



Newsletter from the Department of Animal Sciences and Industry
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UPCOMING EVENTS...

May 2013

News from KSU Animal Sciences

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We Need Your Help!

Please send questions, comments or ideas for future newsletter topics to lschrein@ksu.edu or call (785) 532-1267.

✉ **K-State Animal Sciences Leadership Academy to be held June 5-8.** Kansas State University will host the Fifth Annual K-State Animal Sciences Leadership Academy June 5-8 for young livestock industry leaders in Kansas. The program focuses on increasing participants' knowledge of the Kansas livestock industry, as well as enhancing leadership skills.

Twenty high school students were selected based on educational, community and agricultural involvement. Students will stay in campus housing and receive training in Weber Hall as well as tour the university's animal science facilities and Kansas livestock businesses. The academy is sponsored by the Livestock and Meat Industry Council. For more information, contact Kristine Clowers (clowers@ksu.edu; 785-532-1264).

✉ **Developing and Implementing Your Company's HACCP Plan** for meat, poultry, and food processors will be held June 11-13, 2013 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/web/anisci/ANSCEXtensionMeatScienceHACCPInformationandCoursesRegistration>. The workshop fee is \$375 per person, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu or 785-532-1247.

✉ **Beef Improvement Federation Convention to be held June 12-15 in Oklahoma City.** Oklahoma State University (OSU), in collaboration with the Beef Improvement Federation (BIF), will host the 45th Annual BIF Research Symposium and Meeting June 12-15, 2013, at the Renaissance Hotel and Convention Center in Oklahoma City. Themed "Where Profit and Progress Intersect," this year's program will bring together industry professionals, producers and researchers to discuss current issues facing the beef industry.

The schedule boasts an array of speakers, socials and tours that promise to be exciting and informative. Special features include an Oklahoma Welcome Reception Wednesday evening, June 12 and a night out at the National Western Heritage Museum and Cowboy Hall of Fame Thursday, June 13. Participants can choose to tour northern or southern Oklahoma Sat., June 15.

A complete schedule and links to online registration are available at www.beefimprovement.org or www.BIFconference.com. For more information about the event, contact Megan Rolf at 405-744-9292; mrolf@okstate.edu; or Joe Cassady, BIF Executive Director at jpcassad@gmail.com.

✉ The **KSU Youth Horse Judging Camp – Beginners Section** will be held June 17, 2013 and the **KSU Youth Horse Judging Camp – Advanced Section** will be held June 13-14, 2013. Both camps will be held in Weber Arena on the KSU Campus. For more information and registration, visit www.asi.ksu.edu/p.aspx?tabid=1141 or www.YouthLivestock.KSU.edu. You can also contact Teresa Douthit, 785-532-1268, douthit@ksu.edu.



↪ **“Champions” Livestock Judging Camp planned for June** – 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. Workouts will be conducted similar to those at a collegiate level. 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. The following dates are set for the 2013 camps: June 10-12; June 14-16; or June 18-20. Registration forms and more information are available at www.asi.ksu.edu/livestockjudgingcamp. The registration deadline is May 15. For more information, contact Scott Schaake (simmi@ksu.edu; 785-532-1242) or Kristi Hagemen (klsmith@ksu.edu; 785-532-2996).

↪ **2013 Dr. Bob Hines’ Kansas Swine Classic planned for July**, The 2013 Dr. Bob Hines Swine Classic is scheduled for July 12-13, 2013, 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, 2013. **New for this year - All purebred pigs (both prospect and market) must have registration papers provided at time of check-in to qualify for the purebred classes.** This year’s Classic will feature an Extemporaneous Speaking Contest and Swine Photography Contest along with an educational program which includes information on “Nutrition Tips for the Last 30 Days Prior to the Show.”

For the Speaking Contest, participants will register on-site for the contest at no contest. The contestant will draw three livestock and ag-related topics out of a pool of topics. They will then select which topic they wish to speaker about from the three options and will be given 30 minutes to prepare a speech. Contestants will then give their 3-7 minute speech in front of a judge and spectators who wish to listen. Guidelines and criteria for the speech will be given to the contestants at check-in.

For the Swine Photography Contest, youth may submit up to 2 swine photos. Photos should be 8x10 size and should not be framed or matted. Photos will be placed in plastic sleeves and displayed throughout the weekend. Outlined below is a schedule of this year's program.

