

News from KSU Animal Sciences

April, 2009



Newsletter from the Department of Animal Sciences and Industry
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WHAT'S NEW...

↳ Results from the USDA's National Animal Health Monitoring System (NAHMS) Dairy 2007 Report Part IV: Reference of Dairy Cattle Health and Management Practices in the United States

- More than one-half of operations used artificial insemination (AI) to natural estrus for first service for the majority of heifers and cows (57.1 and 54.7%, respectively) during the previous 12 months.

On 80.75% of the operations, a calf that experienced a difficult birth would receive nostril stimulation to initiate breathing. Hanging the calf upside down would be performed on 66.3% of operations. Three of the practices that are simple to perform and do not require special equipment or materials—positioning the calf on its sternum, drying the calf manually with towels or a hair dryer, and trying to elicit a suckle response—were performed by at least one-half of operations.

Almost one-half of operations (48.6%) had one or more tail-docked cows. A greater percentage of operations in the West region (81.3%) had no tail-docked cows than in the East region (48.5% of operations).

More than 80% of operations performed at least some hoof trimming, with a greater percentage of large operations and medium operations (99.4 and 95.6%, respectively) performing some trimming than small operations (79.4%). About one-fourth of operations (23.5%) used an alley scraper to handle the majority of manure in weaned-heifer housing areas, whereas 22.6% of operations used bedded pack (manure pack), 17.5% scraped the drylot, 15.4% left manure on pasture, and 14.6% used a gutter cleaner. For more information, contact Jeff Stevenson (jss@ksu.edu; 785-532-1243).

↳ Dry Rolled Corn or Dried Distillers Grains Can Replace Portions of Steam-Flaked Corn -

Crossbred yearling heifers (n = 689; 664 ± 143 lb) were fed flaked-corn finishing diets with 0 or 25% dried distillers grains and 0 or 25% dry-rolled corn. Heifers were fed free choice once daily in 28 dirt-surfaced pens with 23 to 25 heifers per pen. Cattle were blocked by weight into light and heavy weight groups and fed for 157 or 137 days, respectively. Feedlot performance and carcass characteristics were measured.

The Bottom Line.... Dried distillers grains or dry-rolled corn can replace a portion of steam-flaked corn without altering feedlot performance or carcass merit. View the complete research report 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).

↳ The Combination of Implanting with Revalor-200 and Feeding Zilmax Increases Ribeye Area of Fed Cows

- Sixty cull cows were assigned to one of five treatments: (1) grass fed on pasture (G), (2) concentrate fed (C) a grain sorghum-sorghum silage diet, (3) concentrate fed and implanted (CI) with Revalor-200 (trenbolone acetate-estradiol), (4) concentrate fed and fed Zilmax (zilpaterol hydrochloride) for 30 days followed by a 3-day withdrawal (CZ), and (5) concentrate fed, implanted, and fed Zilmax (CIZ). Cattle were fed for 70 days before slaughter and carcass data collection.

The Bottom Line.... Concentrate feeding can increase hot carcass weight, dressing percentage, and ribeye area of cull cows, and the combination of implanting Revalor-200 and feeding Zilmax to cows can further increase ribeye area. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact John Unruh (785-532-1245; junruh@ksu.edu) or Liz Boyle (785-532-1247; lboyle@ksu.edu).



Hot Topics in Equine Nutrition – “Do joint supplements work?”

- Not enough research in horses to determine if they work. Anecdotal evidence seems to suggest some may help, but scientific evidence is lacking.
- Are they absorbed across the gut?
 - Chondroitin sulfate – debatable. Large molecule. Data from other species indicates absorption is low; absorption in horses unknown.
 - Glucosamine – absorption appears to be efficient, but horse data is unavailable.
- If they get to the joint, do they work?
 - Chondroitin sulfate is a component of cartilage. In theory, its presence should enhance cartilage repair and rebuilding. Some propose it also inhibits enzymes that break down cartilage and has anti-inflammatory properties.
 - Glucosamine – supposed to stimulate synthesis of proteoglycan and collagen. In humans, it does reduce pain and improve joint motion.

Bottom line – We don’t know how well they work in horses. Research is pending. For more information, contact Teresa Slough, KSU Equine Nutritionist (785-532-1268; tslough@ksu.edu).



