

News from KSU Animal Sciences

November, 2009



Newsletter from the Department of Animal Sciences and Industry
213 Weber Hall, Kansas State University, Manhattan, KS 66506
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WHAT'S NEW....

↳ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist “Partners in Safety”

Last month we discussed training the newly hired employee, first and foremost, on the Culture of Safety in your workplace. We stressed that unless all employees feel that the employer cares about their safety, safe practices will not become routine. The problem comes for the small business when trying to establish a safety program and standard operating procedures which emphasize safe practices. That is, everyone in the organization already has a great deal of responsibilities and there usually is not a person dedicated to human resources-related issues such as the safety program.

As we all know, we can't manage what we don't measure. Contact the Kansas Department of Human Resources and the Kansas Department of Labor to find out where you rank in terms of injury accidents compared to other organizations in your industry. Depending on your accident record, you may need to focus on certain areas more than others in your operation.

After determining what safety areas on which to focus, you may ask for input from each of your employees (or those you most trust) on safety tips within each area of the organization. These suggestions can be typed up, compiled into a binder, and updated and expanded regularly.

A possibly unlikely, but potentially, invaluable partner in your safety program should be your workers' compensation insurance provider. It is in their best interest to help you remain accident-free--they should be eager to help. They know where the pitfalls are and where to focus your energies and efforts. They know where safety problems lie in your industry and related industries, and they have experience in building safety programs and providing safety training.

Above all, get a program in place. Get started, get advice from experts, and keep getting better. For more information, contact Chris at 785-532-1672 or cdr3@ksu.edu.

↳ **Effects of *Megasphaera elsdenii* on Ruminal pH, Ruminal Concentrations of Organic Acids, and Bacterial Genomes Following a Grain Challenge** - Crossbred Angus steers (n = 20; average initial body weight = 558 lb) were used in a metabolism study to determine effects of ruminal inoculation with *M. elsdenii* on ruminal conditions and organic acid production following an abrupt diet change. Treatments consisted of a placebo or a low, medium, or high dose of a live culture containing *M. elsdenii* strain NCIMB 41125. Background samples were taken from animals on day 1 of the experiment to establish ruminal conditions prior to the diet change. On day 2, ruminal contents were collected from each animal and the appropriate inoculum was administered. Immediately following dosing and sampling, steers were given free-choice access to a flaked corn diet. Immediately following sampling, ruminal pH was measured and subsamples were taken for analysis of ruminal organic acids and concentrations of *M. elsdenii*. The objective of this experiment was to determine the efficacy of orally dosing cattle with *Megasphaera elsdenii* for preventing ruminal accumulation of lactic acid.

Bottom Line.... Dosing cattle with *M. elsdenii* before feeding a grain-based diet may help prevent accumulation of lactic acid and thus avoid severe depressions in ruminal pH that may cause ruminal acidosis. 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).

↳ **Feedlot Facts** by Chris Reinhardt, Ph.D., Extension Feedlot Specialist

“Feedlot Finishing Rations”

The decision to feed calves on beyond the growing phase through to finish should not be taken lightly. Depending on the economics, some producers may elect to sell all the calves after growing, sell some calves after the growing phase and finish the remaining calves, or finish the entire group. But some form of price risk protection should be considered. Also, even if future price is protected, performance risk is still a factor---the unexpected blizzard will throw all our performance projections out the window.

The composition of the finishing ration will depend primarily upon two factors: ingredient availability and mixing facilities. If mixing facilities are not available, you may decide to finish the cattle on a self-feeder, which necessitates a dry ration which will flow through a gravity system. If you have excellent mixing facilities you may wish to include wet forages and/or wet grain by-products. NOTE: Some feed wagons have been used for mixing and do not do an adequate job of mixing feed. Improperly mixed rations can lead to disastrous consequences in performance and potentially lead to death by acidosis.

