News from KSU Animal Sciences

July, 2016

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In This Issue

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K-STATE Research and Extension

UPCOMING EVENTS…

- **Entry Deadlines Approaching** - Entries for the Kansas State Fair Grand Drive (4-H/FFA youth livestock show for beef, sheep, swine, and goats) are due by July 15. Late entry forms will be accepted until July 25 with a late fee of $25 per head. No entries will be accepted after July 25. For more information, visit https://kansasstatefair.com/livestock-competitions/youth-show-grand-drive.html. All departments are strongly encouraged to enter and submit entries online.

  Entries for the Kansas Junior Livestock Show must be postmarked by August 15, 2016. Late entries will be accepted through August 31, 2016, but all late entries will be subject to an entry fee double the stated entry fee amount. All exhibitors are required to enter online for KJLS. For more information, visit www.kjls.org.

- **Just a reminder** – any correction to livestock nominations are due July 15 to Lexie Hayes (785-532-1264; adhayes@ksu.edu).

- Dates have been set for the **2016 KLA/Kansas State University Ranch Management Field Days**. Please mark the following dates on your calendar and see which one works best for you. The Field Days will begin at 4:00 p.m. and will include a meal.

  August 15 – Froetschner Family, Larned, KS
  August 16 – Bertrand Cattle Company, Wallace, KS
  August 18 – Moyer Ranch, Junction City, KS

  For more information contact the Kansas Livestock Association at 785-273-5115 or Dale Blasi (785-532-5427; dblasi@ksu.edu)

- **Kansas 4-H Livestock Sweepstakes – August 20-21 –-** The 2016 Kansas 4-H Livestock Sweepstakes will be held Aug. 20-21 on the K-State campus in Manhattan, KS. This is the corresponding date to previous years. The 4-H Livestock Sweepstakes event includes the state 4-H livestock judging contest, meat judging contest, livestock skillathon, and livestock quiz bowl. The members who will represent Kansas at the national 4-H contest for each of these events will be selected during the livestock sweepstakes weekend. The deadline to enter is Aug. 1. All entries must be made by the local Extension Office using Cvent. Registration information and contest details were emailed directly to county offices on July 1. Information is also posted on the Youth Livestock website, under "Livestock Sweepstakes". For more information, please contact Lexie Hayes at adhayes@ksu.edu.

- **2016 Applied Reproductive Strategies in Beef Cattle (ARSBC) Workshop** - The premier national event in beef cattle reproductive management will be held at the Embassy Suites in Des Moines, Iowa on Sept. 7-8. The Applied Reproductive Strategies in Beef Cattle Workshop will include information for cow-calf producers, bovine veterinarians, industry representatives, extension personnel and students. It is provided through a cooperative effort by Iowa State, Iowa Beef Center and the Beef Reproduction Task Force, and will highlight the latest information on reproductive technologies in beef cattle.

  Registration is now open with an early registration fee of $200 per person when received by midnight, Aug. 8. It increases to $250 for late registration after that date, including onsite registrations. Students receive a $100 discount based on the fee in effect at the time of registration. Online registration and a link to print a form for mailing are on the conference website at http://www.aep.iastate.edu/arsbc/. The website also provides the workshop schedule, including a printable version, as well as links to lodging options, sponsorship opportunities, and travel and direction details. For more information, contact Sandy Johnson at sandyj@ksu.edu.

- The **2016 KSU Beef Stocker Field Day** will be held on Thursday, September 22, 2016 at the KSU Stocker Unit, Manhattan, KS. Registration will begin at 9:30 a.m. and the day will conclude with a good old fashioned Prairie Oyster Fry in the evening. Included in the day will be a panel on "Pasture Burning Issues: The Necessity, Alternatives and Consequences" along with other noted presentations on the beef cattle outlook, animal health research and more. Watch for more details coming soon to www.KSUbeef.org. For more information, contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

- Mark the date on your calendar for the new **KSU Beef Ranching Summit** which will be held Friday, October 7, at the K-State Student Union. Watch for more details. For more information, contact Bob Weaber (bweaber@ksu.edu; 785-532-1460).

