



News from KSU Animal Sciences

July, 2017

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Department of Animal Sciences and Industry
 Kansas State University
 218 Weber Hall
 1424 Claflin Road
 Manhattan, KS 66506
 785-532-6533
www.asi.ksu.edu

UPCOMING EVENTS...

- ↪ **State Show Entry Deadlines Approaching** - Entries for the Kansas State Fair Grand Drive (4-H/FFA youth livestock show) are due July 15. All animals must be entered directly through the state fair, using the online system or sending the entry form and payment to the state fair. Late entry forms will be accepted until July 25, with a late fee of \$25/head. No entries will be accepted after July 25. For more information, visit <http://www.kansasstatefair.com/p/exhibitors/livestock-competitions/377>.
New this year, county agents and ag teachers will not need to sign the original entry for each exhibitor. After entries close, county agents and ag teachers will receive a list of exhibitors from their county/school to approve.
- ↪ **Livestock Nomination Correction Reminder** - all corrections for livestock nominations are due by July 15 to Lexie Hayes (785-532-1264 or adhayes@ksu.edu).
- ↪ **Entries for the Kansas Junior Livestock Show (KJLS)** are due August 15. Late entries will be accepted through August 31, but will cost double the stated entry fee amount. All exhibitors are required to enter online. For more information, visit www.kjls.org.
- ↪ **Kansas 4-H Livestock Sweepstakes** will be August 19-20 in Manhattan, KS. The 4-H Livestock Sweepstakes event includes the state 4-H livestock judging contest, meat judging contest, livestock skillathon and livestock quiz bowl. The members who will represent Kansas at the national 4-H contests for each of these events will be selected during the livestock sweepstakes weekend. The deadline to enter is August 1. All entries must be made by the local county extension offices or extension districts using Cvent. Registration information and contest details were emailed to county offices in June and may be found on the KSU Youth Livestock website (www.asi.k-state.edu/research-and-extension/youth-programs), under "[4-H Livestock Sweepstakes](#)". For more information, please contact Lexie Hayes at adhayes@ksu.edu.
- ↪ Registration is now open for the 2017 **Applied Reproductive Strategies in Beef Cattle Conference** (ARSBC) that will be hosted August 29-30, 2017, at the Hilton Garden Inn and Conference Center, Manhattan, KS. The workshop is considered the premiere national event in beef cattle reproductive management. The meeting has a long history of providing the latest information on the application of reproductive technologies and includes a range of topics related to cow herd reproduction such as nutritional interactions, management and male fertility. The meeting is open to anyone with an interest in beef cattle reproduction including producers, technicians, veterinarians and professionals in related industries. A tentative schedule is listed below.



All conference registrations include proceedings, breaks, breakfast, lunch and steak dinner on Aug. 29 and breakfast on Aug. 30. The laboratory session the afternoon of Aug. 30 is optional and includes a box lunch. This meeting is approved for 9.5 hours of CE contact for veterinarians with an additional 1 hour of CE contact for those participating in the wet lab. The full schedule and registration information are available at www.AppliedReproStrategies.com.

Tuesday, August 29

8:00 a.m. Welcome

Part 1: Foundational principles

8:05 a.m. Physiology of the estrous cycle – *Jeff Stevenson*, Kansas State University

8:40 a.m. Estrous synchronization protocol evolution and practical application –
Dave Patterson, University of Missouri

9:10 a.m. General management considerations to improve success of AI –
Rick Funston, University of Nebraska

Part 2: Application

9:40 a.m. Characteristics of successful breeding programs – AI industry perspective –
Sandra Levering, ABS Global, Protection, KS

9:55 a.m. Characteristics of successful breeding programs - A veterinarian perspective –
Randall Spare, DVM, Ashland Veterinary Service

10:10 a.m. Break & Trade Show

10:40 a.m. How we make reproductive technologies pay; heifer development perspective –
Doug O'Hare, O'Hare Ranch, Ainsworth, NE

10:55 a.m. How we make reproductive technologies pay; commercial perspective –
Barb Downey, Downey Ranch, Wamego, KS

11:10 a.m. How we make reproductive technologies pay; seedstock perspective –
Galen Fink, Fink Beef Genetics, Randolph, KS