As discussed previously, roughage level should be determined by the other ingredients fed, quality of mixing facilities, and experience of those feeding the cattle. Many feeders have started feeding cattle using a 12-15% roughage level the first year, and slowly decreased their roughage level as experience taught them lessons. Diets high in grain by-products ($\geq 30\%$ on a dry-matter basis) may facilitate a reduction in roughage level, but only if experience and facilities make that possible.

Next month: Bunk management

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

↳ **Feeding value of low and normal test-weight grain sorghum similar** - Growing conditions this year have produced grain sorghum with low test weights. Sorghum less than 55 pounds per bushel is docked an increasing amount as test weight decreases. A natural question is what is the feeding value of low test weight grain sorghum?

This question was addressed in growing and finishing steers at the Southwest Research and Extension Center in Garden City, KS. In the growing trial, 35, 45, and 55 pounds per bushel grain sorghum was used in either a limit-fed high concentrate or full-fed high roughage diet. Within a feeding level, average daily gain was not affected by sorghum test weight. Feed conversion in high concentrate steers was increased 11.4% compared to high roughage steers.

In the finishing trial, 35, 45, and 55 pounds per bushel grain sorghum was processed by either dry-rolling or steam-flaking. After 124 days on feed, average daily gain was similar for all test weights. Steam-flaking improved feed conversion compared to dry-rolled sorghum. Cumulative feed conversion was similar for the dry-rolled treatments at all test weights. However, steers fed steam-flaked, 55 pounds per bushel sorghum had a 10.8% improvement in conversion compared to the average of all other treatments. Carcass characteristics were not affected by sorghum test-weight.

Another study at the Agriculture Research Center in Hays compared 48 and 56 pounds per bushel grain sorghum in finishing steers. Feed consumption of steers fed the low-test sorghum was less and gain was slower than those fed normal sorghum. There was no difference in the net energy content of the two grains.

In light test weight sorghum, protein and fiber levels are increased, but starch content decreases as test weight declines. The higher protein content can be an advantage in ration formulation, especially for growing rations. Because of the smaller and variable seed size, fine processing is critical.

Relative feeding value of 40 to 55 pound grain sorghum is similar. Lower bulk density increases transportation, handling and processing time and cost and requires more storage space per ton. These costs should be considered when determining the value of low test weight sorghum. For more information, contact Sandy Johnson (sandyj@ksu.edu; 785-462-6281).

↳ **IRM Redbooks for Sale** –It is not too late to get your 2010 IRM Redbooks! To order your supply of redbooks, please contact Lois (lschrein@ksu.edu; 785-532-1267).