Management Minute – “It’s Not About The Money”

If you have an employee who seems to continually be bothering you about not being paid enough, there are usually 2 possibilities. 1) You’re a tightwad and you’re not paying them enough; or 2) the person is disgruntled about their role in the organization. To find out if the answer is #1, make a few phone calls to managers you trust in your general geography and find out what your neighbors are paying for similar jobs in your industry. If you’re within 50¢ or so per hour, then move on to answer #2. Some people are just better employees than others. If this person is worth more than the ‘scale’, you’d better pay more to keep them.

But “pay” can come in many forms. You can “buy” an employee’s loyalty and general job satisfaction with many perks other than another few cents or bucks per hour. Make sure your insurance, savings investment, and/or profit sharing plans are at least in line with the industry. This is especially important if this person has a family to look after. Non-monetary benefits include things like flexible time off. Those early mornings and long days are a lot easier to take if a person knows they can take Thursday afternoons off for a child’s ball game or whatever.

What about goals? Have you asked your employee what they want out of this position? They may want to move up in the organization or have opportunities for a management role elsewhere. You can be selfish about this or you can take on the role of mentor and teacher. By taking care of your employee and training them for a leadership role they will most certainly be a better employee, and will have a harder time leaving for a different job. And even if they do leave for a different opportunity, they will give such a glowing report on your leadership and team approach, you can be certain to find a good, young person to replace them.

The question you need to ask yourself is “Do you really want this person around for the long haul?” If you DO, take some time to privately evaluate your plans, then take some more time one-on-one with this employee to find out their long-term needs and goals. If you DON’T want this person to remain in the organization, you still need to get your plans in order because after you inform this person they are not what your organization needs, you’d better have a pretty good plan set up to attract a quality person to replace them.

For more information, contact Chris at 785-532-1672 or cdr3@ksu.edu. (Chris Reinhardt, Ph.D., Extension Feedlot Specialist)



Environmental Management - Producers should clean feedlots or areas of manure accumulation once cattle are removed for summer grazing. Confined feeding pens or temporary feeding sites for the winter months are prime contributors to odor emissions if not properly cleaned and maintained. Also, fly production from these sites is much greater when manure and wasted feed is present, thus creating a nuisance and a potential reduction in animal performance for the remainder of the summer for their livestock. For more information, contact Joel DeRouchey (jderouch@ksu.edu or 785-532-2280).

↳ **Effects of Increasing Standardized Ileal Digestible Lysine:Calorie Ratio on Gilts Grown in a Commercial Finishing Environment** - A total of 2,165 commercial gilts (PIC 337 × 1050) were used in two 4-wk studies to determine the lysine requirement for growing and finishing gilts. All diets were corn-soybean meal based and contained 0.15% L-lysine HCl and 3% added fat. Desired lysine levels were achieved by altering the corn and soybean meal level in the diet. Each experiment consisted of 6 treatments with 7 pens per treatment and 24 to 27 pigs per pen. In Exp. 1, 1,085 gilts (initially 84.2 lb) were used with standardized ileal digestible (SID) lysine:calorie ratios of 2.01, 2.30, 2.58, 2.87, 3.16, and 3.45 g/Mcal. Both ADG and F/G improved (quadratic, $P < 0.003$) with increasing SID lysine:calorie ratio, with the greatest improvement in performance through 3.16 g SID lysine/Mcal ME and a smaller increase to the highest SID lysine:calorie level. Daily SID lysine intake increased (linear, $P < 0.001$) and SID lysine intake per pound of gain increased (quadratic, $P < 0.001$) as expected with increasing dietary lysine. Income over feed costs (IOFC) and feed cost per pound of gain also followed a similar pattern (quadratic, $P < 0.001$). In Exp. 2, 1,080 gilts (initially 185.3 lb) were used with SID lysine:calorie ratios of 1.55, 1.75, 1.95, 2.05, 2.35, and 2.55 g/Mcal. As SID lysine:calorie ratio increased, ADG, F/G, daily SID lysine intake, SID lysine intake per pound of gain, IOFC, and feed cost per pound of gain improved (linear, $P < 0.001$) through the highest lysine:calorie level of 2.55 g/Mcal. These studies indicate that feeding higher levels of lysine than previously thought to be optimal offers significant economic and biologic improvements in growing and finishing gilts. More research is needed to validate the ideal SID lysine:calorie ratio for today's evolving genetics. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by N.W. Shelton, M.D. Tokach, S.S. Dritz, R.D. Goodband, J.L. Nelssen, and J.M. DeRouchey.)