11:25 a.m. Questions / Discussion

Noon Lunch (provided) and visit Trade Show

Part 3. Nutritional components

1:15 p.m. Heifer development targets – *John Hall*, University of Idaho

1:45 p.m. Mystery and magic of mineral programs – *John Arthington*, University of Florida

2:15 p.m. Impact of nutrition, behavior and other stressors on embryonic loss and fertility –
Reinaldo Cooke, Oregon State University

2:45 p.m. Break & Trade Show

Part 4. The male side

3:15 p.m. Male fertility – *John Kastelic*, DVM, University of Calgary

3:45 p.m. Developing breeding bulls for the commercial cattleman – *Dan Larson*, Great Plains Consulting

4:15 p.m. Commercial aspects of sexed semen – *George Seidel*, Colorado State University

4:45 p.m. Q & A

6:00 p.m. Social (cash bar) Stanley Stout Arena

6:30 p.m. Steak dinner, Announcement of Service to Industry Awards

7:30 p.m. Discussion groups

Wednesday, August 30

7:00 a.m. Breakfast (provided)

Part 5. Systems and health

8:00 a.m. Reproductive and other emerging disease concerns – *Gregg Hanzlicek*, DVM, Kansas State University

8:30 a.m. Systems approach to animal health – *Dave Smith*, DVM, Mississippi State University

9:00 a.m. Pregnancy diagnosis in cattle: when, why and how – *Ky Pohler*, University of Tennessee

9:30 a.m. Fetal programming – *Kim Vonnahme*, North Dakota State University

10:00 a.m. Break & Trade Show

10:30 a.m. Embryo transfer: Managing recipients and donors - *Cliff Lamb*, Texas A & M University

Part 6. Leveraging genetics

11:00 a.m. Next on the horizon for genetic technology - *Randy Prather*, University of Missouri

11:30 a.m. Selection of replacement heifers – *Bob Weaver*, Kansas State University

12:00 p.m. Practical application of genomic tests in beef production – *Megan Rolf*, Kansas State University

12:30 p.m. Conference wrap up and head to lab (*LAB is optional*) or home

Part 7. Optional Lab

1:45 – 4:45 pm - Stanley Stout Center – *Separate fee*

For more information on the Applied Reproductive Strategies in Beef Cattle Workshop, contact Sandy Johnson (sandy@ksu.edu; 785-462-6281) or Katie Golemboski (kgolembo@k-state.edu; 785-462-6281).

↳ **KSU Beef Stocker Field Day to be hosted September 21** - The 2017 KSU Beef Stocker Field Day will be Thursday, September 21, at the KSU Beef Stocker Unit in Manhattan. The schedule is as follows:

- 9:30 a.m. Registration/Coffee
- 10:15 a.m. Introductions
- 10:30 a.m. Beef Cattle Outlook –
Dr. Derrell Peel, Oklahoma State University
- 11:15 a.m. Producer Panel – Implementing Cover Crops: How They Have Helped My Operation
Moderator: *Wes Ishmael, Contributing Editor, BEEF magazine*
Dr. Jaymelynn Farney, Kansas State University
Dr. Doug Shoup, Kansas State University
Shawn Tiffany, Herington, KS, Producer
Kelly Novak, Tampa, KS, Producer
Kevin Wellntiz, Neosho Rapids, KS, Producer
Harold Engle, Madison, KS, Producer
- 12:15 p.m. BBQ Brisket Lunch – View posters
- 1:15 p.m. Setting Calves up for Success this Fall
Dr. Peggy Thompson, Boehringer Ingelheim Professional Services
- 2:15 p.m. A Different Intensive Early Stocking Strategy for Optimized Marketing Opportunities
Dr. Keith Harmony, K-State Agricultural Research Center, Hays, KS
- 3:00 p.m. Break
- 3:30 p.m. **Breakout Sessions** (30 minutes/breakout)
Proper Dosing at the Chute - *Dr. A.J. Tarpoff, Kansas State University*
Why Vaccines Sometimes “Seem” to Fail - *Dr. Gregg Hanzlicek, Kansas State University*
Stocker and Backgrounding Budgets - *Robin Reid, Kansas State University*
Cover Crop Decision Tool - *Dr. Jaymelynn Farney and Dr. Doug Shoup*
- 5:30 p.m. Cutting Bull’s Lament 2017

