


NEWS FROM KSU ANIMAL SCIENCES

August, 2011



Newsletter from the Department of Animal Sciences and Industry
213 Weber Hall, Kansas State University, Manhattan, KS 66506
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UPCOMING EVENTS...

- ✦ **2011 K-State Beef Conference** – *Managing in a Transitioning Industry* is the theme for the upcoming 2011 K-State Beef Conference scheduled for Tuesday, August 16 in Weber Hall on the KSU Campus. The conference will also offer alternate live remote viewing sites at the Pratt County Fairgrounds, Butler Community College and the Wakeeney Public Library. For more information, contact Larry Hollis (785-532-1246; lhollis@ksu.edu) or Charlotte Bruna (785-532-1280; cbruna@ksu.edu). 
- ✦ **KLA/K-STATE Ranch Management Field Days set for August** - Three KLA/K-State Field Days have been scheduled. The first event will be held on August 18th at the Pringle Ranch in Yates Center, Kansas with the second event held on August 23rd at the Pannbacker Farm in Washington, KS. Erbes Farms in LaCrosse, KS, will host the third field day on August 29th. For complete details, visit www.KLA.org under the Events & Meetings link.
- ✦ The **Flint Hills Beef Fest** will be held August 19-21, 2011 in Emporia, Kansas. 2011 marks the 25th anniversary of the event! Cattle Division Events include a Grass Futurity Contest, Live Stocker Cattle Show, Feedlot Contest and Carcass Competition. Events will take place on the Lyon County Fairgrounds in Emporia, Kansas. Other Beef Fest Activities include Arena Events such as Ranch Rodeo, Team Roping, Ranch Horse Competition and more. For more details and a complete schedule of events, please visit <http://www.beefest.com>.

There will be an outstanding educational breakfast and seminar sponsored by WIBW on Friday, August 19, starting at 7:30 a.m. The Beef Producers Seminar will include presentations from Karl Brooks, EPA Region 7 Director; Allie Devine, KLA; Glynn Tonsor, Kansas State University; and Bill Donald, NCBA President. Around 10:30, a Kansas Grazing Workshop will be presented by Jim Gerrish, grazing specialist. Ranch managers will learn grazing information and management skills that will improve production and profitability. For breakfast reservations call the Lyon County Extension Office at 620-341-3220; for reservations for the Gerrish Workshop, go to www.kansasruralcenter.org or call the Lyon County Office. For more details visit www.lyon.ksu.edu, www.beefest.com or call 620-528-3444.
- ✦ The **Kansas 4-H Livestock Sweepstakes** has been scheduled for August 20-21, 2011. 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. The Livestock Judging Contest will be held on Saturday with rounds 1-3 of the Quiz Bowl. On Sunday, participants will compete in the Livestock Skillathon and Meats Judging Contest. Round 4 of the quiz bowl will be held just prior to the award ceremony for all events. Information and past winners can be found at www.YouthLivestock.KSU.edu For more information, contact Chelsea Tomascik (785-532-1264; tomascik@ksu.edu).
- ✦ Dates for upcoming **Applied Reproductive Strategies in Beef Cattle Workshops** have been set for Aug. 31-Sept. 1, 2011 in Joplin, MO, and Sept. 30-Oct. 1, 2011 in Boise, Idaho. For complete details and registration, visit www.beefrepro.info. For more details, contact Sandy Johnson, sandyj@ksu.edu.

↪ The **2011 KSU Beef Stocker Field Day** will be held on Thursday, September 22 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. Cattle Market Outlook – *Dr. Glynn Tonsor, KSU*
- 11:15 a.m. How Much Can I Pay for Grass? – *Dr. Kevin Dhuyvetter, KSU*
- 12:00 noon BBQ Lunch with Cattle Handling Facilities demonstrations
- 1:30 p.m. A Systems Perspective to Managing Yearlings – *Dr. Gerald Horn, Oklahoma State University*
- 2:15 p.m. Managing Stocker Cattle for Growth and Health: Applying Science and Technology to Improve Forage-Based Beef Production – *Dr. Mark Branine, Pfizer Animal Health*
- 3:15 – 5:00 p.m. **Breakout Sessions**
 - Byproduct Storage Systems – What Works – *Dr. Justin Waggoner, KSU*
 - Vaccinology – *Dr. Gregg Hanzlicek, KSU*
 - By-products and Corn Processing for Lightweight Cattle – *Dr. Sean Montgomery, Corn Belt Livestock Services*



The day will conclude with a good old-fashioned Prairie Oyster Fry and dutch oven desserts. Pre-registration is \$25 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 Food Processors** will be held October 3-5, 2011, at the new Kansas State University Olathe Campus, 22201 West Innovation Drive, Olathe. Registration for the 2.5 day International HACCP Alliance accredited workshop is online at <http://HACCP.unl.edu>. The workshop fee is \$325, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Liz Boyle (lboyle@ksu.edu; 785-532-1247).