Friday, July 12

12:00 p.m. All hogs in place
 1:00 p.m. Swine photo check-in by the show ring
 1:15 p.m. Extemporaneous Speaking Contest Check-in by the show ring
 1:30 p.m. Nutrition Tips for the Last 30 Days Prior to the Show
 3:30 p.m. Ice cream party by the show ring
 5:30 p.m. Showmanship Contests

Saturday, July 13

8:30 a.m. Prospect Hog Show followed by Market Hog Show

Entries close on July 1, 2013 (must be postmarked by June 29, 2013). More information and registration will be coming soon to www.KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu), Jim Nelssen (785-532-1251; jnelssen@ksu.edu), or Kristine Clowers (785-532-1264; clowers@k-state.edu).

↪ **2013 KSU Beef Conference to be held in August.** Mark your calendars for Tuesday, August 6 for the KSU Beef Conference and watch for more details.

↪ **Date set for Kansas 4-H Livestock Sweepstakes.** Mark the dates of August 24-25, 2013 on your calendar for the Kansas 4-H State Livestock Sweepstakes. Watch for more details at www.YouthLivestock.KSU.edu.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
June 5-8, 2013	K-State Animal Sciences Leadership Academy	Manhattan
June 10-12, 2013	Champions Livestock Judging Camp	Manhattan
June 11-13, 2013	Developing and Implementing HACCP in Meat, Poultry and Food Processing	Manhattan
June 12-15, 2013	Beef Improvement Federation Annual Meeting and Symposium	Oklahoma City
June 13-14, 2013	KSU Youth Horse Judging Camp Advanced Section	Manhattan
June 14-16, 2013	Champions Livestock Judging Camp	Manhattan
June 17, 2013	KSU Youth Horse Judging Camp Beginners Section	Manhattan
June 18-20, 2013	Champions Livestock Judging Camp	Manhattan
July 12-13, 2013	Dr. Bob Hines’ Kansas Swine Classic	Manhattan
August 6, 2013	KSU Beef Conference	Manhattan
August 24-25, 2013	Kansas 4-H State Livestock Sweepstakes	Manhattan
October 2-4, 2013	Developing and Implementing HACCP in Meat, Poultry and Food Processing	Olathe

WHAT'S NEW.....

Management Minute **“Sometimes, You Need A Crisis”**

↪ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist
“Sometimes, You Need A Crisis”

Some organizations have a team of individuals who seem to share a common brain. They have a common sense of purpose, equal degree of motivation and enthusiasm, and are all pulling in the same direction.

The rest of us live in the real world.

We may even work in a highly productive, supportive, collegial environment, but many times each individual on the team has a slightly (or greatly) different agenda than what might be most beneficial to the good of the organization.

This all seems to change when there is a very real crisis which either (a) threatens the viability of the organization, and the security of the individuals, or (b) can easily be identified by all individuals as an opportunity for the organization to excel, leading to success and reward for each individual on the team.

That is when all parties involved, almost instinctively, begin to pull in the same direction. People we previously might have thought were disengaged begin asking very salient and probing, and productive, questions, and contribute volumes to understanding and development of solutions. An individual who might have previously had a reputation as an outsider or a contrarian begin to support the team emotionally and contribute to others' successful efforts.

The crisis can be a negative thing, such as a down economy which requires organizational belt-tightening. But conversely, the crisis may be an opportunity, such as dramatically increased demand for products or services, which requires greater output and efficiency by each team member.

During good, or at least normal, times, we each chase after our own selfish, although productive and meaningful, agendas, somewhat (if not completely) oblivious to the goals and challenges of our colleagues. How sweet it is by comparison when some unforeseen crisis brings us together, all pulling in the same direction. That is the truest definition of team.

For more information, contact Chris at 785-532-1672 or cdr3@ksu.edu.

Feedlot Facts **“Commercial Feeding Economics”**

↪ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist
“Commercial Feeding Economics”

A feedyard is a business, but a very different kind of business than a cow/calf operation. It's important to understand what the revenue streams are and how the feedyard adds value to a beef animal.

The first way feedyards add value is simply by turning grain into added animal weight and fatness, ultimately resulting in a more desirable market animal for the packer. But there are often-overlooked subtleties within this process as well.

Most ranchers, with some investment of capital, time, and training, could effectively background or finish their calves. Specialization and economies of scale make this transition from calf rearing to finishing difficult and potentially unprofitable.

The cow-calf producer is the person in the beef production chain who actually “produces” something; the rancher turns grass (originating from sunshine and CO₂) into a live calf (some might say the process is a bit more complex than that, and perhaps they're right.) The remaining links in the chain simply modify inputs (calf, corn, grass) into a slightly different output. The stocker, backgrounder, and cattle feeder provide the calf with additional feed, to make a bigger, fatter, calf. And the packer takes the fed animal and reduces it into its constituent components.

