



**DIVISION OF AGRICULTURE
RESEARCH & EXTENSION**

University of Arkansas System

BEEF AND FORAGE NEWSLETTER

Little River County Arkansas

Joe Paul Stuart

County Extension Agent-Staff Chair/Agriculture

Winter 2013

THREE TIPS TO PREPARE THE COW FOR SPRING CALVING

Spring calving is just around the corner, providing the promise of a new calf crop and excitement for the future. Steps taken today can set cows up for a successful calving season. However, poor preparation has a direct impact on the health and well-being of those calves as well as future reproductive performance of the herd.

For an optimal calving season producers should focus on three areas: body condition scores, mineral programs and the area where cows will calve. Implementing a few strategies ahead of the calving season can make calving programs successful and adding that with today's beef prices producers can't afford to lose any calves.

Body condition scores

The ideal body condition score (BCS) at calving is a six, on a nine-point scale. Being at the ideal BCS is probably the most important thing beef producers can do prior to calving. It's not hard to slip down to a body condition score of a four or five, and think it's no big deal. But anything less than a six spells trouble. Keeping the cows in good body condition all year can pay huge dividends on individual calf and herd performance.

Cows with low body condition scores are at risk for more calving problems. Their calves may be weaker and not as vigorous, which means they are less likely to get up and drink colostrum in the first few hours after birth.

Low BCS numbers could be a common problem this year as beef producers are trying to get through winter with low forage supplies. Fortunately, it's not too late to increase a cow's BCS. Getting your body condition scores up to a six by calving will pay dividends. An adequate ration with protein, energy and mineral supplements can set cows up for a successful season.

Mineral program

Having a good nutrition and mineral program in place is essential for a variety of reasons, including better response to vaccinations and colostrum quality for the calf, which provides immune protection. The ideal body condition score prior to calving coupled with a good mineral program can translate into good quality colostrum and calves that are better protected from the start. From mid-gestation to late-gestation, there will be an increase of about 20 to 25 percent for protein and mineral needs by the cow.

Nutritional needs increase again as the cow gets closer to calving; increasing by more than 60 percent for minerals and 25 percent energy and protein between late gestation and calving. Meeting these nutrient requirements are critical to calf growth in-utero and the cow's ability to care for the live calf.

Clean calving area

Providing a clean environment for cows to calve in, is a simple but effective recommendation for successful calving. The cleaner the calving environment the better.

Cows should be kept out of the calving area for 30 to 45 days prior to calving to reduce the amount of manure in the area. If you are using the barn to provide shelter, consider reducing the amount of space allotted to the cows and save a portion for calving time. Providing a clean and dry environment for calves will go a long way in protecting the future of your herd.

Keeping these three recommendations in mind when preparing for calving season can help better prepare cows for the upcoming season.

ISN'T IT TIME FOR A SERIOUS LOOK AT THE FACTS OF CASTRATION

One of the statements I commonly hear from calf producers is that bulls bring just as much as steers, so why bother? While top quality light bull calves may bring as much as plainer quality steers, these producers are not comparing apples to apples, because there is a marked difference in similar quality steer and bull calves. According to Lindsey Grant of McAlester Union Stockyards there is currently about a \$5 to \$7/cwt price difference between bulls and steers of similar quality at weights between 425 and 550 pounds. On calves between 550 and 650 pounds the gap widens to about \$12/cwt, and for 800 pound yearlings the difference can easily be \$25/cwt. This translates to lost revenue of \$30.00, \$72.00, or \$200.00 respectively. With today's high input costs for fuel, feed, hay, labor, equipment, fertilizer, and pasture this can easily be the difference in a profit or a loss.

Why do stocker and feeder operators want the calves castrated before arrival at their new homes? There are several good reasons. No matter what procedure you use it involves pain and stress for the calf. This stress leads to increased chances of health problems such as shipping fever or pneumonia. When the calves are castrated at a young age and while still on their mothers this risk is negligible, but when added to the stresses of weaning, marketing, transporting and comingling at the feedlot or background yard it becomes a major factor. In short, the stress is much easier for the calf to handle if he can run back to "mama." Research has shown that calves arriving at feedlots as bulls are twice as likely to get sick as steers and death losses are significantly higher. Additionally, rates of gain are affected for weeks versus days when they are "ranch weaned and castrated." Steers also have less aggression and sexual activity which translates into better gains. Steers have a lower incidence of "dark cutters". Steers have higher and more consistent quality grades due to better marbling. Steer carcasses command higher prices on the market. Stocker and feeder operators know all of this. They operate in a very competitive world on tight margins and have to factor these things into the prices they are willing to pay for your calves. If they don't they won't be in business to be buyers for your calves for very long.

