

# News from KSU Animal Sciences

## August, 2009



**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](http://www.asi.ksu.edu)**

## WHAT'S NEW....

### ↪ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist *“Hiring New Employees: The Job Description”*

There are many parts of managing personnel which are difficult, complex, and sometimes unpleasant. But with respect to hiring, there are some steps which can streamline and take some of the pain out of the process.

If you run a small business chances are you are not only CEO, CFO, and COO, but also VP for Human Resources. That is to say you have plenty on your plate hour by hour and day by day. But you also know a good investment when you see one. Having written job descriptions on file for the various positions you employ will save time and confusion during the hiring process and possibly frustration and headache after the new employee is on the job.

If you are in the process of filling a vacant position take the time to write out as detailed and thorough of job description as possible. This includes not only specific tasks to be performed by the employee but also qualifications needed. Most importantly: put your expectations in writing. This gives any prospective new hire a clear indication of what will be expected, and they will be able to evaluate whether they are qualified. During the interview process you have the opportunity to ask about qualifications for each individual job duty for which you've advertised. If the applicant is unqualified for certain, perhaps minor duties of the job, you can make the assessment whether or not to hire them regardless. Note: if you do hire them in spite of a lack of ability to perform a given task, either eliminate this task from the job description on file or make specific training for this task a priority for the new hire and document the lack of qualification and training in the person's records.

One advantage of the hiring process is that you have the opportunity to start with a clean slate. If the organization has changing needs compared with the duties performed by the previous employee, you have an opportunity to find a person with a different skill set to perform those duties better aligned with your vision of the organization's future success.

Be specific with respect to duties or qualifications. For example, instead of “Must be good with computers” write “Must have documented experience with PeachTree”. Also, as a job description is considered a legal document, never make any reference to preferences of gender, age, race, nationality, etc. as this is strictly illegal.

Finally, communication is always at the heart of success or failure when managing people and the job description is just another form of clear communication. If the employee and supervisor understand clearly the fully documented expectations of qualifications, duties, normal work hours, reporting structure, performance goals, and any collaborative expectations BEFORE, DURING, and LONG AFTER the hiring process, the risk of confusion and conflict over job expectations will certainly be greatly reduced.

For more information, contact Chris at 785-532-1672 or [cdr3@ksu.edu](mailto:cdr3@ksu.edu).

### ↪ **IRM Redbooks for Sale** – For more than twenty years, cattlemen have used the IRM Redbook to keep better records and track the profitability of their cow-calf operations. Some of the 2010 book highlights are calving records, Quality Assurance summary sheet, calf health records and more. The 2010 IRM Redbooks will be sold on a first come first serve basis. The price of the redbooks will be: For orders of less than 10 = \$5.00/book; Orders of 10 or more = \$4.75/book which includes postage. To order your supply of redbooks, please contact Lois ([Ischrein@ksu.edu](mailto:Ischrein@ksu.edu); 785-532-1267).



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

### ***“Storage of Wet Distiller’s Grains for the Beef Operation”***

If you have interest in using some wet distillers grains (WDG) now may be the time. The spot price will typically reflect corn prices but there is also an additional “supply-demand” dynamic at play. To avoid cost of drying distillers grains, ethanol producers would prefer to market the product as WDG, provided the price is right. For operations that are a reasonable distance from an ethanol plant, WDG may be an excellent choice of feedstuffs. WDG not only have very good energy and protein values, the moist nature of WDG make it an excellent ration conditioner in diets containing only dry ingredients.

In the summer, and especially this summer, many feedlots feed reduced numbers of cattle, which reduces the demand for WDG. This may actually cause the price of WDG to fall below its normal range of 90-110% the price of corn on an equal dry matter basis---in other words, a bargain. Assuming that freight and the cost of hauling the moisture portion of the WDG doesn’t consume the price advantage; this is a buying opportunity for beef producers.

Unfortunately, WDG have a very limited shelf-life of 5-7 days if stored out in the open due to mold development, and some producers may not feed sufficient numbers of cattle to feed through a full 20 ton load of product in less than a week. One way to capture a greater amount of this potential discount is to buy several loads and store the product in an anaerobic environment. This can be as simple as dumping the product on a concrete slab and covering with plastic and tires, as we normally would a bunker silo. Another method is to have the wet product bagged by a commercial bagger on site. A third option is to blend the wet product with 25-30% of dry forage such as hay, straw, or corn stalks. The benefit of this option is that this blend can be packed in a bunker silo with a tractor similar to corn silage. This third option presents one challenge in that the final product should be tested for nutrient content for proper ration balancing.