↪ Kansas State University will host a **Sheep & Goat Conference** on November 4-6, 2011 on the KSU campus. This program is designed as an intensive learning opportunity for commercial and purebred sheep and goat producers. Subject areas will include alternative feed stuffs, use of small ruminants to control sericia lespedeza, live animal and carcass evaluation, health, predation, marketing, parasitism, crossbreeding/composite genetics, and more. Breakout sessions will also be available related to specific species, types, and/or breeds. A conference agenda and registration information will be available soon. If you have any questions or would like to participate, please contact Dr. Brian Faris at 785-532-1255 or brfaris@ksu.edu.

↪ The **23rd Range Beef Cow Symposium** will be Nov. 29 - Dec. 1, 2011 in Mitchell, Nebraska. This is an excellent professional development opportunity for agents. We will plan to coordinate transportation for those interested in attending. For more information, contact Sandy Johnson, sandyj@ksu.edu.

↪ The **2011 KSU Swine Day** will be held Thursday, November 17, at the KSU Alumni Center. Mark the date on your calendar and watch for more details.

↪ Mark your calendar and watch for more details on the upcoming **K-State Junior Beef Day** which has been scheduled for Saturday, December 3, 2011 at Weber Hall/Arena on the K-State campus.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
August 16, 2011	K-State Beef Conference	Manhattan
August 19-21, 2011	Flint Hills Beef Fest	Emporia, KS
August 20-21, 2011	Kansas Livestock Sweepstakes	Manhattan
Aug. 31 – Sept. 1, 2011	Applied Reproductive Strategies in Beef Cattle	Joplin, MO
September 22, 2011	KSU Beef Stocker Field Day	Manhattan
Sept. 30 – Oct. 1, 2011	Applied Reproductive Strategies in Beef Cattle	Boise, ID
October 3-5, 2011	HACCP Workshop	Overland Park, KS
November 4-6, 2011	KSU Sheep and Meat Goat Conference	Manhattan
November 17, 2011	KSU Swine Day	Manhattan
Nov. 29 – Dec. 1, 2011	Range Beef Cow Symposium	Mitchell, NE
December 3, 2011	K-State Junior Beef Day	Manhattan

WHAT'S NEW....

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

“Tough Times”

After this summer, with its extra challenges brought on by excessive heat, early weaning of calves, crop failures, and deep culling of cow herds, many employees will be wondering about their future with the organization. And in the vacuum created by lack of good information, people will fill that vacuum with bad information.

During tough economic times is a critical time to communicate the financial outlook of the organization, not the time to try to muddle through “until things get better.”

If the organization is suffering, get those challenges out on the table. It may be in the firm’s short-term “best interest” to not tell employees that there may be layoffs. We want to keep them around until the last possible moment, right? Then kick them loose when it’s expedient to then fend for themselves in a down economy and a stressed marketplace. That is probably not in the employees’ best interest. Letting those who might be on the bubble know as soon as possible allows them to start making contingency plans and looking for other opportunities.

If that person on the bubble does find other work and leaves, and business turns around, what is the downside? You are making more money and need more help to keep making more money. If the person doesn’t find other work and stays, you’ve earned an extra chip called “trust”.

Honesty during difficulty isn’t just the right thing to do (although that’s a pretty good reason), it’s also critical to building long-term trust and loyalty among your team. I once heard someone say about a manager, who “tells me the tough things to my face, so I never have to wonder what is being said behind my back.”

If communicated in a timely way, candidly, and with compassion, difficult conversations during mutual adversity can contribute to long-term growth in relationships throughout the workplace.

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

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

“Early Weaning: Feedlot Issues”

Early weaned calves come to the feedlot with some baggage. Their light weight makes them an odd duck from the standpoint of facilities and feeding management. But the primary concern is immune function.

If calves come in having previously had access to some supplemental feed source, beyond what the cow and pasture may have provided, and they are carrying acceptable condition, immune function is normally not of any greater concern than normal-aged calves. In fact, if calves haven’t been stressed nutritionally, 90-120 day old calves often have better health status than normal-aged calves. And given the light weight of the calves, they should have tremendous feed efficiency.

