K-STATE Kansas State University Research and Extension

Beef Tips

July 2011 Department of Animal Sciences & Industry www.asi.ksu.edu/beeftips

Upcoming Events

Beef Quality Assurance Training Workshops
July 6, 7, 12, 2011
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K-State Beef Conference
August 16,2011
Manhattan, KS and webcast
Details page 4

KGLC Principles of Range-land Management Schools
August 16-18, Elmdale, KS
August 23-25, Scott Lake, KS
www.kglc.org

Applied Reproductive Strategies in Beef Cattle
Aug 30 - Sept 1, 2011, Joplin, MO
www.beefrepro.info

2011 KSU Beef Stocker Field Day
Sept. 22, 2011
Manhattan, KS

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Early weaning: Nutrition and cost considerations

Chris Reinhardt, extension feedlot specialist

The nutrition of the early weaned (90-120 days of age) calf is not greatly different than that of the normal age (~205 days) calf; however, there are several key factors to consider.

Whether or not you've ever fed calves, you're more qualified to wean your calves than anyone else, provided you've got some quality feedstuffs and appropriate facilities. The reason? If you can simply move the calves or cows to an adjacent pen or pasture from one another, the stress of weaning is nearly eliminated. And this greatly reduces the risk of subsequent disease.

Many ranchers have instituted fenceline weaning, in which the calves are placed in a pen or pasture adjacent to their mothers, and can have nose-to-nose contact with them. Or the cows are placed in a pen and the calves are allowed to graze in an adjacent pasture. These systems have proven highly effective at reducing stress on calves. Oftentimes the cows create more noise after weaning than the calves. After a few days, the calves can be completely separated without additional stress. This speaks volumes about the nutritional needs of the calf; it needs only some occasional, short-term contact and proximity from the dam, but nutritionally, the calf is ready to be on it's own.

When the calf nurses, a groove closes, shunting milk from the esophagus, bypassing the reticulum, rumen, and omasum, straight to the abomasum. But, when a calf either grazes or eats solid feed from a bunk, feed enters the reticulo-rumen and begins fermentation. Once the rumen has been 'inoculated' (usually very soon after birth) with bacteria and protozoa from it's environment, and has been 'fed' through grazing, the calf is a functional ruminant---this is the normal scenario for beef calves.

The rumen and the calf are both accustomed to grass and the rate of energy release from forages. So the first feed offered to the calf during it's weaning transition should resemble what they've been consuming up to this point--that is, good quality forage. Good quality hay from either grass, grass/legume mix, or annual grains work well. This hay should be spread out, either long-stemmed or very coarsely chopped, in the very same bunks where the calves will be fed. Provide all the hay the calves will eat in a day, which will normally be about 10-15 pounds per head per day.

It is counter-productive to train the calves to eat from a bale feeder only to later try to re-train them to a bunk, and the attraction of good quality, loose, long-stemmed hay in the bunk is the best way to accomplish this. Also, on either the first or second day after weaning, place about 2-3 pounds per head of a nutrient dense starter ration on top of the loose hay. This ration should be a mix of 25-35 percent ground hay, and the remainder made up of a blend of cracked or ground grain and a source of protein, vitamins, and minerals. Byproducts such as dry distillers grains, wheat midds, corn gluten feed, and soy hulls work well to provide both energy and protein, and can be used to replace all or a portion of the grain in the diet. With the inclusion of byproduct feeds to supply all needed protein, a commercial source of vitamins and minerals can be used to balance the diet.

If the calves are healthy, vigorous, and eating well, the loose hay can be reduced and eliminated over a period of 3-4 days, but if health and intake of the ration are poor,

*continued...see **Early weaning** on page 4*

"You can't manage what you don't measure."

Tally Time – Monitor forage production to improve management

Sandy Johnson, livestock specialist

In years with ample rainfall, there may be a tendency to take grass production for granted. If there are so many acres, we expect it to produce so much grass and run so many head of cattle. Putting up hay or even mowing the lawn (non-irrigated) can give us a good indication of forage growth conditions in general. When dry conditions dictate the normal grazing plan must be changed, it can be hard for producers to make timely changes for several reasons. Enacting a "plan B" is generally expensive, time consuming, and otherwise unappealing. Some objective measure of grass production would likely help producers make more timely decisions.