- Join us for the 2nd annual **AS&I Family and Friends Reunion to be held on Friday, October 7, 2016**, from 6:00 – 9:30 p.m. at the Stanley Stout Center, 2200 Denison Avenue, Manhattan, Kansas. Last year's event was truly amazing with over 1,100 family and friends reuniting at the inaugural event. The Don L. Good Impact Award will be presented to Certified Angus Beef. Other activities will include great food, live music, Junior Wildcat Barn Yard and more surprises!! Check www.asi.k-state.edu/familyandfriends for updates.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
July 15, 2016	Entries for Kansas State Fair 4H/FFA Show due	
August 15, 2016	Entries for the Kansas Junior Livestock Show due	
August 15, 2016	KLA/KSU Ranch Management Field Day	Larned, KS
August 16, 2016	KLA/KSU Ranch Management Field Day	Wallace, KS
August 18, 2016	KLA/KSU Ranch Management Field Day	Junction City, KS
August 20-21, 2016	Kansas 4-H Livestock Sweepstakes	Manhattan
September 7-8, 2016	Applied Reproductive Strategies in Beef Cattle Workshop	Des Moines, IA
September 22, 2016	KSU Beef Stocker Field Day	Manhattan
October 7, 2016	KSU Beef Ranching Summit	Manhattan
October 7, 2016	AS&I Family and Friends Reunion	Manhattan

WHAT'S NEW . . . . .

Management Minute
"Poised for Success

Feedlot Facts
"Add Value through Preconditioning"

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

"Poised for Success"

Letting people go is probably every manager's least favorite part of their job, including an OSHA inspection or an IRS audit. But it is a part of management of people and of teams; not every person will work out.

There are two (very) broad reasons for the person "not working out": (1) the person did not live up to the expectations they had committed to in the categories of work ethic, intellect, or integrity; or (2) the person did not have the skill set required to do the job that was asked of them.

Any time a person does not fulfill the expectations of management, a good portion of the blame for that failure should be borne by the manager. However, if the person is let go for above reason (1), a portion of the blame should fall on the manager for not identifying the deficiencies during the interview process but a portion also falls on the person being let go due to not living up to the expectations of the job as communicated upon initiation of the hiring process. If the person is let go for reason (2), then there is a different cause.

We often quote or paraphrase the message of the book "Good to Great" by Jim Collins when we say, "Let's get the right people on the bus and let them drive us to greatness." And this often means finding good, intelligent, ambitious, talented, hard-working people and finding them a home in our organization. However, this can on occasion backfire. If the new hire doesn't perfectly fit the skill set needed for the open position, we must rapidly and adequately train them for the position, and we must install a plan to get that person into the best possible position for success, both of the individual and of the organization. Unfortunately, organizations which are inflexible fail in this latter element.

Organizations often lose good people because they haven't found a way to modify the needs of the organization to fit the unique skills and passions of the person, and the person either fails to deliver the necessities of the job or simply loses interest in the job and the organization and looks elsewhere for opportunities which more closely align with their abilities and interests. This is a failure of management at one or both of two stages in the process.

Either the manager needs to identify that the person, regardless of how talented, does not now and will not in the future fit the organization, or the manager needs to create space for the person to express their abilities to help the organization in other ways not expressly delineated in the open position job description. There is no option C.

In short, either pass on the quality person available in favor of someone with more suitable skills, or make the position match the skills available. Or you will have more unwanted turnover and need to start all over again.

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

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

"Add Value Through Preconditioning"

The strong dollar is good for a lot of things, or so I'm told. However, the strong dollar also hurts our export markets because our product instantly becomes more expensive to buyers around the world simply because their currency loses its purchasing power vs. U.S. products. The U.S. beef industry saw beef exports climb out of the doldrums post-2001 and a dip after the recession in 2009 to record levels in 2011, 2012, 2013, and 2014. This led to record prices for boxed beef, fed cattle, and subsequently feeder calves. Heady times indeed... Conversely, the U.S. dollar began a steady climb in value vs. other global currencies in mid-2014 and has increased in value by 20-25% over the past 18 months, resulting in a significant drop in beef exports; this has placed and will continue to place downward pressure on boxed beef value, fed cattle prices, and feeder calf prices. Therefore, we will likely experience low calf prices this fall compared to recent years; we've already seen feeder cattle futures decline by 40% since the mid-2014 highs.

Feedlot Facts – "Add Value through Preconditioning" (cont.)