- ↪ **Aging Improves Tenderness of Longissimus Muscle Steaks from Fed Mature Cows -**
Longissimus muscle steaks from 53 cull cows were used in this study. Cows were from a study investigating effects of different management practices on performance and carcass characteristics. One-inch longissimus muscle steaks from each cow were cut and aged in vacuum packaging for 7, 14, 21, or 28 days at approximately 32°F. Steaks were cooked on the final day of aging, and Warner-Bratzler shear force values were determined the following day. The objective of this experiment was to determine effects of aging on tenderness of longissimus muscle from cull cows.
- Bottom Line....**Tenderness of longissimus muscle steaks from fed mature cows improves as days of postmortem aging increase. 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).
- ↪ **Effects of Ractopamine HCL (Paylean) and α-Lipoic Acid on the Growth Performance and Carcass Characteristics of Finishing Pigs** – A total of 48 gilts (initially 211 lb) were used to evaluate the effects of ractopamine HCl and α-lipoic acid on finishing pig performance and carcass characteristics. Pigs were blocked by weight and randomly allotted to 1 of 4 dietary treatments in a 22-d experiment. Pigs were fed corn-soybean meal-based diets. Treatments were arranged as a 2 × 2 factorial with main effects of ractopamine HCl (0 or 9 g/ton) and α-lipoic acid (0 or 300 ppm). For overall growth performance (d 0 to 22), ADG tended to be greater for pigs fed ractopamine HCl. Although F/G improved for pigs fed ractopamine HCl, there was a trend for an interaction between ractopamine HCl and α-lipoic acid. For pigs fed diets without ractopamine HCl, added α-lipoic acid numerically improved F/G, whereas in pigs fed ractopamine HCl, added α-lipoic acid numerically worsened F/G. Average final weight tended to be greater for pigs fed ractopamine HCl. No other differences in growth performance were observed. For the comparison of carcass characteristics, average live weight, HCW, yield, loin eye area at the 10th rib, and standardized fat-free lean were increased for pigs fed ractopamine HCl. Average backfat thickness tended to decrease for pigs fed ractopamine HCl. Tenth-rib backfat increased for pigs fed α-lipoic acid, and the percent fat-free lean of pigs fed α-lipoic acid tended to decrease as a result. In conclusion, the growth performance and carcass characteristics of pigs fed ractopamine HCl were improved. Feeding 300 ppm of α-lipoic acid did not affect growth performance but did tend to increase carcass fat content. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.R. Bergstrom, J.L. Nelssen, T. Houser, M.D. Tokach, J.A. Gunderson, A.N. Gipe, J. Jacela, J.M. Benz, R.C. Sulabo, J.M. DeRouchey, R.D. Goodband, and S.S. Dritz.)
- ↪ **Diet Preference and Growth Performance in Weanling Pigs Fed Diets with *Morinda citrifolia* (NONI)** – Two experiments were conducted to determine the effects of adding 5% *Morinda citrifolia* (noni; Morinda Agricultural Products, Orem, UT) to diets for weanling pigs. In Exp. 1, 48 pigs (initially 9.3 lb) were used in a 29-d preference study. There were 6 pigs per pen and 8 pens total. The pens were equipped with 2 identical feeders (for diets without and with noni puree), and position of the feeders was switched each afternoon to prevent feeder location from affecting diet consumption. The diets were corn-soybean meal-based, pelleted, and had 1.8% lysine for d 0 to 5, 1.6% lysine for d 5 to 15, and 1.4% lysine for d 15 to 29. Feed and water were consumed on an ad libitum basis. No differences were noted among diets without and with noni for pelleting ease and pellet durability index (PDI). Feed intake was increased for d 0 to 5 (0.11 vs. 0.23 lb/d) and d 0 to 15 (0.15 vs. 0.37 lb/d) when noni was added to the diets. However, this effect disappeared for d 15 to 29 so that overall feed intake was not different (0.40 vs. 0.50 lb/d) for d 0 to 29. In Exp. 2, 96 pigs (initially 14.8 lb) were used in a 29-d growth assay. There were 6 pigs per pen and 8 pens per treatment. The diets were the same as those used in the first experiment. Results indicated no differences in ADG, ADFI, and F/G for d 0 to 5 and 0 to 15 between pigs fed diets without and with noni. However, for d 15 to 29 and overall (d 0 to 29), ADG and ADFI were decreased for pigs fed diets with noni compared with the control. In conclusion, there was a preference for diets with noni for the first 15 d of the preference study. In the growth assay, prolonged feeding of diets with noni resulted in reduced feed intake and, ultimately, decreased rate of gain. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by C. Feoli, J.D. Hancock, and K.C. Behnke.)