Forage use must be measured so it can be managed. Basic records to keep yearly on each pasture include: date of turnout, number of head, average weight, same three points at the time of removal, and rain fall. The other record needed is some measure of utilization at the end of the season. This could be as simple as a light (1 - 33 percent), moderate (34 - 66 percent) or heavy (67 - 100 percent) estimate of forage utilized, based on a comparison to an un-grazed area. A grazing exclosure (area within pasture that is excluded from grazing) is a useful tool to compare how much has grown in comparison to how much is remaining in the pasture. Two steel posts and a wire panel tied in a circle combine to make an easy and effective grazing exclosure (Figure 1). In dry years, it is last year's un-utilized portion that supplements the current dry year's growth, protects the soil surface and improves infiltration when it does rain.

Figure 1

A grazing stick is another tool to measure forage production. It was originally developed for use in higher rainfall areas and monoculture pastures but can be adapted to other regions. The use of a grazing stick is dependent on appropriate local or regional calibration that reflects the leaf density of the pasture. Height of the forage in inches is converted to pounds of production per acre. A grazing stick with equations appropriate for native pastures in Kansas will be demonstrated at the Kansas Grazing Land Coalition Range Schools August 16-18 at

Elmdale, KS and at Scott Lake, Aug. 23-25. For more information or to attend the school contact Tim Christian, 620-241-3636, tdchristian@cox.net or see http://www.kglc.org/. Complete online directions of how to calibrate and use a grazing stick can be found at this site from the Noble Foundation http://www.noble.org/ag/forage/grazingstick/index.html. A minimum of 400-800 pounds per acre should be remaining after grazing in short grass regions.

Another method to measure utilization is quoted below and comes from a Nebraska and South Dakota resource entitled "Drought Management on Range and Pastureland: A Handbook for Nebraska and South Dakota." This publication contains lots of good range management information that easily translates to western Kansas. Don't let the title make you think it doesn't apply, because if you are not in a drought, you are just preparing for the next one.

"Proper utilization during the growing season is generally the removal of 50 percent or less of the present, current year leaf and stem tissue by weight. A simple procedure can be used to develop a visual perception of percentage forage utilization. Clip the current year growth from random bunches or tillers at the ground level. Wrap the samples with string or tape. Balance the sample on your finger. The point of balance is the height at which 50 percent of the leaf and stem material would be removed. Clip the sample at this point and balance each half to estimate heights for 25 and 75 percent utilization. Since utilization often differs across the pasture, you will need to monitor average height of utilization throughout each pasture. Estimates of the stubble height at which a target level of utilization will occur should be made when the cattle enter each pasture."

Take time at the end of the grazing season to evaluate the amount of grass utilized in relationship to the rainfall received and growing conditions. This will help build a good grazing management plan that can take advantage of additional growth when conditions improve and provides specific guidance when needed rains do not come.

Successful early weaning considers water, weaning method, vaccination program and animal handling

Larry Hollis, extension beef specialist

With the hot, dry summer currently being experienced in many parts of Kansas, traditional weaning plans may need to be significantly altered. Cows are out of grass in many areas, and grass is extremely short in others. Early weaning calves should be strongly considered. Considerable research has shown that it is a much better use of resources to wean the calf early, and either sell or feed the calf, than try to feed the cow enough to sustain lactation through a drought and hold feed costs down both now and this winter when producers are trying to get cows in condition to (1) survive the winter, (2) calve successfully, and (3) be in reasonable body condition score (BCS) to breed back next year. Many cows may be close to drying up on their own because of the lack of feed, so the primary thing they may be providing is merely companionship for the calf!

Consider these factors when early weaning.

- **Water**. Freshly weaned calves need plenty of fresh, clean water, especially if weaned during the heat of summer. Hopefully they have had access to water alongside their mothers, but if their mothers are drinking from an elevated tank or tub that calves cannot reach, they may need to be provided with a readily-available, closer-to-the-ground water source so that they are trained to drink from it prior to actual weaning time.

- **Weaning method**. Research has shown that "soft" weaning methods such as fence line weaning or nose clip weaning result in better maintenance of existing calf weights or subsequent calf performance than traditional "hard" weaning methods (abruptly separating cows and calves and placing calves in a drylot or unfamiliar pasture situation). When calves are weaned with either soft method, calves have the benefit of knowing their way around the pasture, including where shade, water and feed are located. If facilities permit (calf-proof fences between 2 adjoining pastures), fence line weaning is preferable over nose clip weaning because it does not require running calves through the chute twice to install and remove the nose clips. Hard weaning methods always result in greater calf weight losses than soft methods. Also, hard weaning, especially when calves are weaned in dry, dusty pens, almost always results in more respiratory health problems.