The day will conclude with a good old-fashioned Prairie Oyster Fry and Call Hall ice cream. Pre-registration is \$25 and due by September 15. For complete details and registration, visit www.KSUbeef.org. For more information, contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

↳ **Developing and Implementing Your Company’s HACCP Plan** for meat, poultry, and juice processors will be held October 4-6, 2017 in Olathe, KS. Information and registration for the 2.5 day International HACCP Alliance accredited workshop is online at <http://haccp.unl.edu>. The workshop fee is \$450 per person, and participants will be presented with a certificate with an International HACCP Alliance seal upon completion of the course. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu or 785-532-1247.

↳ Join us for the 3rd annual **AS&I Family and Friends Reunion on Friday, October 13, 2017**, from 5:30 – 9:30 p.m. at the Stanley Stout Center, 2200 Denison Avenue, Manhattan, Kansas. Last year’s event was truly amazing with more than 1,000 family and friends reuniting at the event. This year the Don L. Good Impact Award will be presented to Sharon Schwartz, long-time pork industry leader and state legislator. Other activities will include great food, live music, Junior Wildcat Barnyard and more surprises!! Watch for more information and a registration form, coming soon to www.asi.ksu.edu/familyandfriends.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
July 15, 2017	Kansas State Fair Entry Deadline	
July 15, 2017	Livestock Nomination Correction Deadline	
August 15, 2017	Kansas Junior Livestock Show Entry Deadline	
August 19-20, 2017	Kansas Livestock Sweepstakes	Manhattan
August 29-30, 2017	Applied Reproductive Strategies in Beef Cattle Conference	Manhattan
September 21, 2017	KSU Beef Stocker Field Day	Manhattan
October 4-6, 2017	Developing and Implementing Your Company’s HACCP Plan	Olathe, KS
October 13, 2017	AS&I Family and Friends Reunion	Manhattan

WHAT'S NEW.....

Management Minute "Tell Me Something Good"

☞ **Management Minute** – Justin Waggoner, Ph.D., Beef Systems Specialist
"Tell Me Something Good"

I recently came across an interesting statistic attributed to the Gallup organization that suggests that 75% of us are at some level of disengagement with life. That essentially means that 25% of those surveyed were satisfied (happy) with where they were at in life.

Does this carry over into the workplace? Absolutely.

Clint Swindall of Verbalocity Inc., a personal development company, breaks it down a bit further, "There are three types of people in an organization: 32 percent who are engaged, 50 percent who are disengaged and 18 percent who are actively disengaged. The actively disengaged people are called the 'Oh No's' because they dread being asked to work. The engaged people are called the 'Oh Yes's' because they will do whatever is asked of them with enthusiasm no matter what the task is."

As humans it is really easy for us to get caught up in the negativity around us. Let's face it...it is really difficult for most of us (75%) to see the opportunity in a given situation whether it is in our professional or personal life. What do you discuss at work or at home at the dinner table? Do you discuss the good stuff that happens during your day or the things that could have been better?

So the bigger question is what do we do about it? Clint Swindall, suggests that we replace the traditional greeting of "How are you?" with "Tell me something good." I can assure you that you will receive some really odd looks the first time you try it. However, some people will be more than willing to share something good about what is going on at work or at home. It will take some time but maybe some of those "Oh No's" will become "Oh Yes's" in the workplace.

For more information, contact Justin Waggoner at jwaggon@ksu.edu.

Feedlot Facts "Toe Abscesses in Feedlot Cattle"

☞ **Feedlot Facts** – A.J. Tarpoff, Extension Beef Veterinarian, and Justin Waggoner, Ph.D., Beef Systems Specialist

"Toe Abscesses in Feedlot Cattle"

Lameness is a significant disease challenge in feedlot cattle. It has been estimated that 16% of all treatments, 5% of deaths and 70% of animals for railer slaughter is due to lameness. One cause of lameness that often goes underdiagnosed is toe abscesses. This issue goes by a number of different names such as toe tip necrosis or P3 necrosis. It can affect heifers, steers, calves and yearlings. They typically occur and present during the first three weeks after arrival into the feedlot. Toe abscesses can occur on any foot, but tend to be more common on the rear feet.