↳ **Effects of Expander Conditioning on the Nutritional Value of Diets with Dried Distillers Grains with Solubles in Nursery and Finishing Pigs** – Three experiments were conducted to determine the effects of expander conditioning on nutritional value of diets without and with corn- and sorghum-based dried distillers grains with solubles (DDGS). In Exp. 1, 180 nursery pigs (average weight 29 lb) were assigned to 30 pens. Treatments were arranged as a 3 × 2 factorial with main effects of diet formulation (corn-soybean meal vs. 30% corn- or sorghum-based DDGS) and conditioning (standard steam vs. expander) prior to pelleting. Pigs fed corn-soybean meal diets had better ADG, F/G, and digestibility of DM, N, and GE than pigs fed diets with DDGS. Diets with corn-based DDGS supported better ADG, F/G, and digestibility of DM and N than diets with sorghum-based DDGS. Expander processing improved ADG, F/G, and digestibility of DM, N, and GE compared with standard conditioning. Pigs fed diets with sorghum-based DDGS showed the greatest response in F/G to expander conditioning leading to a DDGS source × conditioning interaction. In Exp. 2, 176 finishing pigs (average weight 164 lb) were assigned to 16 pens. Treatments were arranged as a 2 × 2 factorial with main effects of diet formulation (corn-soybean meal vs. 40% sorghum-based DDGS) and conditioning (standard steam vs. expander) prior to pelleting. Net electrical energy required for feed processing was lower and production rate was greater for the corn-soybean meal diets than for diets with DDGS. However, pellet durability was improved by addition of DDGS to the diets. Pigs fed corn-soybean meal diets had better overall ADG and F/G than pigs fed diets with DDGS. Expander conditioning did not affect ADG but improved overall F/G and dressing percentage. In Exp. 3, 192 finishing pigs (average weight 222 lb) were assigned to 16 pens to determine nutrient digestibility. Treatments were the same as in Exp. 2. Feed and water was consumed ad libitum during a 6-d adjustment period; then, feces were collected for 2 d. Corn-soybean meal diets had greater digestibility of DM, N, and GE than diets with DDGS, and expander conditioning improved digestibility of DM, N, and GE compared with standard conditioning. However, the improved digestibility of DM with expander conditioning was apparent primarily for the DDGS diets (diet × conditioning interaction). In conclusion, expanding diets improved ADG, F/G, and nutrient digestibility in nursery pigs and F/G, dressing percentage, and nutrient digestibility in finishing pigs fed diets without and with DDGS. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by C. Feoli, J.D. Hancock, K.C. Behnke, T.L. Gugle, and S.D. Carter.)

↳ **Effects of *Morinda citrifolia* (NONI) and Diet Complexity on Growth Performance in Weanling Pigs** – Two experiments were conducted to determine the effects of concentration (0, 0.75, 1.5, 3.0, and 6.0%) of *Morinda citrifolia* (noni; Morinda Agricultural Products, Orem, UT) and diet complexity in weanling pigs. In Exp. 1, 210 pigs (initially 13.4 lb) were used in a 35-d growth assay; there were 7 pigs per pen and 6 pens per treatment. Diets were corn-soybean meal-based, and lysine concentrations were 1.8% for d 0 to 7, 1.6% for d 7 to 21, and 1.4% for d 21 to 35 with feed and water consumed on an ad libitum basis. Increasing the concentration of noni in the diet from 0 to 3% had no effects on pellet durability index (PDI) for the d 0 to 7 and 7 to 21 diets. Average daily gain (quadratic effect) and F/G (quadratic effect) for d 0 to 7 and F/G for d 0 to 21 (quadratic effect) improved as noni concentration in the diet was increased from 0 to 0.75%. However, no treatment effects were observed overall (d 0 to 35). For Exp. 2, 168 pigs (initially 13.9 lb) were used in a 35-d growth assay; there were 6 pigs per pen and 7 pens per treatment. Treatments were arranged as a 2 × 2 factorial with main effects of diet formulation (simple vs. complex) and noni addition (0 vs. 3%). Simple diets had the same minimum nutrient specifications as complex diets but had no added lactose or spray-dried animal plasma for d 0 to 7 and only 10% added whey for d 7 to 21. Pelleting data indicated improved PDI with no additional energy inputs when noni was added to the simple diets (for d 21 to 35). Pigs fed simple diets had lower ADG for d 0 to 7 and lower ADG and ADFI for d 0 to 21 than pigs fed complex diets. During d 0 to 35 for ADG and d 0 to 21 for F/G, addition of noni to the simple diets had negative effects (diet complexity × noni interaction). In conclusion, adding 0.75 to 3% noni to complex diets improved growth performance early in a titration experiment but had negative effects when added to the simple diet formulations used in a second experiment. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by C. Feoli, J.D. Hancock, and K.C. Behnke.)

UPCOMING EVENTS...

