Newsletter from the Department of Animal Sciences and Industry
218 Weber Hall - Kansas State University - Manhattan, KS 66506
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December, 2015

News from KSU Animal Sciences

In This Issue

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 Research and Extension

UPCOMING EVENTS…

January 2016 Calving Management Schools – Several Calving Management Schools will be held throughout the state of Kansas in January. Featured at each school will be Dr. Dave Rethorst, DVM, with the Beef Cattle Institute. Dr. Rethorst will cover the normal calving process, when to intervene and how to manage difficult births. This discussion will be interspersed with examples of the effect of nutrition during pregnancy on calving management as well as the lifetime health and performance of the calf. A location specific speaker will focus on cow winter nutrition. Listed below are dates and locations of the schools:

January 4, 6:00 p.m. – McLouth Community Center, McLouth, KS
Contact: Jody Holthaus – jholthau@ksu.edu; 785-364-4125
January 5, 5:30 p.m. – Fire Station, Smith Center, KS
Contact: Neil Cates – ncates@ksu.edu; 785-738-3597
January 6, 5:30 p.m. – Kearny County Fairgrounds, Lakin, KS
Contact: Bill Haney – haney@ksu.edu; 620-355-6551
January 7, 5:30 p.m. – Senior Center, Ransom, KS
Contact: Jared Petersilie – jaredp11@ksu.edu; 785-626-3192
January 11, 6:00 p.m. – Civic Center, Independence, KS
Contact: Keith Martin – rkmartin@ksu.edu; 620-331-2690
January 12, 6:00 p.m. – K-State Olathe, Olathe, KS
Contact: Megan Westerhold – mwesterhold@ksu.edu; 913-294-4306

Please RSVP to the local extension office for the above schools by January 2, to ensure a meal. Charges (nominal) vary by location. Join us at one of these locations and increase the number of live calves you have at weaning. For more information, visit www.KSUbeef.org.

The 2016 **Winter Ranch Management Series** will be held in multiple locations in January/February 2016. The format of the 2016 Winter Ranch Management Seminar Series is a face-to-face meeting with a series of short presentations focused on beef production management and a 'Town Hall' Question and Answer session where producers can ask their questions to local/district and state extension specialists. Producers are encouraged to bring their questions on cow/calf animal health, nutrition, genetics, reproduction and management to the session! Meeting registration costs vary by location. Meeting registration begins at 5:00 or 5:30 PM depending on site. Please be sure to check the local flyer for each meeting or the statewide event flyer for more details.

Please RSVP to your selected location contacts by close of business one week before the event. 40 RSVP'd attendees requested for each location. Locations with fewer than 40 confirmed attendees may be cancelled. Registration fees and payment forms may vary by site. Contact your local host contact for registration/ RSVP details. Meal is included in the registration fee. Program topics and speakers vary slightly from site to site but will include at least four of the following:

Meeting location:	***Meeting Date/Time:***	***RSVP by:***
Emporia	*January 7, 2016; 5-8:30 PM*	*December 31, 2015*
Concordia	*January 20, 2016; 5-8:30 PM*	*January 13, 2016*
Lawrence	*January 21, 2016; 5-8:30 PM*	*January 14, 2016*
Alta Vista	*February 2, 2016; 5-8:30 PM*	*January 26, 2016*
Greensburg	*February 4, 2016; 5:30-9:00 PM*	*January 28, 2016*

For more information, contact Bob Weaber (785-532-1460; bweaber@ksu.edu).

- The 2016 **KSU Swine Profitability Conference** will be held on Tuesday, February 2, 2016, in Forum Hall of the K-State Student Union. The schedule for the event includes:

9:15 a.m.	Coffee and Donuts
9:30 a.m.	Special Lecture: Jack and Pat Anderson Lecture in Swine Health Management: Future Direction of the Midwest Land-Based Swine Businesses *Dr. Steve Henry, Abilene Animal Hospital*
10:30 a.m.	My Vision for our Swine Business – What Changes will be Important for our Future Success *Michael Springer, Independence, Kansas*
11:15 a.m.	Staying Competitive in a Changing Swine Industry *Bart Beattie, F.L. Beattie, Sumner, NE*
12:00 noon	Lunch
1:15 p.m.	What We've Learned during the Past Two Years about the Pork Sector *Glynn Tonsor, Kansas State University*
2:15 p.m.	My Journey from KSU Back-up Quarterback to Heisman Trophy Finalist *Collin Klein, K-State Athletics*
3:00 p.m.	Adjourn

Watch for more details at www.KSUswine.org. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