Make sure to push a sharp pencil when evaluating the cost-value opportunities of WDG. But there may certainly be an opportunity to include WDG as part of your fall and winter feeding program.

For more information, contact Chris Reinhardt at [cdr3@ksu.edu](mailto:cdr3@ksu.edu) or 785-532-1672.



### **Length of the Weaning Period Affects Postweaning Growth, Health, and Carcass Merit of Ranch-Direct Beef Calves Weaned During the Fall**

- Angus crossbred calves (n = 433) were stratified by age and assigned randomly to one of five weaning periods that corresponded to the length of time between separation from the dam and shipping to an auction market: 60, 45, 30, 15, or 0 days. Calves were vaccinated against common diseases 14 days before maternal separation and again on the day of maternal separation. On a common shipping date (day 0; November 7), calves were transported 3 hours to a commercial auction market and held for 14 hours. Calves were then transported for less than 1 hour directly to a feedlot. All calves were fed the same diet ad libitum; they were also monitored 2 times daily for symptoms of respiratory disease. Carcass data, liver scores, and lung scores were collected.

**Bottom Line....** Under the conditions of our study, ranch-of-origin weaning periods between 15 and 60 days improved calf health during the receiving period compared with shipping calves immediately after maternal separation. Ranch-fresh calves that are properly vaccinated before maternal separation and exposure to market conditions may not require ranch-of-origin weaning periods longer than 2 weeks to achieve optimal health during the receiving period. View the complete research report at [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday). For more information, contact KC Olson (785-532-1254; [kcolson@ksu.edu](mailto:kcolson@ksu.edu)) or John Jaeger (785-625-3425; [jrjaeger@ksu.edu](mailto:jrjaeger@ksu.edu)).



**Estrous Synchronization of Beef Heifers Using 7-11 Synch or 7-11 Synch + CIDR** – Heifers were assigned to either 7-11 Synch or 7-11 Synch + CIDR treatments. All heifers were fed melengestrol acetate (MGA) for 7 days and given Prostamate™ on the last day of MGA feeding. Four days later, heifers received an injection of OvaCyst™, and 7 days later heifers received a second injection of Prostamate. Heifers assigned to the 7-11 Synch + CIDR treatment were given a CIDR between the OvaCyst injection and the second Prostamate injection. Heifers were artificially inseminated 12 hours after onset of estrus. Overall heat response was 85% and not different between herds or treatments. Conception rates for 7-11 Synch (65%) and 7-11 Synch + CIDR (60%) were not different. The mean interval to estrus was 46 hours for 7-11 Synch and 49 hours for 7-11 Synch + CIDR.

**Bottom Line....** Final pregnancy rates for 7-11 Synch and 7-11 Synch + CIDR are similar to those achieved with 7-11 COSynch by using timed artificial insemination in past years in these same herds. Current data suggest that using a CIDR in the 7-11 Synch system may decrease the time needed for estrous detection. View the complete research report at [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday). For more information, contact David Grieger (785-532-1229; [dgrieger@ksu.edu](mailto:dgrieger@ksu.edu)) or Larry Hollis (785-532-1246 [lhollis@ksu.edu](mailto:lhollis@ksu.edu)).