↳ **Effect of Deoiled Corn Dried Distillers Grains with Solubles (Solvent Extracted) on Growth Performance, Carcass Characteristics, and Carcass Fat Quality of Growing and Finishing Pigs** - A total of 1,215 pigs (initially 65.2 lb) were used in a 99-d study to determine the effects of deoiled corn dried distillers grains with solubles, solvent extracted (dDGS) on growing and finishing pig growth performance, carcass characteristics, and carcass fat quality. Pigs were blocked on the basis of pen weight and randomly allotted to 1 of 5 dietary treatments containing either 0, 5, 10, 20, or 30% dDGS. Pigs were fed in 4 phases; all dietary treatments were formulated to similar dietary ME and standardized ileal digestible (SID) lysine concentrations within each phase. Choice white grease (CWG) was included at increasing amounts as dDGS increased in the diet to maintain uniform dietary ME. Overall (d 0 to 99), ADG and ADFI decreased (linear, $P < 0.01$) with increasing dDGS in the diet. This reduction was especially pronounced when pigs were fed more than 20% dDGS. However, there was no difference in F/G ($P > 0.12$) for pigs fed increasing dDGS. For carcass characteristics, carcass weight and percent yield were reduced (linear, $P < 0.01$) and loin depth tended to decrease ($P < 0.09$) with increasing dDGS. However, there were no differences in backfat ($P < 0.26$), percent lean ($P < 0.16$) or fat-free lean index ($P < 0.20$). Jowl, backfat, and belly fat iodine values increased (linear, $P < 0.01$) with increasing dDGS. These increases were expected because of the increasing CWG in diets with increasing dDGS. In summary, feeding increasing levels of dDGS lowered ADG and ADFI but did not affect F/G as a result of the added fat in the diet. These data confirm the accuracy of the previously determined ME (1,137 kcal/lb) and SID amino acid values for dDGS; however, reasons for the reduced ADFI need further investigation. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.Y. Jacela, J.M. DeRouchey, S.S. Dritz, M.D. Tokach, J.L. Nelssen, R.D. Goodband, K.J. Prusa, R.C. Thaler and D.E. Little.)

↳ **Oxytocin Use in Swine** - Oxytocin is frequently used to decrease farrowing time and birth interval as an aid to prevent stillbirths. However, when used too early in the birth process, oxytocin use can increase the number of pigs stillborn. Oxytocin usage should be limited to older parity sows and sows after at least six pigs have been born. For more information please go to: www.KSUswine.org.

UPCOMING EVENTS...

↪ The Beef Cattle Institute will be hosting the **International Conference on the Use of Antimicrobials in Cattle Production**, May 27 - 29, 2009 at the K-State Union. This conference is designed to educate consumers, producers, and veterinarians about the use of antimicrobials in cattle production, including:

- Use of antimicrobials in cattle production and benefits
- What non-antimicrobial disease control measures are utilized in beef and dairy cattle production to reduce the need for antimicrobials?
- Zoonotic pathogens of concern in cattle: What is the evidence for zoonotic transfer?
- Genetic transfer and spread of resistant mutants: how does resistance move?
- Food safety interventions addressing zoonotic pathogen spread
- What data exist to link the use of antimicrobials in cattle with therapy of infectious disease in humans?
- Unmet therapeutic and preventive needs in cattle
- The role of veterinary, producer, and activist groups in the future of animal and human health

A pre-conference workshop will be held on Wednesday, May 27th, on the beef and dairy cattle industry and the methods used in studying antimicrobial resistance including:

- What is antimicrobial resistance and how do we study it in the laboratory?
- How do we study antimicrobial resistance in cattle populations?
- How are antimicrobials approved for use in cattle production?
- What regulations govern the use of antimicrobials in cattle?
- How do we quantify risk and benefit?

More information and a registration form can be found on the ICUACP website.

(www.icuacp.beefcattleinstitute.org) If you have any questions about the conference or want to know more, please contact Wrenn Pacheco at 785-532-4844 or by e-mail, wpacheco@vet.ksu.edu.

↪ **K-State Animal Science Leadership Academy** - Kansas high school youth are invited to apply for participation in a dynamic new program designed to educate students about the livestock industry, through an engaging summer experience hosted by K-State Animal Sciences and Industry. The goal of this academy will be to further develop young leaders within the livestock industry and prepare them for a successful future in this field.

The four-day event, June 10-13, will focus on increasing knowledge of Kansas' diverse livestock industry, as well as building participant's leadership skills. Twenty-five high school students will be selected to participate based upon educational, community, and agricultural involvement, as reflected through an application process. For more information visit www.asi.ksu.edu/YouthAcademy or contact Sharon Breiner, Youth Livestock Coordinator (sbreiner@ksu.edu).