- **Kansas Junior Beef Producer Day – March 5, 2016** - The 2016 Kansas Junior Beef Producer Day is scheduled for Saturday, March 5, 2016 in Weber Hall on the Kansas State University campus. This event will be a fun filled, educational day of activities in which youth, parents, beef project leaders, and adults can increase their knowledge and experience of beef production and management. Presentations and demonstrations by K-State faculty, staff, and guest speakers will cover topics such as nutrition, project management, meat science, reproduction, health, leadership, communication, showmanship, and show ring etiquette. This interactive, hands-on educational event will stimulate enthusiasm and provide a foundation for the management and care of youth beef projects. A complimentary lunch and t-shirt will be provided for participants. Registration is due by February 10, 2016 and is $15/person. Registrations received after February 10, 2016 cannot be guaranteed a t-shirt and will be $20/person. More information, a promotional flyer, registration information, and a link for online registration may be found on the K-State Youth Livestock Program website: www.youthlivestock.ksu.edu under Kansas Junior Producer Days. For more information, contact Lexie Hayes (785-532-1264; adhayes@ksu.edu).

- **Kansas Junior Sheep Producer Day – March 19, 2016** - The 2016 Kansas Junior Sheep Producer Day is scheduled for Saturday, March 19, 2016 in Weber Hall on the Kansas State University campus. This event will be an interactive, educational day in which youth, parents, sheep project leaders, and adults can increase their knowledge about youth sheep production and management. K-State faculty, staff, and guest speakers, the Teague family, will cover topics such as market and breeding project selection, health and wellness, feeding, nutrition and management, wool education and judging, meat science, breed identification, showmanship, and grooming. All ages and skill levels are invited to attend. A complimentary lunch and t-shirt will be provided for all participants. Registration is due by February 24, 2016 and is $15/person. Registrations received after February 24, 2016 cannot be guaranteed a t-shirt and will be $20/person. More information, a promotional flyer, registration information, and a link for online registration may be found on the K-State Youth Livestock Program website: www.youthlivestock.ksu.edu under Kansas Junior Producer Days. For more information, contact Lexie Hayes (785-532-1264; adhayes@ksu.edu).

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
January 4, 2016	Calving Management School	McLouth, KS
January 5, 2016	Calving Management School	Smith Center, KS
January 6, 2016	Calving Management School	Lakin, KS
January 7, 2016	Calving Management School	Ransom, KS
January 7, 2016	Winter Ranch Management	Emporia, KS
January 11, 2016	Calving Management School	Independence, KS
January 12, 2016	Calving Management School	Olathe, KS
January 20, 2016	Winter Ranch Management	Concordia, KS
January 21, 2016	Winter Ranch Management	Lawrence, KS
February 2, 2016	K-State Swine Profitability Conference	Manhattan
February 2, 2016	Winter Ranch Management	Alta Vista, KS
February 4, 2016	Winter Ranch Management	Greensburg, KS
March 5, 2016	Junior Beef Producer Day	Manhattan
March 19, 2016	Junior Sheep Producer Day	Manhattan

WHAT'S NEW . . . .

Management Minute
"Ethics"

On behalf of everyone in the Department of Animal Sciences and Industry, I would like to wish you best wishes for a successful and prosperous New Year in 2016. The livestock industry has enjoyed the last couple of years. Futures prices indicate that livestock producers will need our help more than ever in 2016 as we are facing much lower prices. 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 working with you in 2016. Please let us know how we can better help you serve our joint clientele.

Thank you and have a Merry Christmas and Happy New Year.
Mike Tokach, Extension State Leader, Animal Sciences and Industry

Management Minute – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Ethics"

I recently read a quote about managing employees: "We hope an employee is (1) ethical, (2) intelligent, and (3) has a good work ethic. But if a person is short on number (1), we'd rather they were equally short on (2) and (3) as well!" In other words, if an employee is unethical, we'd prefer they were also stupid and lazy or they'll steal us blind!

That, to me, is a long way of saying that of all the traits by which we evaluate current and prospective employees, ethical behavior may be of the utmost importance and long-term value to the organization.

On the surface, this is obvious because of the short-term implications to company profitability if an immoral employee is pilfering product, equipment, or resources. However, even if the ethically-ambiguous employee never overtly violates any tangible law or company guideline, the unethical team mate can still be detrimental to the organization.

Imagine if colleagues of the unethical team member, over time, discover the person is untruthful, and lies routinely to avoid blame or responsibility. Team morale will suffer, trust in the person erodes and fewer responsibilities and expectations are placed on the person, resulting in greater share of duties falling on other team members, and the steam will ultimately boil over and will be directed straight at the supervisor. Having not broken any company doctrine or civil or criminal law, dismissal will require accumulation of documentation of failing to meet team expectations, depending on company policy. But more importantly, team unity will be damaged for a time and will require time for it to heal and return.