However, if the calves have been nutritionally stressed, waiting for a rain, their immune function is likely stretched pretty thin. If weather during weaning, transport, and upon arrival are not extreme (hot, dusty, etc.), the disease risk is manageable. However, health challenges in calves received during hot, dusty conditions can be at least as severe as those encountered during a cold, rainy fall. Previous nutritional state is likely key to the outcome.

Upon arrival, treat early weaned calves like other extremely high-risk calves. Prior to processing, give them a period of time to rest, bed down, and find hay and water. One rule of thumb is 1 hour of rest for every hour on the truck. However, if calves are local and won’t require a great deal of time to process, they may be processed either immediately off the truck or after a short rest. Have the receiving pen bedded with light colored material, such as corn stalks or wheat straw. The surface temperature of these materials is much lower than dirt or manure pack during the heat of the day, and either on a hot day or following a rain this area will be a welcome area for tired calves.

After they’ve rested, process the calves as you would other high-risk calves. But during the summer months, avoid processing after about 9 or 10 a.m., depending on the temperature forecast. The heat accumulated during handling, standing, mingling, and processing, will add to the heat accumulated during the heat of the day, adding to stressful conditions, and reducing the animals’ ability

to fight disease. Cloudy days are less critical than sunny, and humidity always makes the rising temperature more challenging.

After processing, make sure the animals have access to abundant, fresh, clean water. Have you checked the water tanks in your receiving pens lately? Scum and algae probably don't make the water tank appealing and a few minutes may improve your outcomes.

Good quality hay, long-stemmed, spread out in the bunk is vital, provided at about 1 ½ to 2% of body weight, top-dressed with about ¼ to ½ % of body weight of a nutrient-dense receiving ration. Based on feeding behavior and degree of health challenges, begin to back down the available hay supply and increase the amount of ration. This is highly variable and you should let the calves drive this part of the program. However, one rule of thumb here is that if calves are not eating 1 ½ % of their body weight (6 lbs of dry matter for a 400 lb calf) by 10 days on feed, there is something wrong---likely a severe respiratory disease outbreak, either viral or bacterial. Take all necessary precautions as prescribed by your veterinarian.

Finally, shade can provide a welcome area during heat stress, especially for newly received, high risk calves. The shade may encourage more laying and resting, which should improve response to vaccines and ability to resist disease. Make sure to place shade over or near feed bunks and water tanks, to encourage consumption in addition to rest.

Early weaned calves will likely present challenges to the cattle feeder, but they also can be a source of affordable, efficient, and hopefully profitable feeder cattle.

For more information contact Chris at 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 2012 book highlights are calving records, Quality Assurance summary sheet, calf health records and more. The 2012 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 = \$5.25/book; Orders of 10 or more = \$5.00/book which includes postage. To order your supply of redbooks, please contact Lois (Ischrein@ksu.edu; 785-532-1267).

↳ **Effects of Prepartum Ruminally Protected Choline Supplementation on Performance of Beef Cows and Calves** - Angus-cross cows and heifers (n = 438; initial body weight = 1,173 lb) were blocked by age, body condition score, and expected calving date and randomly assigned to one of two supplement treatment groups: (1) a 40% crude protein mixture of corn and soybean meal with ruminally protected choline, or (2) a 40% crude protein mixture corn and soybean meal with no ruminally protected choline. Treatments were applied during the 60-day period immediately preceding the earliest predicted calving date. Cows were fed 5.2 lb per head per day of their respective supplement 6 times per week. The average daily feeding rate of choline for treated cows was 0.16 oz per cow per day. Body weights, body condition scores, and ultrasonically measured ribeye muscle characteristics of cows and body weights of calves were recorded at intervals from January to October.

Bottom Line... Under the conditions of our study, prepartum supplementation with ruminally protected choline had only minor effects on performance of beef cows and calves. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact John Jaeger (785-625-3425; jrjaeger@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

↳ **Zilpaterol-HCl Reduces Urinary Excretion of N-tau-methylhistidine by Finishing Steers** - Twelve steers were used to measure the effects of zilpaterol- HCl and dietary nitrogen supplementation on urinary N-tau-methylhistidine excretion. Steers were fed one of three corn-based diets: control, urea, or dried distillers grains with solubles. Zilmax was fed to half of the steers. Urinary creatinine excretion was used to estimate skeletal muscle mass and N-tau-methylhistidine was used to estimate skeletal muscle protein degradation. The ratio of N-tau-methylhistidine to creatinine in urine was lower for steers receiving Zilmax than for those not receiving Zilmax. This implies that fractional rates of muscle protein degradation were reduced by Zilmax. Dietary protein did not affect muscle protein degradation.