Feedlot Facts – “Commercial Feeding Economics” (cont.)

All segments add value, but each in a different way. The good news for the stocker and feedlot is that if the price of calves or corn are too high, they have the choice to not feed cattle (probably not a very attractive choice, but it's there nonetheless). The rancher, on the other hand, has cows and bulls and grass and sunshine, and can't simply decide to not ranch this year because of high input costs; once you're out of the game, it may be cost-prohibitive to get back in.

The real challenge is that the segments which add and extract value from an already existing calf are limited by those very same input costs. Most of the profit obtained by feeding cattle is created during the buy or the sell. So when margins are tight, the only real opportunity left is to increase efficiency. This is accomplished either by applying additional technologies to the process of feeding cattle, or by simply adding more units of throughput to the existing system---and usually both.

A short list of the enterprises within a feedyard include: manufacturing a balanced, energy dense diet; adapting cattle to the diet; delivering the diet to the cattle; managing multiple sources of operating capital; and squeeze the utmost efficiency out of the each enterprise within the system. These enterprises require a very specialized skill set which may be very different from the skills needed to run a cow-calf operation.

However, ranchers may have an advantage in reduced cost of feed, labor, or facilities. By acquiring the alternative skill sets needed to step outside the world of beef calf production and into the world of cattle feeding, many ranchers have become successful, effective, and profitable cattle feeders. However, the rancher must not mistake a lifetime of knowledge of cattle with knowledge of cattle feeding.

Before taking on the challenge of finishing calves, bring the needed expertise into the operation in the form of nutritional, veterinary, and business management consulting. With trustworthy counsel, the knowledgeable cattleman can become highly efficient at feeding cattle, and potentially create profit opportunities during economically challenging times for the cow-calf operation.

For more information contact Chris at cdr3@ksu.edu or 785-532-1672.

Exposure of Young Beef Bulls to Cycling Females Does Not Enhance Sexual Development -

Prepubertal beef bulls were given fence-line (nose-to-nose and visual) contact or no contact with cycling beef females from 6.5 to 12 months of age. Bulls were considered pubertal when they had a scrotal circumference of ≥ 10.2 inches, a semen sample with ≥ 50 million sperm per mL, and $\geq 10\%$ sperm motility. Breeding soundness examinations were conducted when bulls averaged 12 months of age. Bulls passed their BSE if they had $\geq 30\%$ sperm motility and $\geq 70\%$ normal sperm morphology.

Bull age, weight, scrotal circumference, and semen characteristics at puberty were not influenced by fence-line exposure with cycling females. The percentage of bulls that passed their first BSE was also unaffected by exposure to cycling females.

The Bottom Line: Exposure of prepubertal beef bulls to cycling beef females neither enhances bull sexual development nor influences percentage of bulls passing their initial BSE. Cattle producers would not benefit from penning developing bulls next to cycling females. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact Karol Fike (785-532-1104; karol@ksu.edu) or Larry Hollis (785-532-1246; lhollis@ksu.edu).

Evidence of Estrus Before CIDR Insertion Does Not Influence Pregnancy Rate to Fixed-Timed Artificial Insemination in Beef Heifers -

Ovulation was synchronized in 94 Angus and Angus crossbred heifers at 2 locations with a PG 6-day CIDR protocol. Heifers received 2 mL of Cystorelin (100 µg gonadotropin-releasing hormone) and a CIDR insert on day -6. On day 0, CIDR inserts were removed and 25 mg of PG (5 mL Lutalyse; Pfizer Animal Health, Whitehouse Station, NJ) was administered intramuscularly. A single fixed-timed insemination occurred 66 hours after CIDR insert removal. On day -9, all heifers received an Estroject (Western Point, Inc., Apple Valley, MN) heat detection patch and 5 mL Lutalyse. On day -6, Estroject patches were scored as activated, partially activated, or non-activated. On day 0, missing or activated patches were replaced and scoring occurred again at the time of artificial insemination.

On day -6 at the time of CIDR insertion, 30, 8, and 58 heifers had patches that were activated, partially activated, or non-activated, respectively. Pregnancy rate to artificial insemination was similar regardless of patch activation at the time of CIDR insertion. At the time of artificial insemination, 60, 23, and 14 heifers had patches that were activated, partially activated, or non-activated, respectively. Pregnancy rate to artificial insemination was similar between heifers that had a fully activated patch and those with non-activated patches.

The Bottom Line: The onset of estrus as measured by patch activation prior to CIDR insertion did not result in higher pregnancy rates to fixed-timed artificial insemination compared with heifers with non-

activated patches. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact Sandy Johnson (785-462-6281; sandyj@k-state.edu).