If the concept of "Team" matters, then all effort must be expended to avoid hiring only individuals who can be trusted to sacrifice their own comfort, prestige, or glory, for the good of their team mates.

For more information contact Chris at cdr3@ksu.edu.

Feedlot Facts
"Mud Season…Again"

Feedlot Facts – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Mud Season….Again"

Consider the humble Box Blade.

As a feedlot nutritionist, you'd think my favorite piece of equipment or technology would be the steam-flaker, the feed mixer, the small-ingredient inclusion system. No. I love the box blade.

Why? Because the nutritionist owns performance. BRD belongs to someone else, but when closeouts are chronically below expectations, the nutritionist often takes the heat.

As we come into a wet winter, lots can become muddy, and mud has devastating impacts on performance.

Cattle need a (relatively) dry comfortable place to lie down. If excessive moisture has resulted in destruction of the mound, it's time to run the box blade. Cattle that cannot rest do not perform.

Feedlot Facts – "Mud Season….Again" (cont.)

Cattle should have 20-25 square feet of mound area on which to lie down. The top surface (5-10 feet wide) of the mound should be crowned side-to-side, and longitudinally the mound should also have a mild grade similar to the direction of the general slope of the pen, which is normally between 1 and 6%. The sides of the mound should have a slope of 1:5 to enhance drainage yet still allow cattle to lie on the surface.

The end of the mound should connect directly to the concrete bunk pad so that, especially during muddy conditions, cattle can move freely and easily between the mound and the bunk and water areas. This will encourage both feed consumption and resting behavior, both of which will enhance performance during and after inclement weather.

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

Dietary Chromium Propionate Combined with Yeast Minimally Affects Growth Performance and Carcass Traits of Finishing Steers - The objective was to compare feedlot performance, carcass characteristics, and plasma glucose profiles of steers fed finishing diets with and without a combination of chromium propionate and yeast. Steers (n = 504; body weight = 886 lb) were sorted by body weight and randomly assigned to receive 0 (Control) or 3.3 g/day of a combination of chromium propionate and yeast supplementation (CrYeast). Steers were further divided into heavy and light weight groups, with 21 animals per pen. Plasma samples were collected on days 49 and 94 from 5 steers per pen for analysis of glucose concentration. Pens were weighed every 21 days, and harvest data were collected at the end of the finishing phase.

Bottom Line…Chromium propionate in combination with yeast may improve feed efficiency for cattle with lighter body weights entering the feedlot, but it had no further benefit to feedlot performance or carcass traits. View the complete report at www.asi.ksu.edu/cattlemensday. For more information, contact Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or Chris Reinhardt (785-532-1262; cdr3@ksu.edu)

Evaluating Chemical Mitigation of Porcine Epidemic Diarrhea Virus (PEDV) in Swine Feed and Ingredients - Porcine Epidemic Diarrhea Virus (PEDV) is primarily transmitted by fecal-oral contamination. Research has confirmed swine feed or ingredients as potential vectors of transmission, so strategies are needed to mitigate PEDV in feed. The objective of this experiment was to evaluate the effectiveness of various chemical additives to prevent or mitigate post-processing PEDV contamination in swine feed and ingredients. Treatments were arranged in a 7 × 4 factorial with seven chemical treatments and four feed matrices. The chemical treatments included: negative control with no chemical addition, 0.3% commercial formaldehyde product, 1% sodium bisulfate, 1% sodium chlorate, 3% custom organic acid blend (OA), 2% custom essential oil blend (EO), and 2% custom medium chain fatty acid blend (MCFA). The four matrices included a complete swine diet, blood meal, meat and bone meal, and spray-dried animal plasma. Matrices were first chemically treated, then inoculated with PEDV, stored at room temperature, and analyzed by RT-PCR on d 0, 1, 3, 7, 14, 21, and 42 post inoculation. Formaldehyde, MCFA, EO, and OA addition each decreased RNA concentration of PEDV compared to the control, with formaldehyde being the most effective on d 0. Feed matrix appears important in PEDV retention, as RNA concentrations were lower in the swine diet and blood meal than meat and bone meal or spray-dried animal plasma on d 0. Additionally, PEDV stability over time was influenced by matrix as RNA concentrations were greater by d 42 for spray-dried animal plasma and meat and bone meal than the complete swine diet and blood meal.