Vaccine and antimicrobial technology continues to improve at a breakneck pace. Yet we continue to see that calves which are unprepared for the stress of transition and life in the feedlot will have morbidity upwards of 30% and first treatment success is often only 30-50%. Calves which get mild respiratory disease will gain 0.2-0.4 lbs less weight per day in the feedlot and those calves requiring multiple treatments will gain 0.6 lbs less weight per day for the entire feeding period. This translates to about 15 lb less carcass weight and 10-15% fewer choice carcasses. It pays to keep calves healthy.

Preconditioning has many different definitions for different people, ranging from simply giving calves a vaccination prior to weaning, all the way to 2 complete rounds of vaccination for respiratory viral and bacterial pathogens and clostridial pathogens, given pre- and post-weaning, weaning from their dams for 45 to 60 days, and transitioned onto a total mixed ration, feedbunks, and waterers.

As far as animal performance is concerned, the extent of preconditioning needed to minimize post-arrival problems and maximize feedlot performance depends on the extent of stress imposed on the calf during transition.

Recent studies here at K-State suggest that single-source calves shipped 4 hours to a feedlot will benefit from pre-weaning vaccination and weaning and feeding for at least 2 weeks pre-shipment. If calves will be shipped a great deal farther; if calves will be commingled with other calves from multiple sources either prior to shipment or after arrival at the feedlot; if calves may experience adverse weather conditions post-feedlot-arrival, vaccination and weaning for 6-8 weeks pre-shipment will likely be beneficial to subsequent calf health and performance.

Investing the necessary time, technology, capital, and labor into the soon-to-be-weaned calf crop has very real costs for the rancher. But the risk of respiratory disease and the financial uncertainty that respiratory disease causes for feedlot producers has real financial costs as well. Many feedlot producers are willing to pay ranchers a premium to mitigate some of this disease risk which causes them economic uncertainty---consider it "biological risk management." When certified preconditioned calves are sold at special preconditioned calf sales, they have the potential to bring significant premiums compared to non-preconditioned calves.

Finally, do not assume that buyers at the conventional weekly calf sales will pay substantial premiums for preconditioned calves; on the contrary most buyers at conventional auctions come with the expectation of paying commodity prices for commodity calves, with prices determined mostly on lot size, sex, weight, and breed type. If you can find a special sale in your area specifically organized to market value-added, preconditioned calves, the buyers at this type of sale will come with the full expectation of finding value-added calves and are more likely expecting and willing to pay value-added prices. Some feeders and stocker producers business philosophy is to buy low, keep them alive, make them perform, and sell at the market; other feeders are looking for predictability of performance and are willing to pay for this predictability. Find these buyers and you will find a market for preconditioned calves.

Respiratory disease is the most costly disease in the cattle industry---by a significant margin, and the single greatest factor affecting calf performance in the feedlot. If you can prevent or control disease, you can, to a certain extent, control performance of calves. Feedlots are paying premiums for calves which are prepared for life at the feedlot. Why? Because they perform. As a rancher, you can and should get paid for your investments of time, money, and management. And entering a potentially down-market year, you can increase the value of your existing investment by investing a bit more and by finding buyers who recognize and are willing to pay for the extra value added by preconditioning calves.

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

Altering Supplementation Frequency During the Pre-Partum Period of Beef Cows Grazing Dormant Native Range – The object of this trial was to evaluate the effect of altering supplementation frequency during late gestation on performance of spring-calving cows that are grazing low-quality native range.

Pregnant Angus crossbred cows were maintained on dormant native range for 88 days until the onset of calving. Cows were assigned randomly to 1 of 4 treatments: 1) dried distiller's grains fed daily (D1); 2) dried distiller's grains fed once every 6 days (D6); 3) dried distiller's grains fed daily for the first 60 days and then once every 6 days for the remaining 28-day period (D1-D6); and 4) dried distiller's grains fed every 6 days for the first 60 days then daily for the remaining 28-day period (D6-D1).

Bottom Line…. For pregnant beef cows supplemented with dried distiller's grains, increasing supplementation frequency from once every 6 days to daily feeding for the 28 days prior to calving resulted in less weight gain and poorer body condition score. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, John Jaeger (785-625-3425; jrjaeger@ksu.edu) or Bob Weaber (785-532-1460; bweaber@ksu.edu).