↪ **Influence of Antimicrobial Sequence in the Nursery on Pig Performance and Economic Return** – A total of 1,008 pigs (11.9 lb and 19 d of age) were used in a 42-d experiment to determine the influence of antibiotic regimen on growth performance and economic return. From d 0 to 10, pigs were fed diets containing either no antibiotic or Denagard at 35 g/ton and chlortetracycline at 400 g/ton (Denagard/CTC). From d 10 to 21, diets contained no medication, Denagard/CTC, Mecadox at 25 g/ton and Oxytetracycline at 400 g/ton, or Mecadox at 50 g/ton. From d 21 to 42, diets contained either no medication or Denagard/CTC. Adding Denagard/CTC to the diet from d 0 to 10 improved ADG, F/G, and margin over feed cost (MOFC). Adding antibiotics to the diet from d 10 to 21 improved ADG, ADFI, F/G, and MOFC. There were no differences between pigs fed diets containing Mecadox at 25 g/ton in combination with Oxytetracycline and pigs fed diets containing Mecadox at 50 g/ton. Pigs fed diets containing Denagard CTC tended to have greater ADG than pigs fed either diet containing Mecadox and tended to have improved F/G and MOFC than pigs fed diets containing Mecadox at 50 g/ton. Adding Denagard/CTC to the diet from d 21 to 42 improved ADG, ADFI, and F/G. Denagard/CTC also improved MOFC when gain was valued at \$1.00/lb of gain. For the overall trial, adding antibiotics to the diet during any phase improved ADG. Overall feed efficiency was improved when antibiotics were added to the diet from d 0 to 10 and 21 to 42. Overall feed cost per pig was increased by the addition of antibiotics to the diet; however, the improvement in ADG resulted in no change in overall feed cost per pound of gain. Overall, MOFC was increased when antibiotics were added to the diet from d 0 to 10 and d 10 to 21 when gain was valued at \$0.50 or \$1.00/lb and tended to increase when Denagard/CTC was added to the diet from d 21 to 42 when the extra gain was valued at \$1.00/lb. These results demonstrate that adding antibiotics to the nursery diet improved pig performance and economical return on this commercial farm. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by M.U. Steidinger, M.D. Tokach, D. Dau, S.S. Dritz, J.M. DeRouchey, R.D. Goodband, and J.L. Nelssen.)

↪ **Effects of Dried Distillers Grains with Solubles on Sow Carcass Fat Quality** – A pilot experiment was conducted to determine the effects of feeding nonpregnant (open) sows a diet containing 50% dried distillers grains with solubles (DDGS) on growth and carcass fat quality. A total of 8 open sows were allotted to 1 of 2 diets by parity and BW. One diet was a standard corn-soybean meal-based gestation diet; the second diet was a corn-soybean meal-based diet that contained 50% DDGS. All sows were fed 5 lb/d of feed in a single feeding for 92 d. All sows were harvested on d 92 at the Kansas State University Meat Laboratory for determination of carcass fat quality. As expected, no differences in BW or backfat change were found for the feeding period. Additionally, no differences in lipid oxidation as measured by 2-thiobarbituric acid reactive substances (TBARS) assay were reported either initially or after 5 d of retail display for sows fed 50% DDGS compared with controls. Lipid oxidation increased as measured by TBARS assay for both treatments from d 1 to 5 as expected. Jowl fatty acid analysis revealed an increase in linoleic acid, total polyunsaturated fatty acids, and the ratio of polyunsaturated fatty acids to saturated fatty acids. Also, there was a trend for increased jowl iodine value for sows fed 50% DDGS compared with the controls. In summary, feeding 50% DDGS to open sows for 92 d did not significantly affect BW, backfat, and lipid oxidation compared with controls. However, feeding 50% DDGS increased the concentration of linoleic acid and total polyunsaturated fatty acids and tended to increase jowl iodine value compared with controls. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by T.A. Houser, J.M. DeRouchey, A.N. Gipe, B.L. Goehring, S.L. Hillyard, A.W. Duttlinger, S.S. Dritz, M.D. Tokach, R.D. Goodband, and J.L. Nelssen.)

↪ **Evaluation of Deoiled Corn Dried Distillers Grains with Solubles (Solvent Extracted) on Growth Performance of Nursery Pigs** - A total of 210 pigs (initially 22.0 lb) were used in a 28-d study to evaluate the effects of increasing deoiled corn dried distillers grains with solubles, solvent extracted (dDGS) on nursery pig growth performance. Pigs were blocked on the basis of pen weight and randomly allotted to 1 of 5 dietary treatments containing 0, 5, 10, 20, or 30% dDGS. There were 7 pens per treatment and 6 pigs per pen. All diets were formulated to equivalent ME and standardized ileal digestible lysine concentrations. Soybean oil was added to the dDGS diets as an energy source to equalize dietary ME of the 5 treatments. Pigs from each pen were weighed as a group and feed consumption was obtained on d 0, 14, and 28 to determine ADG, ADFI, and F/G. Overall, feeding diets with increasing dDGS had no effect on nursery pig ADG, ADFI, and F/G. In conclusion, dDGS can be included at levels up to 30% in nursery pig diets for pigs weighing between 22 to 50 lb without affecting growth performance provided fat is added to the diet to offset the low energy content of dDGS. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by J.Y. Jacela, L. Brandts, J.M. DeRouchey, S.S. Dritz, M.D. Tokach, R.D. Goodband, J.L. Nelssen, R.C. Thaler, D. Peters, and D.E. Little.)