Bottom Line…In summary, time, formaldehyde, MCFA, EO, and OA all enhance the RNA degradation of PEDV in swine feed and ingredients as measured by RT-PCR, but their effectiveness varies within matrix. Notably, the MCFA was equally as successful at mitigating PEDV as a commercially-available formaldehyde product. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by R. A. Cochrane, S. S. Dritz, J. C. Woodworth, A. R. Huss, C. R. Stark, R. A. Hesse, J. Zhang, M. D. Tokach, J. F. Bai, and C. K. Jones)*

Effects of Increasing Zinc from Two Different Sources on Nursery Pig Performance - A total of 360 weanling pigs (Line 400 × 200; DNA Genetics, Columbus, NE, initially 13.0 lb) were used in a 28-d trial to evaluate the effects of Zn source and level on nursery pig growth performance. Each treatment had 8 replicate pens with 5 pigs per pen. The 9 dietary treatments were arranged as 2 × 4 + 1 factorial and consisted of a control diet that contained 110 ppm Zn from ZnSO4 from the trace mineral premix or the control diet with 390, 890, 1,890, or 2,890 ppm added Zn from either TBZC (Intellibond Z; Micronutrients, Indianapolis, IN) or ZnO. This provided diets with a total of 500, 1,000, 2,000, or 3,000 ppm added Zn. Diets were fed in 3 phases from d 0 to 7, 7 to 21, and 21 to 28 with the first phase fed in pellet form and the others as meal. No Zn source by level interactions or Zn source differences were observed throughout this 28-d study. Overall, from d 0 to 28, increasing Zn increased ADG, ADFI, and d 28 BW. On d 28, fecal samples were collected from 3 pigs in each of the 8 pens per treatment and analyzed for DM content. There was a tendency for a Zn source by level interaction. As Zn from TBZC increased, fecal DM decreased, but for pigs fed increased Zn from ZnO there was no difference in fecal DM.

Bottom Line…In conclusion, up to 3,000 ppm Zn improved ADG and ADFI with no effect on F/G. There were no differences among pigs fed the different Zn sources, suggesting that either Zn source is effective at improving weanling pig growth performance. *(This study conducted by K. E. Jordan, M. A. D. Goncalves, J. A. De Jong, J. C. Woodworth, J. L. Usry, R. D. Goodband, M. D. Tokach, S. S. Dritz, and J. M. DeRouchey)*

AS&I Faculty Spotlight

Tim Carson (tcarson@k-state.edu; 785-532-1191)
Computer Information Specialist/Instructor

Tim Carson was born in Bartlesville, Oklahoma in 1976. He grew up in rural Coffeyville on his parent's small farm. He graduated from Caney Valley High School in 1994. He attended Coffeyville Community College on a journalism scholarship and served as the Sports Editor of the CCC Collegian before moving on and earning his B.S. in Agriculture with a major in Animal Sciences and Industry from Kansas State University in 1999.

Tim worked for Sprint in Kansas City after graduation before coming back to Manhattan and joining the ASI department as a Computer Information Specialist in August of 1999. Tim started teaching ASI 290, Microcomputer Application, in August, 2002 and is also responsible for maintenance of the computers and wireless system at the farm units North of campus.

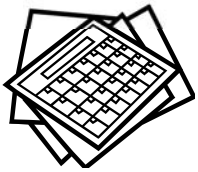
Tim and his wife Melissa have three children, Brett, Cade, and Callie. Tim enjoys tinkering with satellite equipment, doing woodworking, playing softball and watching his beloved Kansas City Royals.

Ron Pope (rvpope@k-state.edu; 785-532-5404)
Instructor

Ron Pope is from Oklahoma and Texas. He teaches three sections of ASI 105, Animal Sciences & Industry laboratory, during the fall semester and two sections in the spring semester. He advises 45 undergraduate students. He is also responsible for conducting tours of the department for outside visitors. This includes school field trips, prospective students, and interested groups. Ron is the advisor for Block and Bridle.

Ron and his wife Nita have four children (all K-State alums), five grandsons, Blake, Rhett, Chisum, Bret and Ryatt, and two granddaughters, Vanessa and Kate. Their children are Russell (ASI, BS 1999) and his wife Misty (EDEL, BS 1999); Marie(EDEL, BS 2002) and her husband Jeff Jones (ASI, BS 1999); Bill (ASI, BS 2005) and his wife Heather (AS, BS 2005, DVM 2010 from Colorado State University); and Ronny (ASI, BS 2006) and his wife Kelsey (AGEC, BS 2008, MS 2009).

What Producers Should Be Thinking About…..



WHAT PRODUCERS SHOULD BE THINKING ABOUT IN FEBRUARY……..

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

- ☑ 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.
- ☑ Control lice, external parasites will 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.*