- ↳ Don't miss the **2009 KSU Swine Day** which will be held Thursday, November 19, at the KSU Alumni Center. Visit www.KSUswine.org for complete schedule and registration information. For more information, contact Jim Nelssen (jnelssen@ksu.edu; 785-532-1251).
- ↳ The **SowBridge Breeding Herd Education Series** is being offered for 2010. The SowBridge program is designed to deliver timely and relevant information in a convenient manner. Programs are delivered over the mid-day period to maximize learner participation while minimizing interruption of the normal daily work schedule. This program is designed to increase dissemination of information that will hopefully improve understanding and productivity in breeding herds and farrowing systems. This year-long program is offered by subscription only with a Dec. 1, 2009, deadline to ensure participants will receive materials for the first session on Jan. 6, 2010. Sessions are held the first Wednesday of each month and will begin at 11:35 a.m. central time and last approximately 45 minutes. Following each session, participants can continue to ask questions, or respond, to other producer questions, via the sowbridge@lista.umn.edu discussion group. The SowBridge Series cost of \$250 includes all 12 sessions and supporting materials. For a complete schedule and registration form, visit KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu).
- ↳ The **2009 Range Beef Cow Symposium** is scheduled for December 1 – 3, at the Casper Events Center in Casper, Wyoming. Focused on beef production issues, this meeting regularly attracts 800 to 1,200 attendees and more than 80 agribusiness booth vendors for the three day event. One of the most popular aspects of the Range Beef Cow Symposium is the the nightly “Bull Pen Sessions” where the invited speakers are brought back as panelists and are available for informal questions-and-answer sessions. For more details on the program and registration, contact Steve Paisley at the University of Wyoming (307-837-2000; spaisley@uwyo.edu). For more information, contact Sandy Johnson (785-462-6281; sandyj@ksu.edu).
- ↳ Make plans now to attend the **K-State Winter Ranch Management Seminar** to be held on Monday, January 11, 2010. Locations for the event include Ashland, Manhattan, Parsons and Phillipsburg, KS. Cow herd economics, practical genetics, calving management and bull management will be the topics presented at the Seminar. Featured speakers will be Harlan Hughes, professor emeritus of North Dakota State University, speaking on “*Cow Herd Economics*,” and Kent Andersen, Pfizer Genetics, speaking on “*Practical Genetics*.” These speakers will be addressing the audience at all four locations simultaneously by webinar. Local speakers will address calving management and bull management at each of the four locations. The schedule is as follows:
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| 2:30 p.m. | Registration |
| 3:00 p.m. | Calving Management |
| 4:00 p.m. | Practical Genetics (Kent Andersen via webinar) |
| 5:00 p.m. | Dinner |
| 6:00 p.m. | Cow Herd Economics (Harlan Hughes via webinar) |
| 7:00 p.m. | Bull Management |
- Brochures for the event will be available through your local county office shortly and will be available at www.KSUbeef.org. For additional information, contact Larry Hollis (lhollis@ksu.edu; 785-532-1246). Please register directly with the host sites as follows:
- Ashland** – contact Tanner Gillum (tgillum@ksu.edu; 620-635-2811)
Manhattan – contact Charlotte Bruna (cbruna@ksu.edu; 785-532-1280)
Parsons – contact Karen Walters (kwalters@ksu.edu; 620-431-1530)
Phillipsburg – contact Rachael Boyle (rboyle@ksu.edu; 785-425-6851)

↪ Area cattlemen should mark the dates of January 12th and 13th on their calendars and make plans to attend the **26th Annual 4-State Beef Conference**. The conference planning committee has designed an excellent program that should have something of interest to all beef producers. Speakers and their topics for the 2010 conference are as follows: *Dr. Richard Randle, University of Nebraska* – “Whole Herd Health: Common Health Problems”; *Dr. KC Olson, Kansas State University* – “Mineral Nutrition”; *Dr. Karl Harborth, Kansas State University* – “Factors Affecting Sale Barn Prices”; and *Dr. John Lawrence, Iowa State Extension Livestock Economist and Director of the Iowa Beef Center* – “Replacement Heifers: Buying vs Raising”.