Determining the Minimum Infectious Dose of Porcine Epidemic Diarrhea Virus (PEDV) in a Feed Matrix - Understanding the magnitude of transmissible risk Porcine Epidemic Diarrhea Virus (PEDV) infected feed imposes and establishing the minimum infectious dose of PEDV in a feed matrix are important

components in strengthening virus prevention and control methods. In this study, an experiment was performed involving 30 crossbred, 10-d-old pigs that were used as a bioassay model for the minimum infectious dose of PEDV in feed. The PEDV was first diluted using tissue culture media to form 8 serial 10-fold dilutions. An aliquot of the original stock virus at 5.6 x 105 tissue culture infectious dose/ml (TCID50/ml), each serial PEDV dilution, and one virus-negative culture medium were mixed into separate 4.5 kg batches of swine diet to form 10 experimental treatments. The feed was then subsequently evaluated for infectivity using bioassay. Fecal swabs were collected at 0, 2, 4, 6, and 7 d after challenge for PCR testing. At 7 d after challenge, all pigs were necropsied. Cecum contents, ileum and jejunum were collected for PCR, histologic and immunohistochemistry (IHC) evaluation.

Bottom Line…Overall, the results indicate 5.6 × 101 TCID50/g was the minimum PEDV dose in which infection was detected. This feed had a corresponding PCR cycle threshold (Ct) of 37. This is a relatively low dose. To illustrate, using this dose, approximately 1 g of PEDV-infected baby piglet feces could contaminate up to 500 tons of feed. The data confirm that detectable Ct values in feed can result in pig infection. Our results also illustrate that the Ct in feed that was detected as infectious can be above the detection threshold used by some diagnostic laboratories. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by *L. L. Schumacher, J. C. Woodworth, C. R. Stark, C. K. Jones, R. A. Hesse, R. G. Main, J. Zhang, P. C. Gauger, S. S. Dritz, and M. D. Tokach)*

- **Nursing Reduction Strategies to Enhance Estrus in Lactating Sows and Effects on Performance of Pigs to Market Weight -** A total of 135 sows (PIC 1050), ranging from parity 1 to 5 (2.6 ± 1.4), were used in 5 consecutive farrowing groups (February to August). The objectives were to evaluate different suckling reduction strategies for inducing lactational estrus and the effects on sow fertility and piglet growth. Litter size was equalized within parity (11.5 ± 1.1 piglets) at d 2 after farrowing. At d 18, sows were assigned to 1 of 5 treatments (n = 26 to 28) based on parity, farrowing date, and suckled litter size. Treatments were: 1) control; 2) sows that were paired within parity and placed in adjacent stalls, on d 18 all but 5 of the lightest piglets were weaned, and the remaining piglets were combined and alternated between sows at 12 h intervals until d 25 (ALT); 3) piglets separated from sows for 12 h/d from d 18 to 25 (SEP); 4) all but the 5 lightest piglets weaned on d 18, split-weaning (SW); and 5) piglets separated from sows for 24 h on d 18 (24HR). Controls were weaned at d 21 with other treatments weaned at d 25. All sows were provided nose-to-nose contact with a mature boar for 5 min/d from d 18 until weaning without removing them from farrowing crates. Creep feed and water were provided from d 14 to weaning. Offspring ADG was recorded to market for 2 farrowing groups. Sow backfat and BW losses during lactation were similar across treatments. Of the 106 sows subjected to reduced suckling, 80 (76%) expressed estrus during lactation. The SEP and 24HR sows were in estrus earlier than SW sows. A tendency for reduced conception rate was observed in SEP and 24HR sows versus control and SW sows. Creep feed disappearance was greatest for SEP and 24HR litters, and pig ADG from d 18 to 32 was reduced.