Cause -- This disease process is most commonly seen in young cattle coming into the feedlot from wet lush pastures. Although several other factors can play a role in this disease. Wet soft conditions can lead to softening of the sole tissue predisposing the foot to damage. But rough frozen ground with sharp edges can also be a factor. Flighty cattle or poor cattle handling can also be a culprit. Couple that with rough concrete flooring that can grind off layers of sole, and it leads to prime conditions for toe abscesses to occur. Standing long periods of time on concrete floors, as well as sharp metal edges in the floors of working facilities have also been indicated as the cause of toe abscesses. Bacteria invades the underlying tissue once the sole has been separated from the hoof. As the infection sets in, the bone in the foot may be involved. If left untreated, the infection will spread up the leg and can cause multiple abscesses in different areas of the body.

Diagnosis -- Toe abscesses are a very painful condition. Cattle will tend to stand in abnormal positions to take pressure off of the affected toe. They may appear simply stiff and show signs of shifting lameness. The source of the lameness is difficult to see due to no signs of swelling. Finding the affected toe requires an examination of the foot. Lifting the foot with soft nylon rope and a pulley off the chute may be the most effective way to conduct this exam. The toe with the abscess will be very painful.

↪ **Feedlot Facts – “Toe Abscesses in Feedlot Cattle” (cont.)**

Applying pressure with hoof testers, or even a large set of pliers, to the effected toe will cause the calf to immediately pull away. Upon closer examination slight separation of the sole and the hoof wall may be evident. As the disease progresses, swelling will begin to appear on the coronary band (just above the hoof) on the effected toe.

Treatment -- Successful treatment is heavily dependent on early diagnosis. The main stay treatment has been to carefully nip the tip of the toe to allow drainage of the pressure causing abscess. Many times, only a small amount of the hoof needs to be removed. Going so deep that the toe bleeds allows bacteria from the environment to invade leading to a detrimental outcome. Use of a long acting antimicrobial is indicated to minimize handling post treatment. Perhaps the most important factor that determines the treatment outcome is moving these animals to a dry, well-bedded pen to rest and hopefully recover.

For more information, contact A.J. Tarpoff at tarpoff@ksu.edu or Justin Waggoner at jwaggon@ksu.edu.

↪ **Late Season Fly Control** - Horn flies are blood feeding flies that impact production on cattle operations. Populations of these flies tend to peak in June. The hot dry days of summer tend to decrease the overall population. However, in late August to September as the temperatures begins to decrease and humidity increases, the horn fly population tends to peak again.

The common classes of fly control products are pyrethroids, organophosphates, macrocyclic lactones, and insect growth regulators. These products are approved to be used by a number of different application methods. So understanding of the product label is very important.

Classes of fly control products and chemical names:

- Pyrethroids:
 - Fenvalerate, permethrin, cyfluthrin, lambda-cyhalothrin, zeta-cypermethrin, bifenthrin, deltamethrin
- Macrocyclic Lactones:
 - Abamectin, eprinomectin, ivermectin, moxidectin, doramectin, spinosad
- Organophosphates
 - Diazinon, coumaphos, pirimiphos-methyl, chlorpyrifos, phosmet, tetrachlorvinphos
- Insect Growth Regulators (IGR)
 - Methoprene, diflubenzuron

Many producers use insecticide impregnated fly tags to provide fly control for the majority of the grazing season. It is important to note what class of ear tag is used on a yearly basis. Resistance is a real concern and proper steps should be taken to help mitigate it. Several generations of flies occur during the grazing season. During the multiple generation turnover, flies do develop some level of resistance in continued presence of a parasiticide. It is important to remove spent fly tags once they have lost their efficacy. The sub-therapeutic levels of product left in the tags hasten development of resistance. It is also recommended to switch class of fly tag (not just brand) on a yearly basis.