↳ **The Effects of Dietary Soybean Hulls, Particle Size, and Diet Form on Nursery Pig Performance** – A total of 1,100 nursery pigs (PIC C-29 × 359, initially 15.0 lb BW) were used in a 42-d growth trial to determine the effects of increasing soybean hulls (10 or 20%) and soybean hull particle size (unground or ground) in nursery pig diets fed in both meal and pelleted forms. The average particle size of the unground and ground soybean hulls were 617 and 398 μ , respectively. Pens of pigs (5 barrows and 5 gilts) were balanced by initial BW and randomly allotted to 1 of 8 treatments with 11 replications per treatment. A 2-phase diet series was used with treatment diets fed from d 0 to 14 for Phase 1 and d 14 to 42 for Phase 2. Treatments were arranged in a 2 × 2 × 2 factorial with main effects of 10 or 20% unground or finely ground soybean hulls with diets in pelleted or meal form. For individual phases and overall (d 0 to 42), no soybean hull × particle size × diet form or particle size × soybean hull interactions were observed; however, diet form × particle size interactions were observed for F/G and ADFI. Grinding soybean hulls resulted in improved F/G and reduced ADFI when added to meal diets, but did not change F/G and had less effect on ADFI when added to pelleted diets. Diet form × particle size interactions also were observed for caloric efficiency on an ME and NE basis. Grinding soybean hulls slightly improved caloric efficiency in meal diets but worsened NE and ME caloric efficiency in pelleted diets. There was also a tendency for a diet form × soybean hulls interaction for ADFI and F/G. Increasing soybean hulls from 10 to 20% increased ADFI and worsened F/G in meal diets but resulted in slightly reduced ADFI and no changes to F/G when added to pelleted diets; furthermore, there were tendencies for diet form × soybean hulls interactions on caloric efficiency on an ME and NE basis in which increasing soybean hulls from 10 to 20% improved caloric efficiency to a greater extent in pelleted diets than in meal diets.

For main effects, pigs fed diets with 10% soybean hulls had reduced ADFI and improved F/G but poorer caloric efficiency on an ME and NE basis than pigs fed diets with 20% soybean hulls. Grinding soybean hulls decreased ADG and ADFI and tended to reduce final weight but did not influence F/G. Pelleting soybean hull diets also increased ADG, ADFI, and final weight but did not influence F/G.

Bottom Line...In summary, the improvement in caloric efficiency as high levels of soybean hulls were added to the diet indicate that the energy value of soybean hulls are greater than those used in diet formulation. Pelleting provided the expected improvement in ADG and eliminated the negative effect on F/G with increasing soybean hulls. Regrinding soybean hulls below the particle size at receiving (617 μ) reduced performance. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by D. L. Goehring, M. D. Tokach, J. M. DeRouchey, J. L. Nelssen, R. D. Goodband, S. S. Dritz, and B. W. James.)

↳ **Effects of Increasing Dietary Bakery By-Product on Growing-Finishing Pig Growth Performance and Carcass Quality** - A total of 1,263 pigs (PIC 337 × 1050; initially 77.8 lb) were used in a 102-d study to determine the effects of dietary bakery by-product on pig growth performance and carcass quality. Pigs were randomly assigned to pens based on gender (14 barrow pens, 11 gilt pens, and 23 mixed-gender pens). Pens of pigs were allotted to 1 of 3 dietary treatments in a completely randomized design while balancing for initial BW and gender. Dietary treatments included 0, 7.5, and 15% bakery by-product. On d 84, the 5 heaviest pigs from each pen (determined visually) were sold according to the normal marketing procedure of the farm. On d 102, the remaining pigs were individually tattooed by pen number and sent to harvest to allow for collection of carcass data. On d 84 and d 102, the median weight market pig from every pen was selected (determined visually) for collection of carcass quality measurements.

Overall (d 0 to 102), increasing bakery by-product worsened F/G and caloric efficiency on a ME basis and pigs fed diets containing 7.5% bakery by-product tended to have the lowest ADG. For pigs marketed on d 102, no differences were observed in carcass characteristics. For pigs subsampled on d 84, loin color score increased and belly fat iodine value (IV) increased numerically as the amount of bakery by-product increased. Pigs subsampled on d 102 had decreased middle and edge belly thickness, increased IV, and numerically lower kill floor pH and belly weight as the amount of dietary bakery by-product increased. Pigs fed 15% bakery by-product had the lowest belly temperature and belly firmness score. With the exception of belly fat IV, bakery by-products had few negative effects on carcass quality.

