



Newsletter from the Department of Animal Sciences and Industry
 213 Weber Hall - Kansas State University - Manhattan, KS 66506
 785-532-6131 – www.asi.ksu.edu

UPCOMING EVENTS...

December 2012

News from KSU Animal Sciences

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We Need Your Help!

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

☞ **K-State Winter Ranch Management Seminar will be held at 9 locations on Tuesday, January 8, 2013.** Locations for the event include Manhattan (Kansas State University), Ellsworth, Belleville, Oakley, K-State Olathe Campus, Erie, Phillipsburg, Hutchinson and Emporia. The event will be held from 4:00 – 8:30 p.m. with the following schedule:

- 4:00 p.m. Registration Begins
- 4:30 p.m. Protection and Restoration of Forage and Range Resources
- 5:15 p.m. RA Brown Ranch: Management Innovations for a Changing Beef Industry, *Donnell Brown*, via webinar
- 6:00 p.m. Dinner
- 7:00 p.m. Fetal Programming: Implications for Beef Cattle Production
Dr. Rick Funston, via webinar
- 7:45 p.m. Tips and Tools to Reach Your Management Goals

Featured speakers will be addressing the audience at all nine locations simultaneously via webinar. Local speakers at each location will address "Protection and Restoration of Forage and Range Resources" and "Tips and Tools to Reach Your Management Goals".

Registration fee is \$25 and due by January 2, 2013. Brochures are available through your local county office and at www.KSUbeef.org. Online registration and updates to the Seminar can be found at www.asi.ksu.edu/rms. For additional information, contact Larry Hollis (lhollis@ksu.edu; 785-532-1246) or Eve Clark (evvec@ksu.edu; 785-532-1280).

☞ **29th 4-State Beef Conference slated for January 29, 2013 to address relevant issues affecting beef operations.** The 4-State Beef Conference is designed to give beef cattle interests in Iowa, Kansas, Missouri, and Nebraska a regular update on current cow-calf and stocker topics. The conference provides a forum of specialists from four of the USA's leading beef cattle land grant universities as well as other industry experts. The 28th annual conference will address relevant issues affecting beef operations. The annual 4-State Beef Conference will be held on January 29, 2013 from 5:00 - 8:30 p.m.

New for this year is the full conference program will be held concurrently at two locations in Kansas, one at the Community Building in Seneca and also at the Senior Center in Wamego. The program will feature 4 separate sessions and a supper meal. The topics of this year's program include: 1) Genetic Improvement of Beef Cattle Feed Efficiency by K-State; 2) Engaging Consumers in a Beef Conversation by Daren Williams, Executive Director of Communications, National Cattlemen's Beef Association; 3) Beef Industry Update and Outlook by CattleFax, and 4) Trichomoniasis by a local veterinarian.

The program cost is \$20 which includes a full supper meal and informational proceedings. To register for the Seneca location, please contact Jodi Holthaus (785-364-4125 or jholthau@ksu.edu) or for Wamego, please contact either Austin Sexten (785-457-3319 or ajsexten@k-state.edu) or Karaline Mayer (785-765-3821 or kamayer@ksu.edu). Registration deadline is January 25th. For more information, please visit www.ksubeef.org under upcoming events.



☞ **Trent Loos highlights a tremendous group of speakers at the 2013 KSU Swine Profitability Conference**

which will be held on February 5, 2013, in Forum Hall of the K-State Student Union. The schedule includes:

- 9:15 a.m. Coffee and Donuts
- 9:30 a.m. *Special Lecture: Jack and Pat Anderson Lecture in Swine Health Management: Five Key Changes to Modern Management Practices Necessary to Improve Profitability - Dr. Jeff DeMint, Bern-Sabetha Vet Clinic*
- 10:30 a.m. Keeping a Swine Business Going for the Long Haul: What our Family has Done to Insure Success – Roy Henry, Longford, KS
- 11:15 a.m. Future Plans to Deal with Production Expectations of the Retail Pork Sector – Chris Novak, National Pork Board
- 12:00 noon Lunch
- 1:15 p.m. The Changing Landscape of the US Swine Industry – Dr. Ron Plain, University of Missouri
- 2:00 p.m. What We Need to Know About Animal Activist Groups: Past, Present and Future – Trent Loos, Loos Tales
- 3:00 p.m. Adjourn

Registration fee of \$30 per participant is due by January 25, 2013. Brochures and registration information available at www.KSUswine.org. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

