



Newsletter from the Department of Animal Sciences and Industry
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UPCOMING EVENTS...

August 2013

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.

➤ **Flint Hills Beef Fest coming in August** - Make plans now to attend the Flint Hills Beef Fest which will be held August 23-25, 2013. Founded in 1986, the Flint Hills Beef Fest is an annual celebration of the grass cattle industry for which the Flint Hills region of Kansas is known. Events will take place on the Lyon County Fairground in Emporia, Kansas. For more details and a complete schedule of events, please visit <http://www.beefest.com>.

➤ The **Kansas Livestock Sweepstakes** has been scheduled for August 24-25, 2013. All Kansas 4-H'ers are invited to participate in this livestock learning and competition experience. 4-H'ers will test their knowledge in Livestock Judging, Meats Judging, Livestock Skillathon, and Livestock Quiz Bowl. An overall Livestock Sweepstakes winner will be awarded to the county and individual that does the best in all four contests and will receive buckles. The tentative schedule is as follows:

Saturday, August 24

- 7:30 a.m. Sweepstakes Check-in Desk Opens (Coaches only) and Quiz Bowl Registration Opens (Coaches only) - Weber Hall West Lobby
 - 8:00 a.m. Quiz Bowl Participants Qualifying Exam (30 Minutes) - Weber 123
 - 8:15 a.m. Livestock Judging Check-in Opens (Coaches only) - Weber Hall West Lobby
 - 9:00 a.m. Livestock Judging Contest Begins - Meet in Weber 123
 - 12:00 p.m. Lunch for non-livestock judging participants (time approximate, must pre-order) – Weber Hall; Quiz Bowl Teams Posted by lunch throughout Weber Hall
 - 3:00 p.m. (Time is Approximate) Break after the conclusion of livestock judging for dinner on your own and to check into hotel
 - 5:00 p.m. (Time is Approximate) Quiz Bowl Competitions & Finals – Meet in Weber 123; Competition Rooms – Weber 111 & 146
- *2013 Change: Quiz Bowl Finals will take place Saturday evening, not on Sunday afternoon

Sunday, August 25

- 6:30 a.m. Meats Judging Contest Registration (Coaches only) – Weber 111
- 7:00 a.m. Meats Judging Contest Begins – Weber 111
- 10:00 a.m. Skillathon Check-in Opens (Coaches only) – Weber West Lobby
- 11:30 a.m. Lunch for participants (time approximate, must pre-order online)
- 12:00 p.m. Skillathon Begins for all Counties/Districts – Weber 123
- 4:00 p.m. Ice Cream Social -Weber West Hall Lobby; Awards Presentation - Weber 123 (We will proceed with the closing as quickly as possible following the Meats Judging contest and Skillathon tabulation to accommodate travel.)

Rules, schedule, and online registration information can be found at www.YouthLivestock.KSU.edu. For more information, contact Kristine Clowers (785-532-1264; clowers@ksu.edu).



↪ **Make plans to attend the 5-State Beef Conference** – The 5-State Beef Conference will be held August 27 at the Western State Bank Expo Center in Dodge City, Kansas and August 28 at the Cimarron County Fair Building in Boise, Oklahoma. The schedule is as follows:

2:30 p.m. – Registration

3:00 – 7:00 p.m. Conference Meetings:

“Restocking for an Efficient Operation” – David Lalman, Oklahoma State University

“Identification of Cows that Fit the Environment” – Megan Rolf, Oklahoma State University

“Heifer Management for Lifetime Productivity” – Justin Waggoner, Kansas State University, and Britt Hicks, Oklahoma State University

“Pasture Restoration and Weed Control” – Walt Fick, Kansas State University, and Curtis Bensch, Panhandle State University

“Trends and Changes Impacting Livestock Economics” – Glynn Tonsor, Kansas State University

Dinner will be provided. Registration is \$35 each or \$50/couple and is due by August 20, 2013. For a copy of the brochure and more details, visit <http://fivestatesbeef.nmsu.edu>. For more information contact Justin Waggoner (620-275-9164; jwaggon@ksu.edu).