↪ All **market animals and commercial heifers must be nominated** to be eligible for the Kansas State Fair and/or Kansas Junior Livestock Show. Multiple noseprints for each animal are recommended. This makes finding a legible print much easier. Initial nominations will again require a postmark by May 1 for steers and market heifers and June 15 for lambs, pigs, wether dam ewes, commercial breeding heifers and meat goats. All nominations must be complete within one month of nomination due date. This means all reprints and other corrections must be complete by June 1 for steers and July 15 for lambs, pigs, commercial breeding heifers and meat goats. The Extension Youth Web Site is available to double check your records. It can be accessed at <http://www.youthlivestock.ksu.edu> then click on nominated livestock. **New in 2009: A Housing and Care form is required for all nominated animals! Housing and care forms are available at www.YouthLivestock.KSU.edu.** For questions, contact Sharon Breiner (sbreiner@ksu.edu).

↪ **Developing and Implementing Your Company's HACCP Plan** for meat, poultry, and food processors will be held June 16-18, 2009 in Weber Hall, Kansas State University, Manhattan. Registration for the 2.5 day International HACCP Alliance accredited workshop is online at <http://animalscience.unl.edu/haccp/>. The workshop fee is \$295, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu.

↪ The **KSU Youth Horse Judging Camp – Beginning Section** will be held Friday, June 5, 2009 in Weber Arena on the KSU Campus. This camp is designed for youth that have had very little experience judging horses and would like to learn more about note taking and oral reasons. Emphasis will be on the placings of classes commonly seen in Kansas judging contests.

Camp registration will begin at 8:30 a.m. on Friday, June 5, in Room 146, Weber Hall. Camp registration fee is \$30/per student and must be paid by May 1. No entries will be accepted after this date. Camp will be limited to the first 30 participants. For a brochure or more information, contact Teresa Slough (785-532-1268; tslough@ksu.edu).

↪ The **KSU Youth Horse Judging Camp – Advanced Section** will be held June 8-9, 2009 in Weber Arena on the KSU Campus. This camp is designed for youth that have had some experience judging horses and would like to learn more about note taking and oral reasons. Emphasis will be on the placings and reasons of classes commonly seen in Kansas judging contests.

Camp registration will begin at 8:30 a.m. on Monday, June 8, in the dorm lobby. Camp registration fee is \$115/per student and must be paid by May 1. No entries will be accepted after this date. Camp will be limited to the first 30 participants. Youth will be housed in KSU dorm rooms. All meals are included in the registration fee. For a brochure or more information, contact Teresa Slough (785-532-1268; tslough@ksu.edu).

↪ **Make your plans now for the “Champion” Livestock Judging Camp.** – This three day, intense judging camp is designed for 4-H and FFA members (ages 14-18) who are seriously interested in enhancing their livestock judging and oral communication skills. Prior livestock judging experience is necessary for this camp. Workouts will be conducted similar to those at a collegiate level. Dr. Scott Schaaake, coach of five consecutive National Collegiate Championships will conduct the training for each camp. The camp will focus primarily on the proper format, terminology and presentation of oral reasons. Camp participants will also be exposed to livestock evaluation skills and incorporating performance records in the decision making process.

Mini camps will be conducted throughout the month of June. Each camp will be limited to 25 students and will be accepted on a “first come-first serve” basis. The following dates are set for the 2009 camps.

- Camp A June 16-18 (Tuesday-Thursday)
- Camp B June 19-21 (Friday-Sunday)
- Camp C June 22-24 (Monday-Wednesday)

The registration deadline is May 18. For more information, contact Scott Schaaake (simmi@ksu.edu; 785-532-1242) or Kristi Hageman (klsmith@k-state.edu; 785-532-2996).

↪ The **2009 Dr. Bob Hines Swine Classic** is scheduled for July 10-11, 2009 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 youths ages 7 through 18 as of January 1, 2009.