The conference is scheduled for Tuesday, January 12th and Wednesday, January 13th, 2010. The Tuesday morning session will begin at 9:30 a.m. in Lewis, IA at the ISU Armstrong Research Farm and the afternoon session will begin at 3:30 p.m. in King City, MO at the Eiberger Building. The Wednesday morning session will also begin at 9:30 a.m. in Tecumseh, NE at the Community Building, and the afternoon session will start at 3:30 p.m. in Holton, Kansas at the Jackson County Fairbuilding.

The registration fee is \$25.00 per person and reservations are requested by, Friday, January 8th, 2010. The fee includes a beef meal and a copy of the conference proceedings. To keep registration fees affordable in the future, please help us by calling in your reservations. For more information or to register for the conference, contact your local county extension office. For more information, contact Joel DeRouchey (jderouch@ksu.edu; 785-532-2280) or Jody Holthaus, Meadowlark Extension District/Holton Office (jholthau@ksu.edu; 785-364-4125).

↪ An exciting and informative **Meat Processing Workshop** has been planned at Kansas State University in conjunction with the Kansas Meat Processors Association. The 33rd Annual Midwest Processed/Cured Meat Workshop will be held on Saturday, January 30, 2010 at Weber Hall on the KSU Campus. This is a great opportunity to see, hear and ask questions as state award winning meat processors demonstrate the manufacture of their products. Learn about the cornerstones of cooking, secrets of smoke color, the future of thermal processing, poultry sausage manufacture, and more.

Registration is \$95.00 per plant and includes lunch for two people if received by January 22, 2010. After that date, the fee will increase to \$105.00 per plant. For a registration form or more information, contact Liz Boyle (lboyle@ksu.edu; 785-532-1247).

↪ The **2010 KSU Swine Profitability Conference** will be held Tuesday, February 2 in Forum Hall of the K-State Student Union. A great program has been lined up including presentations from Dr. Joe Connor from the Carthage Vet Clinic; Rob Brenneman from Washington, IA; Steve Meyer, Paragon Economics, and the KSU Swine Team as well as a keynote address from KSU Athletic Director, John Currie.

Registration fee of \$25 per participant is due by January 25, 2010. Watch for more details on the conference. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
November 19, 2009	KSU Swine Day	Manhattan
December 1, 2009	Registration Deadline for SowBridge Education Series	
December 1-3, 2009	Range Beef Cow Symposium	Casper, WY
December 1, 2009	Burn Workshop	Lyons, KS
December 3, 2009	Burn Workshop	Smith Center, KS
December 7, 2009	Burn Workshop	Iola, KS
January 11, 2010	K-State Winter Ranch Management Seminar	Manhattan
January 13, 2010	4-State Beef Conference	Holton, KS
January 30, 2010	Meat Processing Workshop	Manhattan
February 2, 2010	KSU Swine Profitability Conference	Manhattan

AS&I FACULTY SPOTLIGHT



Sandy Johnson (sandyj@ksu.edu; 785-462-6281)
Associate Professor/Extension Specialist, Northwest Area

Sandy Johnson was raised on a diversified livestock farm north of Blair, Nebraska. An active 4-Her, her projects included cattle, swine, sheep and horses. She received a B.S. degree in Animal Science from the University of Nebraska in 1982 and a M.S. degree in Reproductive Physiology from the University of Missouri in 1984. A deep appreciation for applied integrated research was developed during three years spent working as a research technician at the University of Nebraska West Central Research and Extension Center in North Platte. A move to West Virginia was made to pursue a Ph.D. Her dissertation examined the role of the follicle in the formation of short-lived corpora lutea in postpartum beef cows. Sandy received a Ph.D. degree from West Virginia University in Reproductive Physiology in 1991 and continued there as a post doctoral fellow until 1993. She held a teaching position at Fort Hays State University before beginning her current position in October of 1998 as Extension Livestock Specialist at the Northwest Research and Extension Center in Colby.