If placed too early in the season, the fly tags will lose potency and efficacy late in the season when the fly burden will be peaking once again. Depending of the tag, length of expected efficacy may be 3-5 months. So extra steps may be needed when the fly tag loses its effect. This late season treatment after the fly tag has run its course can be extremely successful for a number of reasons. Changing the class of parasiticide at this time, and using a spot-on/spray treatment will reduce the number of resistant flies that overwinter. As well as reducing the overall population in the area. This helps continue the success of the fly management product rotation from year to year. The spot-on/spray products are shorter acting (2-4 weeks). Since they have less residual activity, they carry minimal risk of developing resistance when used at this time.

Administering spot-on/spray products does require additional labor. For spot on products, the cattle would need to be worked through a handling facility for proper administration. Sprays can be applied a number of different ways. Be sure to read the label instructions for proper mixing directions. The spray itself can be applied by something as simple as a hand held sprayer or an electric sprayer on the back of an ATV. Some producers prefer walking through the herd with a hand held sprayer after acclimating the cattle to their presence.

With flighty cattle, gathering the group into a holding corral and spraying the product on the cattle as they exit the area may be the only viable option. This ensures consistent product delivery without having to catch each individual animal in a chute. High volume high pressure application can also be utilized in a holding area, but larger pumps and tanks are needed which can be an issue in the pasture setting. Cattle rubs are another option, but are most successful when cattle are all move under or through a controlled traffic area (such as controlled entrance to water and mineral areas). Many cattle will not use these rubs in a pasture setting without incentive and application would not be consistent through the herd. So the controlled access areas are very important.

Timing of application and product use are always important topics to review with your local veterinarian to develop a site specific pest management plan.

For more information, contact A.J. Tarpoff at tarpoff@ksu.edu.

↪ **Twenty-four Hour Holter Monitoring in Finishing Cattle Housed Outdoors** – The objective was to determine normal Holter monitor registrations including heart rate, rhythm, number of ventricular premature complexes, and atrial premature complexes in unrestrained finishing Angus steers. Twenty-seven (1,116 ± 12.1 lb) 15- to 17-month-old Angus steers were used to evaluate clinical examination, complete blood count, and serum biochemical analysis. Cattle were determined to be disease-free based on normal physical examinations and blood count and serum chemistries. In addition, tissue histopathology was determined to be normal following euthanasia (27 days after Holter recordings). A lightweight Holter monitor was used in an outdoor environment. Blood samples for serum chemistry and complete blood count were collected on all study animals on days 11 and 16 for blocks one and two, respectively. Silver/silver chloride electrodes were applied to five vertically aligned locations just caudal to the forelimbs. The software identified individual heart beats as normal, abnormal, or artifact. Portions of the recording marked as artifact were excluded from the analysis. After evaluation, software output results were compiled into hourly intervals.

Bottom Line... Based on the data from this study, atrial premature complexes are common, ventricular premature complexes are uncommon, and simple second degree atrioventricular block is a variable arrhythmia noted in clinically normal cattle. In addition, instances of simple second degree atrioventricular block were noted in the steers in this study, likely secondary to hypervagotonia. Cattle heart rhythms follow patterns similar to other species with slower rates during the evening and night hours, with higher rates in the morning and declining into the afternoon. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Dan Thomson (785-532-4254; dthomson@ksu.edu) or A.J. Tarpoff (785-532-1255; tarpoff@ksu.edu).

↪ **Evaluation of Trace Mineral Sources on Newly Arrived Stocker Cattle** – The purpose of this study was to evaluate the effects of feeding zinc, copper and manganese from different mineral sources. Heifers (n = 280; initial body weight 511 lb) were sorted by body weight and randomly assigned to treatments. Treatments consisted of supplemental zinc, copper and manganese from sulfate, organic and hydroxy forms. Heifers were housed in dirt surfaced pens with 6 pens per treatment and 15 heifers per pen. Heifers were weighed at day 14 and 45.

Bottom Line... Sources of zinc, copper and manganese provided as a sulfate, organic or hydroxy form had no effect on daily gain or feed efficiency of heifers fed during a 45-day receiving period. For more information contact, Dale Blasi (785-532-5427; dblasi@ksu.edu).