# UPCOMING EVENTS...

↪ **KLA/K-STATE Field Days set for August** - Three Kansas ranches will host field days presented by KLA and Kansas State University in August. Dry Creek Ranch in Pottawatomie County, Stroberg Land & Cattle in Reno County and a ranch owned by Ken and Barb Grecian in Rooks County will be sites for the 2009 ranch management field day series, sponsored by Bayer Animal Health and the Farm Credit Associations of Kansas.

The first field day will be held August 20 at Dry Creek Ranch, owned by the Bill Edwards family of Olsburg. Dry Creek revolves around a commercial cow-calf operation. Stroberg Land & Cattle near Hutchinson will host the second field day August 25. The David Stroberg family operates a cow-calf and farming business. Ken and Barb Grecian will host the final field day August 27. The Grecians own a commercial cow-calf and farming business near Palco. For complete details, visit [www.KLA.org](http://www.KLA.org).

↪ **4-H Livestock Sweepstakes** - The new 4-H Livestock Sweepstakes will be held on August 22-23 in Weber Hall on the KSU campus. This all-around event will feature contests in Livestock Judging, Meats Judging, Livestock Skillathon, and Livestock Quiz Bowl. Belt Buckles will be awarded to the county that does the best in all four contests. Please look for complete rules and information at [www.youthlivestock.ksu.edu](http://www.youthlivestock.ksu.edu). For questions contact, Sharon Breiner, K-State Youth Livestock Coordinator at [sbreiner@ksu.edu](mailto:sbreiner@ksu.edu).

↪ Come help celebrate the 10<sup>th</sup> anniversary of the **KSU Beef Stocker Field Day** which will be held on Thursday, September 24, 2009 at the KSU Beef Stocker Unit in Manhattan. Registration will begin at 9:30 a.m. The morning program includes "*Buying and Selling Right*" by Dr. Kevin Dhuyvetter, KSU, as well as a panel presentation on "*Partnering with Feedlots – Who Brings What to the Table?*" The panel includes Jerry Bohn, Pratt Feeders; Dan Dorn, Decatur County Feed Yard; and Jim Reeves, JMR Cattle Company.



Following a bbq brisket lunch, the afternoon program will include "*Thinking Outside the Shots*" by Dr. Dan Thomson and a panel presentation on "*Negotiating Custom Grazing Arrangements.*" The panel will include Mike Collinge, Hamilton, KS; Tim Miser, Cottonwood Falls, KS; and Alan Hess, Alma, KS. The afternoon will conclude with break-out sessions on "*Cattle Financing in a Tight Credit Market*" by Gary Cotterill, Community National Bank, Chanute, KS; "*Producing Value-Added Cattle*" by Brian Bertelson, US Premium Beef; "*Weed and Woody Plant Control for Pastures*" by Dr. Walt Fick; and "*Utilization of Byproducts on Pasture*" by Dr. Lyle Lomas.

After the program, stay around for a good old-fashioned Prairie Oyster Fry, Pitchfork Fondue and Dutch Oven Desserts. Pre-registration fee is \$30.00 by September 15 or \$40.00 at the door. For complete details, including on-line registration, visit [www.KSUbeef.org](http://www.KSUbeef.org). For more information, contact Dale Blasi ([dblasi@ksu.edu](mailto:dblasi@ksu.edu); 785-532-5427).

↪ Join us for the second "**Youth Livestock Listening Session**" on November 12 at the Kansas State Fairgrounds in Hutchinson. We will begin at 1:00 p.m. Representatives from Kansas State Fair, Kansas Junior Livestock Show, Kansas FFA, Kansas 4-H, and K-State Research and Extension will be on hand to hear your comments and suggestions. Please contact Sharon Breiner, Youth Livestock Coordinator, with questions at (785) 532-1264 or [sbreiner@ksu.edu](mailto:sbreiner@ksu.edu). If you are unable to attend, please send written comments to Sharon Breiner.