- **Vaccination program**. If some of the better calves need to be held for replacements, or calves are typically marketed through a value-added preconditioning program or marketing system, they will benefit from the same preconditioning and vaccination program that would be utilized if they were held until normal fall weaning time. Feeding programs following weaning need to be adjusted to meet the needs of these lighter calves. When processing calves during the hot summer, be careful to make sure that vaccines are handled properly, because heat can spoil vaccines rapidly if they are not kept refrigerated during transit and chuteside while working calves. If modified live virus vaccines are used, it is imperative that they also be protected from sunlight. Over 60% of viral particles in the bottle or syringe will be inactivated by only 1 hour of exposure to sunlight. Keeping the vaccine bottles and syringes in a cooler except when animals are actually being injected will help protect the product from both heat and sunlight.

- **Working cattle.** Try to gather cattle into loose grass traps or large pens near the working facility where they have plenty of space prior to being worked. If possible, this should be done the evening before working the cattle. Try to have all work completed by 10:00 in the morning. Also, fresh water needs to be available both before and soon after working through the chute.

We can't escape an occasional drought, but we can manage our way around them and reduce their negative impact. With a little advanced planning, early weaning can be accomplished and the herd set up to recover more quickly once it finally starts raining again!

"Considerable research has shown that it is a much better use of resources to wean the calf early, and either sell or feed the calf, than try to feed the cow enough to sustain lactation through a drought…."

Early weaning …. *continued from page 1*

continue to place 3-4 pounds of loose hay in the bunk until health and intake improve.

Economic return from early weaning is driven primarily by ensuring future productivity of the cow herd, but proper management of the calves can contribute as well. Plan to have feed and space for these calves for at least 30 days, and 45-60 days may be even better. That will give the calves time to recover any lost weight from the weaning transition, recover from any respiratory disease they may have endured, and fully respond to the vaccination protocol given at weaning time.

"...these calves convert feed to gain very efficiently , often in the range of 4:1 …."

Another benefit of feeding these calves for a time is that given their young age and lean stage of growth, these calves convert feed to gain very efficiently (often in the range of 4:1); therefore, the cost of gain can be very economical, compared to commercial feeding, depending on the cost of your local feedstuffs.

Based on current estimated Kansas costs of alfalfa hay, cracked corn, dried distillers grains, and a medicated mineral/vitamin supplement, calves can be fed for approximately $1/day (not including yardage or labor). If no major health challenges occur, we should expect the calves to gain at or above 2 lb/day. This results in a feed cost of gain of about 50¢/lb, while current commercial feedyards are experiencing feed costs of gain of about 80¢/lb for finishing cattle.

There are many ways to effectively manage these special calves. The most important thing is to get them the needed nutrition, preserve the cow, and preserve the range.

K-State Beef Conference Planned for August 16 in Manhattan

The 2011 Kansas State University Beef Conference is planned for Tuesday, Aug. 16, with a full lineup of speakers who will address "Managing in a Transitioning Industry."

"The beef industry has encountered so many changes recently," said Larry Hollis, veterinarian with K-State Research and Extension. "Volatile beef and cattle prices, new research findings, and high fuel and other input costs mean producers are always looking for ways to keep up with the most recent information, so they can run their businesses as efficiently as possible. Our goal with the K-State Beef Conference is to address the most relevant topics every year."

The program begins at 9 a.m. and ends at 5 p.m. and includes both refreshments and lunch. If unable to travel to Manhattan, beef producers and others interested in participating can attend via webcasts at the Butler County Community Building, Pratt County Fairgrounds and the Wakeeney Public Library.

On K-State's Manhattan campus, this year's conference will be in a different location than in years past -- 123 Weber Hall.

Presentation topics and presenters at the conference will include:

- The New Reality: Volatility Factors and the Cattle Cycle – K-State agricultural economist Glynn Tonsor;
- Ranch Management in Volatile Times – Justin Waggoner, K-State animal scientist;
- Does High Input Always Mean High Output? – Bob Weaber, K-State animal scientist;
- Adapting to Change at the Ranch Level –Virgil Huseman, Ellsworth stockman;
- Anthelmintic Resistance in Beef Cattle – Joe Dedrickson for Merial;
- Implant strategies for forage-based programs – Chris Reinhardt, K-State animal scientist;
- Sell Cows, Build Herds, or Get Out? – Kevin Dhuyvetter, K-State agricultural economist; and
- Emerging Social Ethics for Animals and the Beef Industry – Bernie Rollin, Colorado State University.