↪ **Supplemental Zinc Sulfate Interacts with Optaflexx in Feedlot Heifers** – The purpose of this study was to evaluate growth, carcass characteristics, and plasma urea nitrogen concentrations in finishing heifers supplemented with Optaflexx in conjunction with increased concentrations of zinc. Heifers (n=156; initial body weight 1,162 lb) were sorted by body weight and randomly assigned to treatments. Treatments consisted of heifers supplemented with Optaflexx (0 or 200 mg/animal daily) and zinc (30 or 100 ppm) as zinc sulfate. Pens contained three heifers per pen with 13 pens per treatment. Blood was collected days 0 and 36 for urea nitrogen analysis. Heifers were fed Optaflexx for 42 days then harvested after 43 days. Harvest data were collected after slaughter.

Bottom Line... Supplementing increased concentrations of zinc sulfate to finishing heifers had little impact on feedlot performance and plasma urea nitrogen concentration; however, muscle and fat deposition may be altered when fed in combination with Optaflexx. For more information contact, Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or A.J. Tarpoff (785-532-1255; tarpoff@ksu.edu).

↪ **Evaluation of the Effects of Flushing Feed Manufacturing Equipment with Chemically-Treated Rice Hulls on Porcine Epidemic Diarrhea Virus Cross Contamination During Feed Manufacturing** - Various strategies have been proposed to mitigate potential risk of porcine epidemic diarrhea virus (PEDV) transmission via feed and feed ingredients. Wet decontamination has been found to be the most effective decontamination of feed mill surfaces; however, this is not practical on a commercial feed production-scale. Another potential mitigation strategy, easier to implement, would be using chemically-treated rice hulls flushed through the feed manufacturing equipment. The objective of this experiment was to determine the impact of MCFA- or formaldehyde-treated rice hull flush batches as potential PEDV mitigation strategies during feed manufacturing. Feed without evidence of PEDV RNA contamination was inoculated with PEDV. After manufacture of PEDV positive feed, untreated rice hulls, or rice hulls treated with Sal CURB, 2%, or 10% medium chain fatty acid blend (MCFA; 1:1:1 ratio of caproic, caprylic, and capric acid) were flushed through laboratory-scale mixers. For the untreated rice hulls, three of six samples had detectable PEDV RNA while one of six Sal CURB treated rice hull flush samples and two of six of the 2% MCFA rice hull flush samples had detectable PEDV RNA. However, PEDV RNA was not detected in any of the 10% MCFA rice hull flush samples. Additionally, rice hulls treated with 10% MCFA were mixed and discharged through a production-scale mixer and bucket elevator following manufacturing of PEDV positive feed. In the production-scale system, no rice hull flush or feed samples from the mixer following chemically-treated rice hull flush had detectable PEDV RNA. However, one 10% MCFA rice hull sample collected from the bucket elevator discharge spout had detectable PEDV RNA.

Dust collected following mixing of PEDV-contaminated feed had a large quantity of PEDV RNA. Dust collected immediately after the 10% MCFA rice hull flush batch had a reduced quantity of PEDV RNA, and the subsequent feed following the 10% rice hull flush had no detectable PEDV RNA. Pigs inoculated with dust collected after manufacturing PEDV-positive feed were shedding PEDV RNA by two dpi and continued to have detectable RNA until necropsy. Dust collected from the 10% MCFA rice hull flush batch or the subsequent batch was not infective.

Bottom Line... Overall, the use of rice hull flushes effectively reduced the quantity of detectable RNA present after mixing a batch of PEDV-positive feed. Chemical treatment of rice hulls with Sal CURB and 10% MCFA provided additional reduction in detectable RNA present in the rice hull flush samples. Finally, dust collected after manufacturing PEDV-inoculated feed contains a very high quantity of viral RNA and was found infective, demonstrating it has the potential to serve as a vector for PEDV transmission. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.T. Gebhardt, J.C. Woodworth, C.K. Jones, P.C. Gauger, M.D. Tokach, J.M. DeRouche, R.D. Goodband, M.B. Muckey, R.A. Cochran, M.C. Niederwerder, C.R. Stark, J. Bai, Q. Chen, J. Zhang, A. Ramirez, R.J. Derscheid, R.G. Main, and S.S. Dritz.)