↪ The **2009 KSU Swine Day** will be held Thursday, November 19, at the KSU Alumni Center. Mark the date on your calendar and watch for more details.

## CALENDAR OF UPCOMING EVENTS

Date	Event	Location
August 20, 2009	KLA/K-STATE Ranch Management Field Day	Olsburg, KS
August 22-23, 2009	4-H Livestock Sweepstakes	Manhattan
August 25, 2009	KLA/K-STATE Ranch Management Field Day	Hutchinson, KS
August 27, 2009	KLA/K-STATE Ranch Management Field Day	Palco, KS
September 24, 2009	KSU Beef Stocker Field Day	Manhattan
November 12, 2009	Youth Livestock Listening Session	Hutchinson, KS
November 19, 2009	KSU Swine Day	Manhattan

# AS&I FACULTY SPOTLIGHT



**James Marsden ([jmarsden@k-state.edu](mailto:jmarsden@k-state.edu); 785-532-1952)**  
**Regents Distinguished Professor/Meat Science**

James Marsden joined the ASI faculty in 1994 as the Regent's Distinguished Professor of Meat Science. He has a 100 % research appointment. He also serves as the Associate Director of the National Agriculture Biosecurity Center – located at KSU.

His research focus has been on the safety of meat products. This work has included the control of E. coli O157:H7 in raw ground beef and other processed beef products and Listeria monocytogenes in processed meats. He also acts as the Senior Science Advisor for the North American Meat Science Association and has been involved in food safety training for the meat industry. Dr. Marsden is the author of numerous publications and book chapters on food

safety and quality and is the recipient of awards for research and teaching.

He serves on a number of Advisory Boards for companies that provide food safety technologies to the meat industry and is a regular contributor to the television program –“World Business Review with Alexander Haig”. He has also appeared on numerous television news programs as a food safety expert.

He enjoys spending time with his wife and five children and two grandchildren. His hobbies include collecting rare books, music and theater.



**Randy Phebus ([phebus@k-state.edu](mailto:phebus@k-state.edu); 785-532-1215)**  
**Professor/Food Microbiology and Safety**

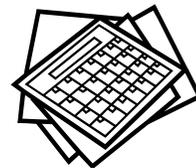
Dr. Randy Phebus was born and raised in Waverly, Tennessee, a small town 70 miles west of Nashville. He attended the University of Tennessee in Knoxville from 1981-1992, earning a B.S. (Animal Science), M.S. and Ph.D. degrees (Food Science). Dr. Phebus joined the K-State ASI department in 1992 and has a 30% teaching and 70% research appointment within the Food Science discipline group. He teaches both undergraduate and graduate level courses in Food Science and is very active in the distance learning Food Science program and student recruitment. He specializes in food microbiology, food safety, food biosecurity and defense, and public health.

Dr. Phebus also coordinates an active applied food safety research program. He is a member of the K-State Food Science Institute and the National Agricultural Biosecurity Center. Dr. Phebus holds graduate faculty status in Food Science, Animal Sciences and Pathobiology and he advises students in the Master of Public Health Program. He works closely with food processors, regulators, and technology providers across the country to improve food quality and safety through laboratory-based and processing-based research and troubleshooting activities.

Personally, Dr. Phebus is a rabid Tennessee Volunteer (beat Florida!) and K-State Wildcat (beat KU!) fan. He lives west of campus near Keats, KS, with his wife Cindy and two children (Anteelah and Cole). He is a member of the Manhattan Sunflower Lions Club and the Greater Riley County Optimists. All of Dr. Phebus's spare time is happily spent participating in high school sports with his children and riding his gas-efficient motorcycle around the Kansas Flint Hills.