☞ **Youth learn about raising and showing pigs at the Kansas Junior Swine Producer Day** which will be held Saturday, February 16, in Weber Arena. This highly interactive, hands-on educational event will be a fun filled day of activities in which youth, parents, swine project leaders and adults can increase their knowledge and experience of swine production and management practices. Presentations and demonstrations will be given by K-State graduate students and faculty, as well as featured speaker, Kyle Baade. Mr. Baade is a 2009 graduate from SDSU where he received his Bachelor in Animal Science degree. He is currently the herdsman for Penner Genetics in Plymouth, Nebraska, specializing in purebred breeding stock and high quality club pigs. All participants, registered by February 1, will receive a K-State Show Pig Guide, Skillathon practice, T-shirt, and lunch. The schedule is as follows:

- | | | | |
|-------|---|-------|--|
| 9:00 | Registration | 12:00 | Lunch |
| 9:15 | Welcome and Opening Remarks | 12:30 | Youth PQA+ Certification Session (optional to attend, will last until 1:45) |
| 9:30 | Selecting Your Youth Project | 1:00 | Pig Care: From Purchase to Show Day |
| 10:00 | Skillathon (non-competitive) | 1:45 | Hands-On Showmanship |
| 11:15 | Nutrition of Your Show Pig | 2:15 | Final Questions and Wrap-up |
| 11:45 | Educational Materials for Your Swine Project and Livestock Nominations | | |

The registration fee is \$10/person by February 1 or \$15 per person after February 1. Visit www.asi.ksu.edu/youthprograms for registration. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Kristine Clowers (785-532-1264; clowers@ksu.edu).

☞ **The KSU Cattlemen’s Day (previously known as Livestock Feeders Day) will celebrate their 100th anniversary on Friday, March 1, 2013.** Make plans now to come to KSU Cattlemen’s Day and help us celebrate 100 years along with the dedication of the new Stanley Stout Center and the Legacy Sale. The complete program and registration information will be coming soon to www.asi.ksu.edu/cattlemensday. For more information, contact Jim Drouillard (jdrouill@ksu.edu; 785-532-1204) or Dale Blasi (dblasi@ksu.edu; 785-532-5427).

☞ The **2013 KSU Sheep Day** will be held on Saturday, March 2, 2013. Mark the date on your calendars and watch for more details. For more information, contact Brian Faris (brfaris@ksu.edu; 785-532-1255).

☞ Mark Saturday, March 23, 2013 on your calendar for the **Kansas Junior Meat Goat Producer Day**. Watch for more details. For more information, contact Brian Faris (brfaris@ksu.edu; 785-532-1255) or Kristine Clowers (clowers@ksu.edu; 785-532-1264).

| CALENDAR OF UPCOMING EVENTS | | |
|-----------------------------|--|---------------|
| Date | Event | Location |
| January 8, 2013 | K-State Winter Ranch Management Seminar | |
| January 29, 2013 | 4-State Beef Conference | Wamego/Seneca |
| February 5, 2013 | KSU Swine Profitability Conference | Manhattan |
| February 16, 2013 | Kansas Junior Swine Producer Day | Manhattan |
| March 1, 2013 | KSU Cattlemen’s Day – 100 th Anniversary | Manhattan |
| March 2, 2013 | KSU Sheep Day | Manhattan |
| March 23, 2013 | Kansas Junior Meat Goat Producer Day | Manhattan |
| April 5, 2013 | Midwest Processed Meats Workshop | Manhattan |
| June 11-13, 2013 | Developing and Implementing HACCP in Meat, Poultry and Food Processing | Manhattan |
| June 5-8, 2013 | K-State Animal Sciences Leadership Academy | Manhattan |
| October 2-4, 2013 | Developing and Implementing HACCP in Meat, Poultry and Food Processing | Olathe |

WHAT'S NEW.....

Merry Christmas and Happy New Year! On behalf of the Department of Animal Sciences and Industry, we would like to thank you for your help during the past year in providing timely information for Kansas Livestock Producers. We are proud to be associated with the excellent team of professionals partnering in our mission to meet the needs of our clientele in the livestock industries. Please let us know if there is anything that we can do to help you better serve our joint clientele.

Although 2012 was a very challenging year for livestock producers, we are excited about the prospects in 2013. With timely rainfall and the increased prices suggested by the futures market, 2013 will be a great year for livestock producers. I hope it will also be a great year for you and your families.

Thank you for the hard work that you continue to do.

Mike Tokach, Extension State Leader, Animal Sciences and Industry



Management Minute – Chris Reinhardt, Ph.D., Extension Feedlot Specialist **“Letting Go”**

In Dr. Henry Cloud's book Necessary Endings, he discusses “pruning” of activities in our professional or personal life which may be using up precious resources that may better be implemented on higher impact activities---those very activities that we'd really like to be “about”.