↪ **Effects of Evosure on Nursery Pig Performance** - A total of 360 pigs (PIC C-29 × 359, initially 13.1 lb BW) were used in a 42-day growth trial evaluating the effects of Evosure on nursery pig performance. Evosure is a yeast-based technology designed to enhance weaned pig performance. Pigs were weaned at approximately 16 to 20 days and allotted to pens based on initial BW and gender in a completely randomized design. The three dietary treatments included a control diet, or the control diet with Evosure fed at 1.0 lb/ton fed from day 0 to 21 followed by 0.5 lb/ton fed from day 21 to 42, or 1.0 lb/ton fed from day 0 to 42. Experimental diets were fed in three phases (Phase 1, day 0 to 7; Phase 2, day 7 to 21; and Phase 3, day 21 to 42 post-weaning) and in meal form. Overall, no differences in growth performance or final BW were observed among dietary treatments.

Bottom Line... In conclusion, under these experimental conditions, added Evosure, regardless of level, did not impact nursery pig performance. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by H.E. Williams, J.C. Woodworth, J.M. DeRouche, S.S. Dritz, M.D. Tokach, and R.D. Goodband.)

↪ **Effects of Added Chromium and Space Allocation on Finishing Pig Performance** – A total of 256 pigs were used in a 72-day trial to determine the effect of dietary chromium (chromium propionate; Kemin Industries, Des Moines, IA) and space allowance on performance and carcass characteristics of finishing pigs. Pens were blocked by initial weight and randomly assigned to treatments with eight pigs per pen and eight pens per treatment. Treatments were arranged in a two × two factorial with main effects of diet (control or added chromium, 200 ppb) and two space allowances (9.8 ft² - normal and 6.8 ft² – restricted). Adding chromium to the diet decreased average daily gain (ADG) from day 56 to 72 and resulted in poorer F/G for the overall period. Space restriction decreased ADG and ADFI for all periods within the study and final BW, and HCW, but increased carcass yield and decreased backfat depth.

Bottom Line... These results indicate that chromium propionate did not improve performance when pigs were restricted in space. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.P. Santos, M.D. Tokach, S.S. Dritz, J.C. Woodworth, R.D. Goodband, and J.M. DeRouche.)

AS&I Faculty Spotlight



Elizabeth (Liz) Boyle (lboyle@k-state.edu; 785-532-1247)

Professor and Extension Specialist/Meat Safety and Quality, HACCP

Originally from Richfield, Minnesota, Liz Boyle has been a member of the Animal Science faculty since 1992. She received her B.S. (Wildlife Biology) degree from the University of Minnesota in 1980. Her M.S. (Food Science and Nutrition) and Ph.D. (Food Science, Meats emphasis) degrees were received from Colorado State University in 1987 and 1991, respectively. Following post-doctorate work at the University of Kentucky and the University of Minnesota, Dr. Boyle made the move to Kansas.

Dr. Boyle works primarily in Extension (0.6 appointment) to enhance the quality and safety of meat products and to provide scientific and technical assistance to meat processors and trade associations. She also teaches Hazard Analysis and Critical Control Point (HACCP) workshops nationally as a certified Lead HACCP instructor and teaches (0.4 appointment) undergraduate and graduate courses in HACCP and Advanced HACCP.

Her research interests focus on the impact of HACCP on 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.



Barry Bradford (bbradfor@k-state.edu; 785-532-7974)

Professor/Dairy Nutrition

Barry Bradford was raised on a cow-calf operation in southwest Iowa and was heavily involved in the operation from a young age. He received his bachelor's degree at Iowa State University, then went on to obtain his doctorate in animal nutrition at Michigan State University, where his research focused on metabolic regulation of feed intake in dairy cattle.

In 2006, Bradford began his current position at Kansas State University with a 60% research, 40% teaching appointment. Bradford oversees an active research program focused on uses of alternative feedstuffs in dairy nutrition, transition cow health, and physiological regulation of carbohydrate and lipid metabolism. He also teaches over 185 students per year as an instructor in Fundamentals of Nutrition

(ASI 318), Physiology of Lactation (ASI 601), and Dairy Cattle Nutrition (ASI 681).

Barry lives in Manhattan with his wife, Sarah, and their children, Hannah, Kiernan, and Lydia.