  Bottom Line…No negative effects on final BW or carcass composition were observed for the reduced suckling treatments. Altered suckling treatments differed in their ability to induce lactational estrus and their impact on gain immediately post-weaning. However, no benefits were observed for pig growth to market weight. 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, M. D. Tokach, J. M. DeRouchey, S. S. Dritz, R. D. Goodband, J. C. Woodworth, J. L. Nelssen, and D. L. Davis)*

- **Evaluation of Extreme Thermal Processing Methods to Improve Nutrient Utilization of Low-Energy Diets for Finishing Pigs** A total of 270 pigs (PIC 337 × 1050; initially 115.7 lb) were used in a 79-d experiment to determine the effects of long-term conditioning or extrusion on finishing pig nutrient digestibility, growth performance, and carcass characteristics. There were 7 or 8 pigs per pen and 9 pens per treatment. Treatments included the same basal diet processed as: 1) nonprocessed mash; 2) pelleted with 45-s conditioner retention time; 3) pelleted with 90-s conditioner retention time; or 4) extruded. Diets were fed in three phases with the same low-energy diet formulation fed across treatments, containing 30% corn dried distillers grains with solubles and 19% wheat middlings. Pigs fed thermally processed feed, regardless of method, had improved ADG, F/G, ether extract, and crude fiber apparent total tract digestibility compared to those fed the mash diet, but thermal processing did not affect ADFI . Extruded diets tended to improve F/G compared to pelleted diets. Pigs fed any thermally processed treatment had greater HCW compared to those fed mash. Improvements in fat and crude fiber digestibility led to improved caloric efficiency in pigs fed thermally processed diets. Thermal processing did not influence percentage yield, backfat, or loin depth when HCW was used as a covariate. However, pigs fed thermally processed diets had greater jowl fat iodine value compared to those fed mash diets. Electrical energy usage during thermal processing was recorded. Pigs fed mash diets had greater cost per lb of gain, as well as reduced gain value and income over feed costs, compared to those fed thermally processed diets.

  Bottom Line…This experiment confirms the benefits of thermally processing feeds to improve ADG and F/G, but compromises carcass fat iodine value. Additionally, this research suggests that more extreme thermal processing conditions may be used without hindering nutrient utilization. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by G. E. Bokelman, K. F. Coble, C. R. Stark, J. C. Woodworth, M. D. Tokach, and C. K. Jones)*

AS&I Faculty Spotlight

Cassie Jones (jonesc@k-state.edu; 785-532-5289)
Undergraduate Research Coordinator

Cassie Jones grew up showing Rambouillet sheep and market hogs in Beulah, ND. She was highly involved in FFA, serving as a ND State FFA Officer. She received her B.S. in Animal Sciences and Industry in 2007 and her M.S. in Swine Nutrition in 2009 from K-State. Cassie then completed her Ph.D. in Nutritional Sciences at Iowa State University in 2012, with an emphasis on swine nutrition.

Cassie served as an Assistant Professor in Feed Technology in the Department of Grain Science and Industry from 2012 to 2016, where she taught undergraduate and graduate courses in the feed science program, conducted research on animal food safety, and taught adult short courses in feed manufacturing at the International Grains Programs. Most recently, Cassie was the lead editor of the training curriculum for the animal food rule for the Food Safety Modernization Act, and has been training industry and federal regulators on the application of the new feed regulation.

In her new position, Cassie will serve as the Undergraduate Research Coordinator for the Department of Animal Sciences and Industry. This position combines Cassie's passion for teaching undergraduate students with her diverse research interests. She plans to continue to study the impact of ingredients and feed processing technologies on animal performance and health, a subject that transcends species and disciplinary lines.

Cassie and her husband, Spencer, own a registered Angus herd and Flint Hills Heifer Development southeast of Wamego, where they raise their three children, Ty, Hayden, and Hadley.

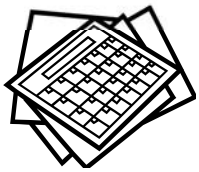
Megan Rolf (megrolf@k-state.edu; 785-532-1450)
Assistant Professor/Animal Breeding

Megan Rolf was raised on a cow-calf operation in east central Kansas and has been involved with livestock her entire life. She received a bachelor's degree in animal science at Kansas State University and a M.S. degree in animal science at the University of Missouri-Columbia. She also earned her Ph.D. in Genetics at the University of Missouri, where her research focused on the use of genomics in beef cattle selection.

After graduation, Megan was on faculty at Oklahoma State University for four years, where she was an Assistant Professor and State Extension Beef Specialist. She joined the faculty at Kansas State University in 2016 as an Assistant Professor of Animal Breeding with a 60% research and 40% teaching appointment. She teaches Genetics in the fall and maintains an active research program in the use of genomics for genetic improvement in livestock.