But that pruning process is easier said than done. We develop significant emotional attachment to those activities in which we invest greatly of ourselves. When we come to the point of eliminating that activity from our lives or our business, there needs to be acknowledgement of the very real sense of loss that will accompany cessation of that activity.

This may seem completely off-base---a little too “touchy-feely”---but it actually makes sense if we consider it at a deeper level. We always hope our employees will “take ownership” of their portion of the business, so that they will conserve inputs and care about the outcomes. So why should we expect those who have “taken ownership” of an activity to somehow not feel like they've lost something when it goes away?

Dr. Cloud discusses one interesting example: when the management team decided they needed to shut down a given business unit, they actually reserved a day when the group working in that unit could celebrate the successes of their efforts, but also openly “mourn” the loss of that to which they had invested countless hours and their creative energy, and to which they had grown attached---they had “taken ownership”.

This process serves two valuable purposes. First, it is a somewhat formalized, structured, and acceptable form of the “mourning” process which would happen for the employees in private or in small groups anyway--- after all, they've lost something they care about. But more importantly, by putting this formalized final punctuation mark at the end of this terminated activity, all of those involved can more quickly move forward with and immerse themselves in the next proposed activity because they know that the old activity is officially gone and is not coming back.

This is true of business ventures, personal activities, and even of interpersonal relationships. Once we make the (hopefully well-informed and wise) decision to intentionally move away from something, from some activity, or from someone, we need to recognize that our sense of loss is real and normal; we should feel o.k. to grieve what we've lost; we need to re-iterate why we must move in the new direction; and then we need to deliberately move forward.

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

**Management
Minute**
“Letting Go”

Feedlot Facts
**“Can We Cut
Down on Wasted
Hay?”**

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

“Can We Cut Down on Wasted Hay?”

Once upon a time, feed was cheap, but those days are gone. In the “good old” days wasted hay was not given a second thought; today, everything has value. Feeder design and processing of hay can have a major impact on utilization of hay.

K-State research suggests that processing hay into bunks can save between 11 and 15% of the value of the hay fed compared with simply unrolling onto the ground; we’ve probably all seen cows bedding down in hay. This will be worse if the ground is muddy and cows are desperate for a warm, dry, place to bed.

Simply using a bale feeder can reduce wastage by about 10% vs. unrolling onto the ground (again by preventing bedding onto unconsumed hay); however, design of the bale feeder can further reduce wastage.

Feeders with individual feeding stanchions can reduce waste by about 8% vs. those with no stanchions; cows are less likely to fling hay out or head-butt other cows during feeding if their lateral movement is restricted.

Hay feeders with a sheet metal floor reduce waste by 8%; moisture wicking upwards into the bale from the ground will make hay undesirable. An additional 8% of hay value can be retained by using they type of feeder which includes a “cone” in which the bale rests; the bale doesn’t contact the floor directly and cows have easier access to clean hay.

Studies suggest that hay wastage in floor-bottomed hay feeders with a bale cone can have wastage between 2.5-5% of the hay; conversely, wastage of hay fed in the open will range from 20-40%! If hay costs \$130 per ton, we feed 24 lb per day for the next 120 days, the hay cost per cow will be \$187 per cow. If we reduce wastage from 25% down to 5%, we can save over \$30 per cow for the entire winter feeding season! That’s the equivalent of feeding one cow for **FREE** for every 5 cows in the herd.

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

↪ **IRM Redbooks for Sale** – The 2013 IRM Redbooks are in and will be sold on a first come first serve basis. The price of the redbooks will be: For orders of less than 10 = \$5.25/book; Orders of 10 or more = \$5.00/book which includes postage. To order your supply of redbooks, please contact Lois (lschrein@ksu.edu; 785-532-1267).

↪ **Feeding Crude Glycerin Decreases Prevalence of *E. coli* O157:H7 in Growing Cattle** – Fecal samples were obtained from growing cattle fed 0, 4, or 8% of the diet (dry basis) as crude glycerin and analyzed for *E. coli* O157:H7 prevalence over a 6-week period. Samples were subjected to immunomagnetic separation with beads specific for *E. coli* O157:H7. Resulting cultures were tested for indole production and O157 antigen agglutination. Positive samples for these two tests were confirmed as *E. coli* O157:H7 by latex agglutination. Inclusion of crude glycerin in the diet of growing heifers decreased the prevalence of *E. coli* O157:H7.

Bottom Line....Adding crude glycerin to feedlot diets may be an effective preharvest strategy for decreasing prevalence of *E. coli* O157:H7 in feedlot cattle. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or Larry Hollis (785-532-1246; lhollis@ksu.edu).