Sandy is a member of the Beef Reproductive Task Force (www.beefrepro.info) which has hosted the Applied Reproductive Strategies in Beef Cattle Workshops, updated the Estrus Synchronization Planner and organized the Beef Cattle Reproduction Leadership Team. All efforts are aimed at promoting wider adoption of reproductive technologies among cow-calf producers and to educate cow-calf producers in management considerations that will increase the likelihood of successful AI breeding. Her research interests include synchronization of estrus and ovulation, costs of breeding systems and cow/calf management.



Karl Harborth (harborth@ksu.edu; 620-431-1530)
Assistant Professor/Extension Specialist, Southeast Area

Dr. Karl Harborth is an Assistant Professor and Extension livestock specialist at Kansas State University's Southeast Area Extension office in Chanute, KS. Dr. Harborth's research is directed toward cow and calf nutritional management, forage utilization, early weaning, supplement with distiller's by-products, and effects of Optaflexx on beef cull cows.

Karl has recently accepted the State Extension Beef Position at Louisiana State University. He will be joining their staff in early 2010. Good luck Karl!



Justin Waggoner (jwaggon@ksu.edu; 620-275-9164)
Assistant Professor/Extension Specialist, Southwest Area

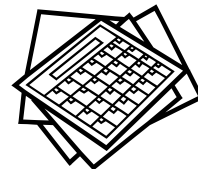
Dr. Justin Waggoner is an assistant professor and Beef Systems Specialist at Kansas State University's Southwest Area Extension Office in Garden City. Waggoner was raised on his family's farm in central, Kansas. He obtained his Bachelor's (2000) and Master's (2001) degrees in Animal Science from Kansas State University and completed his Doctorate in Ruminant Nutrition at New Mexico State University (NMSU) in 2007. While pursuing his graduate studies, Justin also managed the NMSU ruminant nutrition laboratory. Dr. Waggoner's doctoral research evaluated the impacts of morbidity on performance and profitability in feedlot cattle and nutrient utilization in stressed cattle. Dr. Waggoner's Extension program is directed at helping beef cattle producers enhance the sustainability of their operations. His current

research interests include evaluating low-input storage of wet distiller's grains and the utilization of distiller's grains in sorghum based rations.

Justin and his wife, Stephanie, live on a small ranch East of Garden City, KS. The current head count includes 2 border collies, 2 horses, and 16 Angus-pairs. At the present time he spends most of his spare time starting home improvement projects and building fence. However, he would like to spend more time training horses and hunting in the future.

WHAT PRODUCERS SHOULD BE THINKING ABOUT...

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JANUARY



BEEF -- Tips by Dale Blasi, Extension Beef Specialist

Cow herd management

- ☑ Historically, cull cow prices have increased during the next 2 or 3 months. Contrary to tradition, feeding cull cows this year may not be a profitable venture due to higher input costs. Check your breakevens.
- ☑ Continue feeding or grazing programs started in early winter. Weather conditions may require wrapping up grain sorghum and cornstalk field grazing. Severe winter weather may begin to limit crop residue utilization, so be prepared to move to other grazing and feeding systems
- ☑ Supplement to achieve ideal BCS at calving.
 - ↳ Use this formula to compare the basis of cost per lb. of crude protein (CP):
Cost of supplement, \$ per hundredweight (cwt.) ÷ (100 X % CP) = cost per lb. of CP.
 - ↳ Use this formula to compare energy sources on basis of cost per lb. of TDN:
Cost, \$ per ton ÷ [2,000 X % dry matter (DM) X % TDN in DM] = cost per lb. of TDN.
- ☑ Control lice; external parasites could increase feed costs.
- ☑ Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gallons (gal.) of water per head per day, even in the coldest weather.
- ☑ Sort cows into management groups. BCS 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 conditioned 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 post-partum 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%-65% of their mature weight by the start of the breeding season. Thin, lightweight heifers may need extra feed for 60-80 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 your breed association.
- ☑ Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The 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. Increase the amount of dietary energy provided 1% for each degree (including wind chill) below the LCT.