Bottom Line... The reduction in rates of muscle protein degradation in response to Zilmax could explain some of Zilmax's negative effects on meat tenderness. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact Evan Titgemeyer (785-532-1220; etitgeme@k-state.edu) or Chris Reinhardt (785-532-1672; cdr3@ksu.edu).

↪ **The Influence of Hamlet Protein 300 and Fish Meal on Nursery Pig Performance** - A total of 360 nursery pigs (PIC 1050 barrows) were used in a 24-d study to evaluate the effects on growth performance of nursery diets containing Hamlet Protein 300 (HP 300) or fish meal. Pigs were weaned at approximately 21 d of age and placed on a pretest diet for 7 d before dietary treatments began. Pens of pigs were balanced by initial weight and randomly allotted to 1 of 7 dietary treatments with 9 replications per treatment. The 7 dietary treatments included a control diet containing no specialty protein sources or the control diet with 2, 4 or 6% select menhaden fish meal; or the control diet with 2, 4, or 6% HP 300. All experimental diets were fed for 14 d, followed by a common diet for 10 d. Neither fish meal nor HP 300 influenced any growth performance criteria from d 0 to 14. During the common period (d 14 to 24), pigs previously fed fish meal tended to have better F/G than pigs previously fed HP 300. Overall (d 0 to 24), there were no differences in growth performance between treatments.

Bottom Line...In conclusion, HP 300 and fish meal had similar effects on growth performance, but neither provided a benefit compared to the pigs fed the control diet. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by W. Ying, J.M. DeRouchey, R.D. Goodband, M.D. Tokach, S.S. Dritz, and J.L. Nelssen.)

↪ **Effects of Cracked Corn on Growth Performance and Stomach Lesions in Finishing Pigs** - A total of 208 pigs (104 barrows and 104 gilts, initial average 138 lb) were used in a 63-d experiment to determine the effects of adding cracked corn to diets for finishing pigs. The pigs were sorted by ancestry and blocked by weight with 13 pigs per pen and 4 pens per treatment. Treatments were corn-soybean meal-based with none, 10, 20, or 40% roller-milled corn (mean particle size of 3,549 μ m). Particle size for the none, 10, 20, and 40% cracked corn diets were 684, 926, 979, and 1,187 μ m, respectively. Feed and water were offered ad libitum until slaughter (average final BW of 268 lb) at a commercial facility. Overall (d 0 to 63), increasing cracked corn from none to 40% had no effect on ADG and ADFI, but F/G was numerically poorer. Adding cracked corn had no effect on HCW or backfat thickness, but dressing percentage was decreased. For both stomach keratinization and ulcer scores, as the percentage of cracked corn increased, there was a decrease in scores for ulcers and stomach keratinization (scale of 0 = none, 1 = mild, 2 = moderate, and 3 = severe), but even the worst treatment had an average lesion score of less than mild.

Bottom Line...Our results indicate that increasing cracked corn from none to 40% of diets for finishing pigs did not affect rate of gain but worsened F/G and dressing percentage with only slight improvements in scores for stomach lesions. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by S.M. Williams, C.B. Paulk, J.D. Hancock, S. Issa, and T.L. Gugle.)

↪ **The Effects of Feed Budgeting, Complete Diet Blending, and Corn-Supplement Blending on Finishing Pig Growth Performance in a Commercial Environment** - A total of 808 pigs (PIC 337 x 1050, initially 78.4 \pm 1.4 lb BW) were used to compare different feed-blending strategies for finishing pigs using the FeedPro system (Feedlogic Corp., Willmar, MN). There were 3 experimental treatments: (1) a standard-phase complete feed program, (2) blending a high- and low-lysine complete diet (curve), and (3) blending ground corn and a supplement. FeedPro is an integrated feed dispensing system that can deliver and blend 2 separate diets while dispensing. Treatment diets were fed over 4 phases (78 to 231 lb BW) with a common complete diet containing Paylean fed during the fifth phase. The 5 phases were from 78 to 115, 115 to 157, 157 to 191, 191 to 239, and 239 to 281 lb. Each treatment had 10 replicate pens and 26 to 27 pigs per pen. Overall (d 0 to 78), pigs phase-fed complete diets had greater ADG than pigs fed blended diets and tended to have greater ADG than those fed the ground corn-supplement blend. Pigs fed the blended diets had lower ADFI than pigs phase-fed complete diets or fed the corn-supplement blend. However, pigs fed blended diets had improved F/G compared to pigs phase-fed a ground corn-supplement blend and tended to have improved F/G compared to pigs fed standard-phase diets. Pigs fed standard-phase diets had heavier HCW than pigs fed the corn-supplement blend and tended to have heavier HCW than pigs fed diets on a lysine curve. However, there were no differences in percentage yield, percentage lean, fat depth, or loin depth among treatments. There were no differences in total revenue or income over feed costs (IOFC) across treatments. However, standard phase-fed pigs held a numerical advantage in total revenue, mainly driven by a heavier HCW over other treatments. Also, pigs fed a ground corn-supplement blend had numerically the lowest IOFC compared to other treatments.