What Producers Should Be Thinking About.....

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



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

September is when forages are maturing rapidly, weaning time can be appropriate, and weather dictates several key management decisions.

Breeding Season

Out of concern for trichomoniasis, an economically devastating reproductive disease, do not introduce untested bulls to your herd. Remove bulls after 60 days with cows, 45 days with heifers (Never run bulls for more than a 90-day breeding season).

Cowherd Nutrition

- Provide ample amounts of clean, fresh drinking water.
- Consider limited-intake creep feeding if:
 - ◆ Drought conditions develop and persist.
 - ◆ Range conditions limit milk production.
 - ◆ Creep feed/grain prices are relatively low.
 - ◆ Value of gain allows for economic benefits.
- Tips for successful limited-intake creep feeding:
 - ◆ Limit duration to last 30 to 75 days before weaning.
 - ◆ Limit intake to less than 2 pounds/head/day.
 - ◆ Use an ionophore or other feed additive to maximize efficiency.
 - ◆ Protein level should be equal to or greater than 16%.
 - ◆ High salt levels may help limit intake, but can be tough on feeders.
- Prepurchase bulk rate winter supplementation needs prior to seasonal price increases.

Herd Health

- If pinkeye is likely to be a problem, consider the following preventive and therapeutic measures.

Preventive:

- ◆ Make sure the herd is receiving adequate vitamins and trace mineral in their diet.
- ◆ Consider using a medicated trace mineral package.
- ◆ Consider vaccination for pinkeye and IBR.
- ◆ Control face flies.
- ◆ Clip pastures with tall, coarse grasses that may irritate eyes.
- ◆ Provide ample shade.

Therapy:

- ◆ Administer a long-acting antibiotic subcutaneously when symptoms are first noticed.
 - ◆ Shut out irritating sunlight by patching eyes, shade, etc.
 - ◆ Control flies.
 - ◆ Consult your veterinarian.
- Consider revaccinating for the respiratory diseases for any animals that will be taken to livestock shows.
 - Vaccinate suckling calves for IBR, BVD, PI3, BRSV, and possibly pasteurella at least 3 weeks prior to weaning.
 - Revaccinate all calves for blackleg.
 - Vaccinate replacement heifers for brucellosis (4 to 10 months of age).
 - Monitor and treat footrot.

Forage/Pasture Management

- Enhance grazing distribution with mineral mixture placement away from water sources.
- Observe pasture weed problems to aid in planning control methods needed next spring.
- Monitor grazing conditions and rotate pastures if possible and(or) practical.
- If pastures will run out in late summer, get ready to provide emergency feeds. Start supplemental feeding before pastures are gone to extend grazing.
- Harvest and store forages properly. Minimize waste by reducing spoilage.
- Sample harvested forages and have them analyzed for nitrate and nutrient composition.
- Plan winter nutritional program through pasture and forage management.
- For stocker cattle and replacement heifers, supplement maturing grasses with an acceptable degradable intake protein/ionophore (feed additive) type supplement.

Reproductive Management

- Remove bulls to consolidate calving season.
- Pregnancy check and age pregnancies 60 days after the end of the breeding season. Consider culling cows that are short-bred.

These methods contribute to a more uniform calf crop, make winter nutritional management easier, and increase the success rate of next year's breeding season.

General Management

- Avoid unnecessary heat stress - Don't handle and(or) truck cattle during the heat of the day.
- Repair, replace and improve facilities needed for fall processing.
- Order supplies, vaccines, tags, and other products needed at weaning time.
- Consider early weaning if:
 - ◆ Drought conditions develop and persist.
 - ◆ Range conditions limit milk production.
 - ◆ Cows are losing body condition.
 - ◆ Calf and cull cow prices indicate maximum profit.
 - ◆ Facilities and management is available to handle lightweight calves.
 - ✓ *First-calf heifers have the most to gain.*
 - ✓ *Resist the temptation to feed the cows without weaning; feeding early-weaned calves is more efficient.*
- Look for unsound cows that need to be culled from the herd.
- Prepare to have your calf crop weighed and analyzed through your state, regional, or breed performance-testing program.
- 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.*