What Producers Should Be Thinking About…..

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN SEPTEMBER…….



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

September is when forages are maturing rapidly, weaning time can be appropriate, and weather dictates several key management decisions.

Breeding Season

Out of concern for trichomoniasis, an economically devastating reproductive disease, do not introduce untested bulls to your herd. Remove bulls after 60 days with cows, 45 days with heifers (Never run bulls for more than a 90-day breeding season).

Cowherd Nutrition

☑ Provide ample amounts of clean, fresh drinking water.
☑ Consider limited-intake creep feeding if:
- ♦ Drought conditions develop and persist.
- ♦ Range conditions limit milk production.
- ♦ Creep feed/grain prices are relatively low.
- ♦ Value of gain allows for economic benefits.

☑ Tips for successful limited-intake creep feeding:
- ♦ Limit duration to last 30 to 75 days before weaning.
- ♦ Limit intake to less than 2 pounds/head/day.
- ♦ Use an ionophore or other feed additive to maximize efficiency.
- ♦ Protein level should be equal to or greater than 16%.
- ♦ High salt levels may help limit intake, but can be tough on feeders.

☑ Prepurchase bulk rate winter supplementation needs prior to seasonal price increases.

Herd Health

☑ If pinkeye is likely to be a problem, consider the following preventive and therapeutic measures.

Preventive:

- ♦ Make sure the herd is receiving adequate vitamins and trace mineral in their diet.
- ♦ Consider using a medicated trace mineral package.
- ♦ Consider vaccination for pinkeye and IBR.
- ♦ Control face flies.
- ♦ Clip pastures with tall, coarse grasses that may irritate eyes.
- ♦ Provide ample shade.

Therapy:

- ♦ Administer a long-acting antibiotic subcutaneously when symptoms are first noticed.
- ♦ Shut out irritating sunlight by patching eyes, shade, etc.
- ♦ Control flies.
- ♦ Consult your veterinarian.

☑ Consider revaccinating for the respiratory diseases any animals that will be taken to livestock shows.
☑ Vaccinate suckling calves for IBR, BVD, PI3, BRSV, and possibly pasteurella at least 3 weeks prior to weaning.
☑ Revaccinate all calves for blackleg.
☑ Vaccinate replacement heifers for brucellosis (4 to 10 months of age).
☑ Monitor and treat footrot.

Forage/Pasture Management

- ☑ Enhance grazing distribution with mineral mixture placement away from water sources.
- ☑ Observe pasture weed problems to aid in planning control methods needed next spring.
- ☑ Monitor grazing conditions and rotate pastures if possible and(or) practical.
- ☑ If pastures will run out in late summer, get ready to provide emergency feeds. Start supplemental feeding before pastures are gone to extend grazing.
- ☑ Harvest and store forages properly. Minimize waste by reducing spoilage.
- ☑ Sample harvested forages and have them analyzed for nitrate and nutrient composition.
- ☑ 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.

Reproductive Management

- ☑ Remove bulls to consolidate calving season.
- ☑ Pregnancy check and age pregnancies 60 days after the end of the breeding season. Consider culling cows that are short-bred.

These methods contribute to a more uniform calf crop, make winter nutritional management easier, and increase the success rate of next year's breeding season.

General Management

- ☑ Avoid unnecessary heat stress - Don't handle and(or) truck cattle during the heat of the day.
- ☑ Repair, replace and improve facilities needed for fall processing.
- ☑ Order supplies, vaccines, tags, and other products needed at weaning time.
- ☑ Consider early weaning if:
  - ♦ Drought conditions develop and persist.
  - ♦ Range conditions limit milk production.
  - ♦ Cows are losing body condition.
  - ♦ Calf and cull cow prices indicate maximum profit.
  - ♦ Facilities and management is available to handle lightweight calves.
    - ✓ *First calf heifers have the most to gain.*
    - ✓ *Resist the temptation to feed the cows without weaning; feeding early-*weaned *calves is more efficient.*
- ☑ Look for unsound cows that need to be culled from the herd.
- ☑ Prepare to have your calf crop weighed and analyzed through your state, regional, or breed performance-testing program.
- ☑ 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.*