↪ **KSU Beef Stocker Field Day to be held September 26** - The 2013 KSU Beef Stocker Field Day will be held on Thursday, September 26 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. The 30,000 Ft View – what is in store for the stocker segment – *Dr. Glynn Tonsor, KSU*

11:15 a.m. How can your Stocker Operation Fit? - *Tom Field, UNL*

12:00 Barbeque Brisket Lunch – View posters/demonstrations

1:30 p.m. Receiving Health Programs – Are they the same as 5 years ago? - *Mark F. Spire, DVM, Merck Animal Health*

2:30 p.m. Environmental Impacts on Beef Stocker Health and Wellness – *Terry Mader, Professor Emeritus, University of Nebraska*

3:15 p.m. Break

3:45 p.m. Carry-over effects of stocker cattle systems on feedlot performance and carcass characteristics - *Ryan Reuter*

4:30 p.m. Producer Panel: Do Flint Hills Stocking Rates still Apply?

Moderator: Mr. Wes Ishmael – Associate Editor, BEEF magazine

Mike Arndt, Emporia, KS; Frank Brazle, Chanute, KS; Tracy Brunner, Ramona, KS

Kevin Gant, Wilsey KS; and Mark Sullivan, Dickson, TN

5:30 p.m. Cutting Bull's Lament 2013

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

↪ **Developing and Implementing Your Company's HACCP Plan for Meat, Poultry, and Food Processors** will be held October 2-4, 2013, at the 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 \$375, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Liz Boyle (lboyle@ksu.edu; 785-532-1247).

↪ **Dedication of the new O.H. Kruse Feed Technology Innovation Center planned.** The dedication of the new O.H. Kruse Feed Technology Innovation Center and feed mill will take place at 3:00 p.m. on Friday, October 11, 2013 followed by a reception.

↪ **KSU Swine Day planned for November** - The 2013 KSU Swine Day will be held Thursday, November 21, at the KSU Alumni Center. Mark the date on your calendar and watch for more details.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
August 23-25, 2013	Flint Hills Beef Fest	Emporia, KS
August 24-25, 2013	Kansas 4-H State Livestock Sweepstakes	Manhattan
August 27, 2013	5-State Beef Conference	Dodge City, KS
September 26, 2013	KSU Beef Stocker Field Day	Manhattan
October 2-4, 2013	Developing/Implementing HACCP in Meat, Poultry & Food Processing	Olathe
October 11, 2013	Dedication of O.H. Kruse Feed Technology Innovation Center	Manhattan
November 21, 2013	KSU Swine Day	Manhattan

WHAT'S NEW.....

Management Minute "Coach 'Em Up, Coach!"

↪ **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist *"Coach 'Em Up, Coach!"*

With the growing trend, almost a ground swell, in concern by beef producers for training in animal welfare and general husbandry, there is both an opportunity and a challenge for managers and for extension personnel.

There's nothing more "invigorating" than standing in front of 50 lifetime career ranchers, each one with more experience handling livestock than me, and telling them, "We can do better." But that is sometimes exactly what we need to do.

It's been said, "The good old days never were." We all, at some age that seems to correlate with achy, creaky joints in the morning, become nostalgic about the way things used to be. But the reality is that if we could go back and honestly examine how we did things, we'd be disappointed at best, and at worst, appalled.

The quality of available livestock handling facilities is greater than it ever has been in our lifetime. But the reason for that very same evolutionary or even revolutionary improvement in technology and facilities is that our collective industry attitude in favor of low stress cattle handling has never been stronger.

Cattle handlers have always cared for the animals in their charge, but we are all prisoners of our experience, our perspective, and our culture. By coming to a meeting, and listening to and critically examining new ideas, and welcoming and embracing the possibility that some changes are both good and necessary, we can effectively unshackle ourselves from our past experience and move into the new world of better.

Now go challenge your family, neighbors, and industry colleagues to get better, because we can only become as good as the weakest link in the industry will allow.

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

Feedlot Facts "Get Better Every Day"

↪ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist *"Get Better Every Day"*

Prior to initiation of the Beef Quality Assurance program back in the early 1990's, The National Beef Quality Audit had shown that 22% of top butts were damaged with injection site lesions. Injections of high value cuts don't simply damage the tissue from the actual scar caused by the needle and the compound injected, but the tissue trauma and the subsequent healing process actually makes the meat around the injection tougher as much as 4 inches away from the injection site.

Once the data became well-known, U.S. beef producers at every level collectively and individually asked, "Why are we ruining our own product?" Family, friends, neighbors, veterinarians, university scientists, and extension personnel all were asking the same question and telling each other the same answer: "Just STOP!"

The results of that level of universal, coordinated, and uni-directional mutual self-improvement effort were resounding, if not even astounding. The subsequent beef quality audit said that injection site lesions damaged less than 3% of top butts.