# WHAT PRODUCERS SHOULD BE THINKING ABOUT...

## WHAT PRODUCERS SHOULD BE THINKING ABOUT IN OCTOBER .....



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

#### ***Cowherd Management***

- Given unforeseen weather and market price volatility, price byproducts, grains and other feedstuffs on a per nutrient basis.
- Do you have sufficient harvested forage to encounter a potentially severe winter feeding season? Conduct an inventory of harvested forages and determine if you have an adequate supply on hand.
- Pregnancy Check.
- Cull cows because of:
  - ◆ Open.
  - ◆ Late vs. Early calving.
  - ◆ Soundness - udder, feet/legs, eyes, teeth, disposition.
  - ◆ Productivity - Most Probable Producing Ability (from herd performance records).
  - ◆ Disposition
- Body Condition Score
  - ◆ Provide thin cows (body condition score 3's and 4's) extra feed now. Take advantage of weather, stage of pregnancy, lower nutrient requirements, and quality feedstuffs.
- If body condition scores warrant it, you may want to start feeding supplements in late October to mature cows using these guidelines:
  - Dry grass      1½ - 2 lb supplement/day of a 40% CP supplement
  - Dry grass      3 - 4 lb supplement/day of a 20% supplement
  - Dry grass + 10 lb good nonlegume hay, no supplement needed  
(heifers may need more supplement than older cows)
  - ◆ Supplement nutrients that are most deficient.
  - ◆ Compare supplements on a cost per pound of nutrient basis.
  - ◆ KSU research has reported early winter supplementation is not necessary if grazing forage supplies are adequate. Third trimester cows have had the ability to achieve their target calving weights with supplementation.
- Utilize crop residues. Grazing crop aftermath can reduce daily cow costs by 50¢ or more.
  - ◆ Strip graze or rotate fields to improve grazing efficiency.
  - ◆ Average body condition cows can be grazed at 1 to 2 acres/cow for 30 days assuming normal weather.
- Consider feeding cull cows to increase value, body weight, and utilize cheap feedstuffs. Seasonal price trends have allowed producers to take advantage of maximum profit opportunities with cull cow feeding programs. Healthy cows can gain extremely well on well balanced diets.
- Check individual identification of cows. Replace lost tags or redo brands.

## ***Calf Management***

- ☑ Wean calves:
  - ◆ Reduce stress. Provide a clean, dust-free, comfortable environment.
  - ◆ Provide balanced nutritional program to promote weight gain and health.
  - ◆ Observe feed and water intake. Healthy, problem free calves have large appetites.
  - ◆ Observe calves frequently, early detection of sickness reduces medical costs and lost performance.
  - ◆ Vaccinate calves and control internal/external parasites through veterinary consultation (ideally done prior to weaning).
  - ◆ Vaccinate all replacement heifer candidates for brucellosis if within 4-10 months of age.
  - ◆ Use implants and feed additives to improve efficient animal performance.
- ☑ Weigh all calves individually. Allows for correct sorting, herd culling, growing programs, replacement heifer selection, and marketing plans.
- ☑ Participate in Whole Herd Rewards, Performance Plus, and(or) other ranch record/performance systems.
- ☑ Finalize plans to merchandise calves or to background through yearling or finishing programs.
  - ◆ Consider feedstuff availability.
  - ◆ Limit feeding high concentrate diets may be a profitable feeding program.
- ☑ Select replacement heifers which are:
  - ◆ Born early in the calving season. This should increase the number of yearling heifers bred during the early days of the subsequent breeding season.
  - ◆ Daughters of above average producing cows. Performance traits are moderately heritable traits.
  - ◆ Of the proper frame size to compliment desired mature size and weight.
  - ◆ Structurally correct. Avoid breeding udder, feet and leg problems into the herd.
- ☑ Vaccinate replacement heifers with first round of viral vaccines.
- ☑ Plan replacement heifer nutrition program so that heifers will be at their “target weight” (65% of their mature weight) by the start of the breeding season.

## ***Forage/Pasture Management***

- ☑ Observe pasture weed problems to aid in planning control methods needed next spring.
- ☑ Monitor grazing conditions and rotate pastures if possible and(or) practical.
- ☑ 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.

## ***General Management***

- ☑ Avoid unnecessary stress - Handle cows and calves to reduce shrink, sustain good health, and minimize sickness.
- ☑ Forage analyze for nitrate and nutrient content. Use these to develop winter feeding programs.
- ☑ Repair, replace and improve facilities.
- ☑ 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](mailto:lschrein@ksu.edu), or phone 785-532-1267.