Bottom Line...In conclusion, feeding using the FeedPro system is competitive with standard phase-fed diets on a net return basis, while feeding a ground corn-supplement blend adversely affected net returns. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by H.L. Frobose, J.M. DeRouchey, D. Ryder, M.D. Tokach, S.S. Dritz, R.D. Goodband, and J.L. Nelssen.)

AS&I FACULTY SPOTLIGHT



**John Gonzalez (johngonz@k-state.edu; 785-532-3448)
Assistant Professor/Meat Science**

Dr. John Michael Gonzalez grew up in the vast urban setting of San Antonio, TX. He was first introduced to agriculture during his high school years when he visited numerous classmates' ranches located throughout the state of Texas. This led Dr. Gonzalez to pursue and earn his B.S. degree in Agricultural Economics and Poultry Science from Texas A&M University. He then moved on to obtain his M.S. degree in Animal Science from Sul Ross State University. In 2008, Dr. Gonzalez achieved his Ph.D. in Animal Sciences from the University of Florida. After earning his degree, Dr. Gonzalez spent a 9-month tenure serving as the Technical Services Manager of XL Four Star Beef, Inc. of Omaha, Nebraska. Following this experience, he returned to the University of Florida as a Postdoctoral Associate.

Dr. Gonzalez joined the Kansas State University staff in June of this year with a 30% teaching and 70% research appointment. Under his teaching appointment, Dr. Gonzalez will assist in the instruction of the Advanced Meat Science course and re-establish the yearly offering of the department's Growth and Development course. Dr. Gonzalez's research interests span the spectrum of the Meat Science discipline. His interests primarily center around exploring the effects of management strategies, feeding regimens, and growth technologies on meat color and quality characteristics of red meat species. Dr. Gonzalez aims to contribute to the Meat Science group by explaining global changes in meat quality or color by exploring muscle biology mechanisms with basic science techniques.

Dr. Gonzalez resides in Manhattan with his wife, Sara, and two dogs, Bexar and Astro. In his free time, Dr. Gonzalez spends a good portion of his time following the United States space program. He and his wife can be found around town working their golf game, riding the linear trail, or playing basketball. Dr. Gonzalez and his family are excited to establish roots in Kansas and work with the producers of the state.



**Andrea Sexten (aksexten@k-state.edu; 785-532-1450)
Assistant Professor**

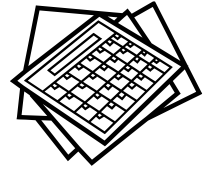
Dr. Andrea (Lunsford) Sexten was raised on a commercial cow-calf and tobacco farm in Nicholasville, KY, where she was very involved from a young age. Growing up, Andrea also showed registered Tennessee Walking Horses and was active in her local FFA chapter. She earned two B.S. degrees from the University of Kentucky in 2005 in Animal Science and Agricultural Biotechnology. She also completed her M.S. in Animal Science at the University of Kentucky in 2007. From there she went on to Oklahoma State University where she earned her Ph.D. in Ruminant Nutrition in 2010. As part of her Ph.D. program she had the opportunity to complete a research internship at the U.S. Meat Animal Research Center in Clay Center, NE during the fall of 2009. After earning her Ph.D., she accepted a postdoctoral research associate position with Oklahoma State University and Intervet Schering Plough Animal Health.

In the summer of 2011 Andrea joined the Kansas State University faculty with an 80% teaching and 20% research appointment. Dr. Sexten's responsibilities include developing and serving as the faculty coordinator for the KSU Department of Animal Sciences and Industry Undergraduate Research Program, along with teaching Principles of Feeding, co-teaching Advanced Beef Science, and advising students. Her research interests include the interaction of nutrition and gene expression on cattle performance, carcass quality and value, and meat composition. Her current research focuses on the regulation of lipid metabolism in beef cattle.

Andrea and her husband, Austin, enjoy cheering on their favorite college teams, spending time with family and friends, and being active in church.

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, or phone 785-532-1267.*