When everyone is saying the same thing, and then reinforcing words with actions and changes in formerly commonplace practices, nearly miraculous changes can take place. Once was normal or common to see someone vaccinate an entire snake full of cows or calves, poking each one in the top butt because it was easy. And today, if we saw someone do the exact same thing, we'd be shocked. Huge changes can be made if an entire industry decides that the changes will make us all better.

Animal welfare is the modern equivalent of the injection sites of twenty years ago. An astounding change has occurred throughout the beef industry in attitudes, practices, and facilities---for the better.

Feedlot Facts – “Get Better Every Day” (cont.)

We have always cared for our livestock, but we accepted situations which were less than ideal as “normal”. Today, we have an eye toward improvement of every facet of our operations, from sub-optimal facilities to improving our approach to low stress handling and general stockmanship.

We can change anything if we decide, individually and collectively, that the change will make us better.

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

- ↪ **Purebred Beef Unit Manager** - The Department of Animal Sciences and Industry is looking for an individual to manage the Kansas State University Purebred Beef Unit. This is a full-time, 12-month, term position. B.S. in Animal Science or closely related field is required. Review of applications will begin August 20, 2013, and continue until the position is filled. View complete position announcement and application procedures at: <http://www.asi.ksu.edu/positions>.

- ↪ **ISU to Conduct Nationwide Livestock Survey on Ethanol Coproduct Use** - Researchers in the Department of Agricultural and Biosystems Engineering at Iowa State University are conducting a survey of the U.S. livestock and poultry industries to better understand the use of animal feed coproducts from ethanol production. They are especially interested in which distillers coproducts are being used and for which animals. The information gained from this survey will be used to identify knowledge gaps, and to identify opportunities to improve the quality of the coproducts which are available, which can ultimately help livestock and poultry producers in terms of economics and animal performance.

The online survey can be accessed by computer, smart phone, or other mobile device, and is available until September 1 at: <http://humansciences.ethanolcoproducts.sgizmo.com/s3/>. The survey will take around 15 minutes and will not record any personal information. All producers of livestock and poultry are encouraged to participate. If possible, please help share this link with livestock producers.

- ↪ **Infrequent Supplementation with Dried Distillers Grain Does Not Affect Cow Performance** - Pregnant Angus-cross cows (n = 120) were fed DDGS as a protein supplement daily, every 3 days, or every 6 days from December 27, 2011, through March 20, 2012. All cows were maintained together in a common native range pasture, sorted daily for feeding, and provided the equivalent of 0.5 lb crude protein/cow per day in the form of DDGS (29.5% crude protein). Cow body weight and body condition scores were collected every 28 days throughout the duration of the study.

The Bottom Line: Supplementing cows with protein as infrequently as every 6 days did not negatively affect cow body weight or body condition score. Producers can reduce cost using DDGS as an inexpensive protein source and can reduce labor and fuel costs with infrequent delivery. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact John Jaeger (785625-3425; jjaeger@ksu.edu) or Justin Waggoner (620-275-9164; jwaggon@ksu.edu).

- ↪ **Presynchronizing PGF2 α and GnRH Injections Before Timed Artificial Insemination CO-Synch + CIDR Program** - Suckled mixed-breed primiparous and multiparous beef cows (n = 809) in 11 pastures at 4 operations in Kansas and Florida were assigned randomly to 2 treatments. Cows in the presynchronization treatment (PG-3-G) received 25 mg of PG followed in 3 days by 100 μ g of GnRH. One week after the GnRH treatment, all cows were started on the standard 7-day CO-Synch + CIDR protocol (control). Removal of the CIDR and the breeding PG injection was followed in 66 to 70 hours with timed artificial insemination and a second GnRH injection. Pregnancy was determined by ultrasound 35 days after artificial insemination.

The PG-3-G cows did not have a greater pregnancy rate (49.0 vs. 45.1%) compared with controls. Cycling status did not influence pregnancy rate; however, cows with body condition scores \geq 5.5 had better pregnancy outcomes (50.9 vs. 43.3%). Cows that had calved at least 77 days before artificial insemination also had greater pregnancy rates (54.6 vs. 39.6%).

The Bottom Line: Presynchronizing with PG and GnRH did not improve the pregnancy rate over a standard CO-Synch + CIDR protocol. Cows that were in good body condition (\geq 5.5) and those that were more than 77 days from calving at artificial insemination had greater pregnancy rates. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact Jeff Stevenson (785-532-1243; jss@ksu.edu) or Larry Hollis (785-532-1246; lhollis@ksu.edu).