Sponsors for the 2011 K-State Beef Conference are animal health company Merial, as well as K-State Research and Extension.

The fee to attend is $60 per person or $100 for two or more from the same operation. More information, including how to register for the webcasts or for in-person attendance, is available on the web or by phone (785-532-1280).

BQA Training Workshops Continue

Three more Beef Quality Assurance (BQA) training workshops conducted by K-State's Beef Cattle Institute (BCI) remain in July. The training sessions are scheduled for July 6 in Holton; July 7 in Beloit; and July 12 in Pratt.

Afternoon workshops for producers begin at 11:30 a.m., include lunch and conclude at 3:30 p.m. Veterinarians are encouraged to attend evening meetings, which include dinner, beginning at 5:30 p.m and ending at 8:30 p.m. The workshops are free of charge; however, registration is requested one week in advance of each respective session. Details and a registration form are available on the BCI web site, www.beefcattleinstitute.org, or by calling Abby Jones at (785) 532-3474.

BQA training and its precursors began in the 1970s and are considered the foundation of producing a safe, wholesome and healthy beef supply for consumers. Producers who implement BQA in their everyday management practices see increased performance and economic gains within their cow-calf, stocker or feedyard business. Workshop participants will study BQA principles and strategies and will leave BQA-certified.

Beef Reproduction Meeting Remains in Joplin, Mo., Despite Storm

Beef cattle producers across the nation will meet in Joplin, Mo., Aug. 31-Sept. 1, to learn how to produce high-quality beef. The basics include reproduction, management and genetics.

Although Joplin was hit by a deadly EF5 tornado May 22, the Holiday Inn and Convention Center, the meeting site, was outside the storm path.

"We've learned a lot about breeding high-quality cattle that bring premium prices," said David Patterson, meeting host and University of Missouri Extension beef reproduction specialist. "We are making rapid progress to improve quality through use of fixed-time AI using semen from high-accuracy proven sires."

The conference for "Applied Reproductive Strategies in Beef Cattle" (ARSBC) is held annually at various locations across the U.S. The program is organized by a task force, which includes beef reproductive physiologists from major land-grant universities.

"Our aim is to reach cow-calf and seedstock producers, the AI industry, veterinarians and the entire beef-support industry," Patterson added.

The opening panel at the meeting will set the theme: "Using AI (artificial insemination) to Produce More High-Quality Beef." Speakers include Patterson of Columbia; Mike Kasten, beef producer from Millersville, Mo.; and Larry Corah, vice president of Certified Angus Beef, Manhattan, Kans. They represent the scientist, farmer and marketer of high-quality beef.

Examples of what may be achieved through improved reproduction and genetics are shown by success of the Show-Me-Select Replacement Heifer Program. "Producers have learned there are extra profits not only in replacement heifers, but also in the steer mates sent to commercial feedyards," Patterson said. "The steers, especially from the Show-Me-Select Tier Two program, have higher performance in the feedlots and on the rail. Tier Two steers hit the premium grids." The idea behind the Tier Two program involves expanded use of fixed-time AI in Missouri cow herds using semen from high-accuracy sires.

The reproduction research has focused on easier protocols for fixed-time AI of cows and heifers. This allows breeding all cows and heifers in a herd on one day. This saves labor and shortens the calving season. The result is more uniform calves at weaning time.

On the evening of Aug. 31, the group will visit the Joplin Regional Stockyards, Carthage, Mo., to see working demonstrations and hear a panel of producers in the Show-Me-Select Replacement Heifer Program. The local cattlemen's association will grill a steak dinner.

The Beef Reproduction Task Force promotes wider adoption of reproductive technologies among cow-calf producers. They aim to teach management skills that increase success in AI breeding. That is followed with teaching marketing options to capture those benefits of better genetics and new technologies.

The group aims to improve both the productivity and profitability of cow-calf operations. Adoption of cost-effective applied reproductive technologies can pay.

Registration fees and details are on the MU Conference Office Website at:
http://www.muconf.missouri.edu/arsbc/