Bottom Line...The negative effects of bakery by-product on feed efficiency, caloric efficiency on an ME basis, and belly fat IV should be taken into consideration when using bakery by-product in diet formulation. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by C. B. Paulk, S. Nitikanchana, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. M. DeRouchey, J. L. Nelssen, and K. J. Prusa.)

AS&I Faculty Spotlight



Fadi Aramouni (aramouni@k-state.edu; 785-532-1668)
Professor/Extension Specialist, Food Processing and Product Development

Dr. Fadi Aramouni was born and raised in Beirut, Lebanon. He received his B.S. in Biochemistry in 1977, and his M.S. in Food Technology in 1980 from the American University of Beirut. Dr. Aramouni earned his Ph.D. in Food Science in 1986 from Louisiana State University. He joined the Kansas State University Department of Foods and Nutrition in 1989, then the Department of Animal Science and Industry in 1995. Since July 1999, his responsibilities have been 0.85 Extension/0.15 Teaching. His teaching responsibilities include “Research and Development of Food Products”, “Principles of HACCP”, “Advanced HACCP Principles” and “Fundamentals of Food Processing”. Since June 2002, Dr. Aramouni has been a Professor and Extension Specialist with the Department of Animal Sciences and Industry and a member of the Food Science Institute.



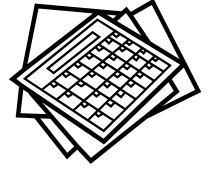
Elizabeth Boyle (lboyle@k-state.edu; 785-532-1247)
Professor/Extension Specialist, Meat Safety and Quality Processed Meats

Originally from Richfield, Minnesota, Liz Boyle has been a member of the Animal Science faculty since 1992 with an Extension/Teaching appointment. She received her B.S. in Wildlife Biology from the University of Minnesota in 1980. In 1987, she received her M.S. in Food Science and Nutrition, followed by her Ph.D. in 1991 in Food Science with a Meats emphasis from Colorado State University. Following post-doctorate work at the University of Kentucky and the University of Minnesota, Dr. Boyle made the move to Kansas. She works with the meat industry and trade associations to enhance the quality and safety of meat products and to provide scientific and technical assistance. She also teaches HACCP workshops nationally as a certified Lead HACCP instructor and teaches undergraduate and graduate courses in HACCP, Advanced HACCP, Processed Meat Operations, and Meat Technology.

Her research interests focus on scientific validation for small and very small meat and poultry processing facilities, meat safety and quality. Dr. Boyle enjoys spending her free time with her husband Dan and her daughter Jessica.

What Producers Should Be Thinking About.....

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



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

Cowherd Nutrition

- Provide plenty of clean, fresh water.
- Provide free-choice mineral to correct any mineral deficiencies or imbalances.
 - ✓ Monitor intake to insure levels are consistent with label specifications.
- Monitor grazing conditions and rotate pastures if possible and/or practical.
- If ammoniated wheat straw is planned for winter needs, follow these rules:
 - ✓ Best time is immediately after harvest, prior to weather deterioration.
 - ✓ Ammoniation process is temperature sensitive, fastest during hot days.
 - ✓ Apply 3% Anhydrous Ammonia (60 pounds/ton of straw).
 - ✓ Do ***not*** ammoniate wheat hay or any other intermediate or high quality forage; production of imidazole can cause cattle hyperactivity and death.
 - ✓ Will double crude protein content, enhances intake, and be cost effective.
- Consider early weaning if drought conditions develop and persist.
- Consider creep feeding only if cost effective.

Herd Health

- Monitor and treat Pink Eye cases.
- Provide fly control. Consider all options, price and efficiency will dictate the best option(s) to use.
- Monitor and treat foot rot cases.
- Avoid handling and transporting cattle during the hottest part of the day-reduce heat stress.
- Vaccinate replacement heifers for Brucellosis if within proper age range (4 - 10 months).
- Continue anaplasmosis control program (consult local veterinarian).

Forage/Pasture Management

- Check and maintain summer water supplies.
- Place mineral feeders strategically to enhance grazing distribution.
- Check water gaps after possible washouts.
- Harvest hays in a timely manner, think quality and quantity.
- Harvest sudan and sudan hybrids for hay in the boot stage (normally three to four feet in height). It is a good idea to run a routine nitrate test on a field before harvesting hay.
- Plan hay storage placement wisely. Putting hay conveniently near feeding sites reduces labor, time demands, and equipment repair cost.

General Management

- Good fences and good brands make good neighbors.
- Check equipment (sprayers, dust bags, oilers, haying equipment) and repair or replace as needed. Have spare parts on hand, down time 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.*