↪ **Effects of Diet Form and Feeder Adjustment on Growth Performance of Growing-Finishing Pigs** — A total of 252 pigs (PIC 327 × 1050, initially 125.2 lb BW) were used in a 69-d trial to determine the effects of diet form and feeder adjustment on growth performance of growing-finishing pigs. Treatments were arranged in a 2 × 3 factorial with the main effects of feeder adjustment and diet form. The 2 feeder adjustments were a narrow feeder adjustment (minimum gap opening of 0.50 in.) and a wide adjustment (minimum gap opening of 1.00 in.). The feeders were adjusted to the minimum gap setting, but the agitation plate could be moved upward to a maximum gap opening of 0.75 or 1.25 in. for the narrow and wide adjustments, respectively. The 3 diet forms were meal, poor-quality pellets (50% pellets and 50% fines), and screened pellets with minimal fines. Average daily gain, ADFI, and F/G were determined by weighing pigs and measuring feed disappearance on d 0, 12, 22, 39, 48, and 69. No diet form × feeder adjustment interactions were observed. For Phases 1 (d 0 to 22) and 2 (d 22 to 48), feeder adjustment did not influence ADG, but ADFI tended to increase and F/G worsened for pigs fed from the wide adjusted feeders. In Phase 3 (d 48 to 69), no differences were detected in growth performance between pigs fed from either feeder adjustment.

Overall (d 0 to 69), ADG did not differ between pigs fed from the 2 feeder adjustments, but ADFI decreased and F/G was improved for pigs fed from the narrow adjusted feeders. The response to diet form was similar among phases, with pigs fed meal diets having decreased overall ADG compared with pigs fed the screened pelleted diets and with those fed poor-quality pellets intermediate. Feeding screened pellets resulted in decreased ADFI and improved F/G compared with pigs fed meal diets, with those fed poor-quality pellets intermediate.

Bottom Line...In conclusion, reducing feeder gap to manage feeder pan coverage helped to reduce feed wastage and improve feed efficiency. Also, feeding pelleted diets improved feed efficiency in all phases, but the magnitude of improvement was greatest when the percentage of fines in the diet was minimized. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J. E. Nemechek, M. D. Tokach, E. Fruge, E. Hansen, S. S. Dritz, R. D. Goodband, J. M. DeRouchey, and J. L. Nelssen.)

↪ **Effects of Feeding Varying Ingredient Particle Sizes and Diet Forms for 25- to 50-lb Nursery Pigs on Performance, Caloric Efficiency, and Economics** — A total of 675 pigs (PIC 1050 barrows; initially 24.5 lb BW and 37 d of age) were used in a 21-d study to determine the effects of feeding varying ingredient particle sizes and diet form for 25- to 50-lb nursery pigs on performance, caloric efficiency, and economics. The 8 experimental diets included 3 corn-soybean meal-based diets consisting of: (1) corn fraction ground to an average of 620 μ and fed in meal form, (2) corn fraction ground to an average of 352 μ and fed in meal form, and (3) diet 2 but pelleted. The remaining 5 diets were high by-product diets containing 20% wheat middlings (midds) and 30% dried distillers grains with solubles (DDGS). Diets 4 to 8 consisted of: (4) corn fraction ground to an average of 620 μ, midds and DDGS unground from the plant with an average particle size of 534 μ and 701 μ, respectively, and fed in meal form; (5) diet 4 but corn fraction ground to an average of 352 μ and fed in meal form; (6) diet 5 but fed in pellet form; (7) corn, soybean meal, DDGS, and midds ground to average particle sizes of 352 μ, 421 μ, 377 μ, and 357 μ, respectively, fed in meal form; and (8) diet 7 but fed in pellet form. The two formulated diets were not balanced for energy, so energy was lower for treatments 4 to 8 than for treatments 1 to 3.

Overall (d 0 to 21), pigs fed pelleted diets had improved ADG, F/G, and caloric efficiency when measured on an ME or NE basis. Reducing the particle size of the corn did not influence F/G or caloric efficiency, but tended to reduce ADFI, which led to a reduction in ADG. Pigs fed the high-by-product diet had reduced ADG, ADFI, and final BW and poorer F/G, but caloric efficiency similar to pigs fed the corn-soybean meal-based diet. Grinding the by-products to a smaller particle size further reduced ADG, ADFI, and final BW but did not influence feed efficiency.