↪ **Direct-Fed Microbials for Receiving Cattle I: Effects of ProTernative Stress Formula Dose on Growth and Health Performance of Receiving Beef Heifers** – Crossbred heifers (n=279) were purchased from sale-barn facilities in Tennessee and transported to the Kansas State University Beef Stocker Unit. Calves were fed a total mixed ration consisting of native Bluestem prairie hay, alfalfa hay, dry rolled corn, wet corn gluten feed, and a commercial premix pellet twice daily. Calves were treated once daily during the morning feeding with either water (Control) or ProTernative SF administered at a low (0.017 oz/day) or high (0.035 oz/day) dose for 44 days by means of liquid top-dress on the morning ration. Animals were observed twice daily for signs of disease or lameness.

Bottom Line....ProTernative SF direct-fed microbial delivered as a liquid suspension had no impact on dry matter intake, average daily gain, or health of high-risk beef heifers. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Dale Blasi (785-532-5427; dblasi@ksu.edu).

↪ **Evaluation of Novel Enzyme Blend on Nursery Pig Performance** – Two experiments were conducted to determine the effects of a dietary enzyme blend and diet complexity on weanling pig performance. In Exp. 1, 180 pigs (initially 12.7 lb BW and 21 d of age) were used in an 18-d growth trial. Pigs were blocked by weight and randomly allotted to 1 of 3 dietary treatments with 5 pigs per pen and 12 pens per treatment. The 3 dietary treatments included (1) a high-complexity positive control, (2) a low-complexity negative control, and (3) a treatment with an added proprietary enzyme blend (Engrain LLC, Manhattan, KS). All diets were fed in 2 phases, with pigs fed a Phase 1 pelleted diet from d 0 to 8 and a Phase 2 diet in meal form from d 9 to 18. From d 0 to 8, pigs fed the high-complexity diet had improved ADG and F/G compared with pigs fed the low-complexity diet without enzymes. Also, pigs fed the low-complexity diet with enzymes tended to have increased ADG and improved F/G compared with pigs fed the low-complexity diet without enzymes. From d 9 to 18, no differences were observed in growth among pigs fed any of the dietary treatments. Overall (d 0 to 18), pigs fed the high-complexity diet had improved F/G compared with pigs fed the low-complexity diet with or without enzymes, but ADG and ADFI did not differ among the 3 dietary treatments.

In Exp. 2, 360 pigs (initially 12.4 lb BW and 21 d of age) were used in an 18-d growth trial. Pigs were blocked by weight and allotted to 1 of 6 dietary treatments with 5 pigs per pen and 12 pens per treatment. Dietary treatments were arranged in a 2 × 3 factorial with main effects of diet complexity (low, medium, or high) with or without the enzyme blend. Diets were fed in 2 phases, with pigs fed a Phase 1 pelleted diet from d 0 to 8 and a Phase 2 diet in meal form from d 9 to 18. Overall (d 0 to 18), pigs fed increasingly complex diets had improved ADG, ADFI, and F/G. Added dietary enzyme blend had no effects on pig growth performance.

Bottom Line... Thus, we conclude that diet complexity for the newly weaned pig is essential for improved performance postweaning; however, the enzyme blend evaluated in these experiments did not affect overall growth performance. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J. M. DeRouchey, M. D. Tokach, J. L. Nelssen, S. S. Dritz, and R. D. Goodband.)

↪ **Effects of Increasing Dietary Wheat Middlings on Nursery Pig Performance from 15 to 50 lb** – A total of 210 pigs (PIC 327 × 1050, initially 15.12 lb BW) were used in a 35-d trial to evaluate the effects of increasing dietary wheat middlings (midds) on growth performance of 15- to 50-lb nursery pigs. Pens of pigs were balanced by initial BW and randomly allotted to 1 of 5 dietary treatments with 6 replications per treatment. The 5 corn-soybean meal-based diets contained 0, 5, 10, 15, or 20% midds. Pigs were fed in a 2-phase feeding program from d 0 to 14 and d 14 to 35. Diets were not balanced for energy; thus, as midds increased, dietary energy concentrations decreased.

From d 0 to 14, midds had no effect on growth performance; however, from d 14 to 35, pigs fed increasing midds had decreased ADG and poorer F/G. Furthermore, pigs fed increasing midds had lower feed cost/pig, revenue/pig, and income over feed cost (IOFC), and a tendency for increased feed cost/lb gain. Overall (d 0 to 35), increasing dietary midds worsened F/G, driven by poorer F/G for pigs fed 15 and 20% midds. We also observed a quadratic effect for feed cost/lb gain, with inclusion rates of 0 and 20% having the highest value. Caloric efficiency responded in a quadratic manner on both an ME and NE basis with improved caloric efficiencies at intermediate levels (mainly 5%) of dietary middlings compared with 0 and 20% inclusions.

