days assuming normal weather. Available forage is directly related to the grain production levels.
  - o Limiting nutrients are usually protein, phosphorus, and vitamin A.
  - o Strip graze or rotate fields to improve grazing efficiency.
- ☑ Discontinue feeding tetracycline if used for anaplasmosis control

Calf Management

- ☑ Participate in National Level Breed Association Performance Programs CHAPS, and(or) other ranch record systems.
- ☑ Finalize plans to merchandise calves or to background through yearling or finishing programs

Forage/Pasture Management

- ☑ Plan winter nutritional program through pasture and forage management

General Management

- ☑ Document cost of production by participating in Standardized Performance Analysis (SPA) programs.
- ☑ Review management decisions, lower your costs on a per unit of production concept.
- ☑ Plan your marketing program, including private treaty, consignment sales, test stations, production sales, etc

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.