Watch for more details coming soon. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Jim Nelssen (785-532-1251; nelssen@ksu.edu)

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
May 27-29, 2009	International Conference on the Use of Antimicrobials	Manhattan
June 5, 2009	KSU Youth Horse Judging Camp – Beginning Section	Manhattan
June 8-9, 2009	KSU Youth Horse Judging Camp – Advanced Section	Manhattan
June 10-13, 2009	K-State Animal Science Leadership Academy	Manhattan
June 16-18, 2009	Developing your Company’s HACCP Plan	Manhattan
June 16-18, 2009	Champion Livestock Judging Camp A	Manhattan
June 19-21, 2009	Champion Livestock Judging Camp B	Manhattan
June 22-24, 2009	Champion Livestock Judging Camp C	Manhattan
July 10-11, 2009	Dr. Bob Hines Swine Classic	Manhattan

AS&I FACULTY SPOTLIGHT



Chris Reinhardt (cdr3@k-state.edu; 785-532-1672)
Assistant Professor/Extension Feedlot Specialist

A native of Wisconsin, Dr. Chris Reinhardt received a B.S. in Meat and Animal Science from the University of Wisconsin, an M.S. in Nutrition from Texas A&M University, and a Ph.D. in Nutrition from good ol' Kansas State.

Chris' focus has been on nutritional and hormonal manipulation of body composition and beef quality. After 11 years in the feed and animal health industries while living in Nebraska, he and his wife Nicole, their four children and black lab are getting settled here in Manhattan. Dr. Reinhardt was hired on at Kansas State University in the Fall of 2005 as the Feedlot Extension Specialist with a 20% research and 80% extension appointment.

In his spare time Chris enjoys hunting with his sons, church activities, playing guitar with friends, and his family.



Timothy Rozell (trozell@ksu.edu; 785-532-22393)
Associate Professor/Physiology

Dr. Tim Rozell grew up in Garrison, Missouri and then went on to complete his B.S. and M.S. degrees at the University of Missouri. From Missouri he moved to Washington to complete his Ph.D. at Washington State University. In 1997, Dr. Rozell was hired on at Kansas State University, with a 70% Teaching and 30% Research appointment, to develop and teach a course in anatomy and physiology. Because of his unique combination of skills and interests in reproductive physiology and dairy cattle, Dr. Rozell also took over teaching a course on the physiology of lactation. In addition he co-teaches a lambing class in the Spring that offers students hands-on experience with livestock.

Dr. Rozell has also developed an active research program in reproductive physiology.

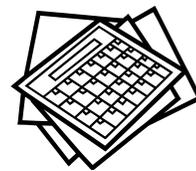
Dr. Rozell's laboratory has broad interests in the area of reproductive physiology, with specific projects currently focused on the process of development of follicles on the ovary. The ultimate goal of Dr. Rozell's research program is to facilitate reproductive activity in postpartum dairy cows and in young heifers.

During the 2004-2005 school year, Dr. Rozell went on Sabbatical in Scotland to help develop new research techniques. There he collaborated with the University of Glasgow's College of Veterinary Medicine.

Dr. Rozell resides in Manhattan with his wife Marcia and his two children Sam and Josie.

WHAT PRODUCERS SHOULD BE THINKING ABOUT...

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JUNE



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

June is a month to let Mother Nature take her course. Native grasses are usually at peak production; therefore, little supplementation is needed, with the exception of some minerals.

Cow-herd nutrition

- Provide plenty of clean, fresh water.
- Provide free-choice minerals to correct any mineral deficiencies or imbalances.
- Monitor grazing conditions and rotate pastures if possible and practical.
- Consider creep-feeding if it's cost-effective.

Herd health

- Monitor and treat pinkeye cases.
- Provide fly control. Consider all options; price and efficiency will dictate the best options to use.
- Monitor and treat for foot rot.
- To reduce heat stress, avoid handling and transporting cattle during the hottest times of the day.

Forage and pasture management

- Check and maintain summer water supplies.
- Place mineral feeders strategically to enhance grazing distribution.
- Check water gaps after possible washouts.
- Harvest hay in a timely manner; think quality and quantity.

Reproductive management

- If using AI, do not expect all females to conceive. A common practice is to breed once or twice with AI, then turn out cleanup bulls for the balance of a 65-day breeding season. A 42-day AI season with estrus synchronization at the front end gives most females three chances to conceive by AI.
- Watch bulls for libido, mounting and breeding function.
- Record breeding dates to determine calving dates.
- By imposing reproductive pressure (45-day breeding season) on yearling heifers, no late-calving 2-year-olds will result. This will increase lifetime productivity and profits.

Genetic management

- Monitor herd performance. Then identify candidates to cull because of poor performance.

General management

- Check equipment (sprayers, dust bags, oilers, haying equipment, etc.), and repair or replace as needed. Have spare parts on hand because downtime can make a big difference in hay quality.

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.