Although feed cost per pig tended to decrease when corn was finely ground or when all ingredients were finely ground, it was reduced enough only for pigs fed the high-by-product diet to result in a reduction in feed cost per pound of gain. Because of reduced total revenue per pig, pigs fed high-by-product diets had income over feed cost (IOFC) similar to pigs fed the corn-soybean meal-based diet. Fine-grinding all feed ingredients also decreased revenue/pig and IOFC. Pelleting was the only processing technology that improved revenue/pig and IOFC in this trial.

Bottom Line...Grinding corn finer than 620 μ or grinding other components of the high-by-product diet did not improve nursery pig performance or IOFC; however, pelleting resulted in the expected improvements in pig performance and economic return. 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, J. L. Nelssen, and L. McKinney.)

AS&I Faculty Spotlight



Joann Kouba (jkouba@k-state.edu; 785-532-1240)
Associate Professor/Equine Physiology

Dr. Kouba was born and raised in Bellevue, Nebraska. She entered Northeast Missouri State University (now Truman State University) in 1989, majoring in Animal Science with an Equine emphasis. Following graduation, she began her graduate career in Animal Physiology at Clemson University in Clemson, South Carolina in the fall of 1993. While at Clemson, she was actively involved in their undergraduate teaching program, and had responsibility for teaching two popular equine courses. Her thesis focused on the use of Domperidone to treat pregnant mares grazing endophyte-infected tall fescue. After completing her M.S., she moved to Texas and started on her Ph.D. in Equine Reproductive Physiology at Texas A&M University. While at A&M, Dr. Kouba was also heavily involved in their undergraduate program, teaching courses in horse training, horsemanship, reproduction and management, as well as the introductory animal science labs. Her dissertation dealt with the control of prolactin secretion in the pregnant mare, and the interaction between various reproductive hormones and endogenous opioids.

In the fall of 2001, Dr. Kouba joined the KSU faculty as the Horse Teaching and Research specialist with an 80% teaching and 20% research appointment. She currently teaches 6 on-campus equine courses as well as 2 distance courses, advises ~60 students, serves as the faculty coordinator for the KSU Horse Teaching and Research Unit, is the advisor for the KSU Horseman's Association, and mentors a number of graduate students pursuing advanced degrees with an equine emphasis.

Beyond her on-campus classes, Dr. Kouba also believes in enhancing educational opportunities for students through international experiences. In 2008 and 2012, she led undergraduate study tours which focused on the diverse equine industries in Ireland, Scotland and England. In 2010, she led a similar equine tour to Spain, Portugal and Morocco. She is currently planning a new tour to Germany and Austria.

Dr. Kouba's research program currently focuses on the role of omega-3 fatty acids in equine reproduction and foal growth and immunity. The overall goal of this research is to make better recommendations to consumers about incorporating omega-3 fatty acids into the diets of their mares and foals.



Timothy Rozell (trozell@k-state.edu; 785-532-2239)
Associate Professor/Physiology

Dr. Rozell grew up in Garrison, Missouri and then went on to complete his B.S. and M.S. degrees at the University of Missouri. From Missouri he moved to Washington to complete his Ph.D. at Washington State University. In 1997, Dr. Rozell was hired at Kansas State University, with a 70% Teaching and 30% Research appointment, to develop and teach a course in anatomy and physiology. Because of his combination of skills and interests in reproductive physiology and dairy cattle, Dr. Rozell also took over teaching a course on the physiology of lactation. In addition he co-teaches a lambing class in the spring that offers students hands-on experience with livestock. Dr. Rozell has led study tours to Switzerland, Germany and France.

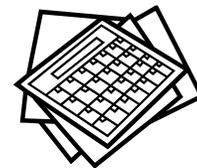
Dr. Rozell's current research program focuses on heat stress in dairy cattle, and the role of exercise and physical activity on heat tolerance in cows.

During the 2004-2005 school year, Dr. Rozell went on Sabbatical in Scotland to help develop new research techniques to examine expression of variant forms of the follicle stimulating hormone receptor in cows and sheep. There he collaborated with the University of Glasgow's College of Veterinary Medicine.

Dr. Rozell resides in Manhattan with his wife Marcia and his two children Sam and Josie. He continues to grow up, and has no plans to finish the process anytime soon.

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.*