Bottom Line... These data suggest that the inclusion of midds at levels up to 15% do not negatively affect performance in 15- to 50-lb nursery pigs. Although we observed a linear decrease in overall IOFC, both inclusion rates of 5 and 10% were numerically more profitable than the control. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J. A. De Jong, J. M. DeRouchey, M. D. Tokach, R. D. Goodband, S. S. Dritz, and J. L. Nelssen.)

↪ **The Effects of Medium-Oil Dried Distillers Grains with Solubles on Growth Performance and Carcass Traits in Finishing Pigs** – An experiment was conducted to determine the effects of increasing medium-oil dried distillers grains with solubles (DDGS; 7.4% fat, 28.1% CP, 10.8% ADF, and 25.6% NDF) on growth performance and carcass traits in finishing pigs. A total of 288 pigs (PIC 327 × 1050; initially 151.8 lb) were allotted to 1 of 4 dietary treatments. Treatments consisted of a corn-soybean meal control diet or the control diet with 15, 30, or 45% medium-oil DDGS, with 8 pigs per pen and 8 replications per treatment. Increasing medium-oil DDGS decreased ADG and worsened F/G. In addition, final BW, HCW, carcass yield, and loin-eye depth decreased, and jowl iodine value (IV) increased with increasing medium-oil DDGS. When pigs are fed traditional DDGS containing >10.5% fat, each 10% DDGS added to the diet increases jowl IV approximately 2 mg/g; however, feeding increasing medium-oil DDGS increased jowl IV only about 1.4 units per each 10% DDGS.

Bottom Line... In conclusion, swine producers must be aware of the negative ramifications on growth performance of using medium-oil DDGS in swine diets. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A. B. Graham, R. D. Goodband, M. D. Tokach, J. M. DeRouchey, S. S. Dritz, S. Nitikanchana, and J. L. Nelssen.)

AS&I Faculty Spotlight



Kristine Clowers (clowers@ksu.edu; 785-532-1264)
Youth Livestock Coordinator/Extension Assistant

Kristine Clowers grew up in south central Kansas near Larned, where her family had a small farm and cow-calf operation. Kristine was very active in sports, as well as 4-H where she showed cattle for 12 years. She began her adventures at Kansas State University as an undergrad in the fall of 2007. While at K-State, Kristine worked as an office assistant at the State 4-H Office and also took an internship with the Youth Livestock Program from June through December 2011. Kristine was also involved in Collegiate 4-H, Collegiate CattleWomen, and Collegiate Club Volleyball where she served as president for two years and coach for one. She traveled to France in May 2011 with Dr. Rozell's Food and Ag Industry Tour class. In December 2011, she graduated with a Bachelor's degree in Animal Science & Industry and a minor in Business.

Kristine served as Interim Coordinator from March to July, which is when she took the full-time position officially. She coached track last spring and volleyball this fall at Wabaunsee High School. Kristine will begin her Master's in Agricultural Education and Communications in January. One of her projects will include establishing a Youth Livestock Program Youth Council where all regions of the state will be represented to help plan and coordinate state livestock events.



Karen Blakeslee (kblakesl@k-state.edu; 785-532-1673)
Extension Associate – Rapid Response Center

Karen Blakeslee is coordinator of the Rapid Response Center, an Extension Agent resource for Food Science. The Rapid Response Center was formed in 1995 as a resource for Kansas State University Research & Extension Agents. Resource topics included Food Science, Human Nutrition, Food Service, Textiles, Home Care and other consumer topics. Since that time, the Center has grown to be of valuable assistance to Kansas State University Extension Specialists in those areas, primarily in food science. The proven success of the Center helped to start a similar position in the Kansas State University Horticulture Department.

Karen's background includes working in ice cream manufacturing and in cereal and pasta manufacturing for almost 12 years. Karen is a native of Great Bend, Kansas.



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

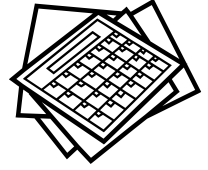
Tim Carson was born in Bartlesville, Oklahoma in 1976. He grew up in rural Coffeyville on his parent's small farm. He graduated from Caney Valley High School in 1994. He attended Coffeyville Community College on a journalism scholarship and served as the Sports Editor of the CCC Collegian before moving 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 490, 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.

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.*