There are several acceptable methods of castration and the best choice depends on your operation. Many producers today feel most comfortable with banding to interrupt the blood supply to the genitals of the calf. With all types of banders the calf is susceptible to tetanus and protection should be used. Newborns and very young calves can be castrated with the small sheep type bands. Because very young animals are not yet able to respond immunologically, they should be given tetanus antitoxin, which is a passive transfer of immune products which protects them. Older calves can be castrated with the Calicrate™ bands and bander. This procedure works well on larger calves and yearlings but is more expensive for both the application instrument and the bands. With this technique calves should be protected at the time of the procedure with tetanus antitoxin or three weeks before-hand with tetanus toxoid. The tetanus protection offered by products commonly known as 8-way blackleg is tetanus toxoid and thus offers no protection to very young calves or calves vaccinated at the time of banding. With all types of banding procedures it is very important to make sure that both testicles are well down in the scrotum and below the band. Failure to do so may result in a "stag" which is very undesirable on the market. After the band is correctly applied the scrotum and testicles gradually die and drop off after two or three weeks.

Surgical castration or "knife cut" requires more expertise but is less expensive and more reliable. Tetanus protection is not generally required if proper sanitation is observed and there is no cost for bands or banders. While initially painful, young animals quickly forget the procedure and return to normal feed and activities. It is important to remove enough of the scrotum to allow the wound to drain freely in order to avoid infection and possible septicemia (blood poisoning). Many ranchers fear excessive hemorrhage, but this is usually not a concern if the procedure is done early, and is almost never a factor if proper procedures are observed. In warm weather an aerosol can of insect repellent sprayed on the wound will keep the flies off of the surgical site. If you are not comfortable with surgical castration but want to incorporate it into your management have your local veterinarian help you and teach you the proper procedure. In some communities the high school agriculture teacher is willing to help you in order to teach his students the procedure.

Other techniques including restricting the testicles to a high position near the body or chemical castration are not generally accepted. Burdizzo™ emasculators, also referred to as bloodless castrators, can be effective when properly applied, but can result in unsuccessful results if absolute care is not taken to position them correctly. No matter what method of castration you choose, the main message is to do it early. Castration on newborns fits some ranchers best, while others prefer to wait until the calves are old enough to receive their vaccines at 3 or 4 months of age. In either case returning to their mothers and familiar surroundings greatly limits the stress and the after effects.

The beef industry requires that male calves be castrated in order to provide a high quality, cost effective product to the consumer. At the same time, increasing concern for animal welfare is calling for either early castration or application of pain control methods (anesthesia). As a beef producer you have an obligation to "do the right thing" voluntarily before legislation forces change on us, perhaps taking this procedure out of the hands of the rancher. Luckily, this is one time that "doing the right thing" will also boost the profitability of your operation.

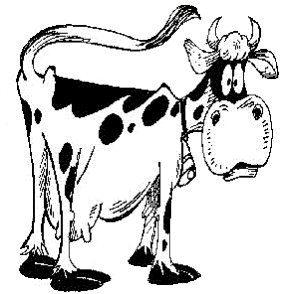
UPCOMING ACTIVITIES



- FEB 7 AG EXPO — 4-STATES FAIRGROUNDS, TEXARKANA
 FEB 7 P.A.T. CLASS AT AG EXPO — 2:00 PM
 FEB 25 CATTLEMEN'S ASSOCIATION MEETING — 6:30 PM — CCCUA
 MAR 25 CATTLEMEN'S ASSOCIATION MEETING — 6:30 PM — CCCUA
 APR 29 CATTLEMEN'S ASSOCIATION MEETING — 6:30 PM — CCCUA

Easy Beef Enchiladas

- 1# ground beef
- 1/4 cup chopped onions
- 1 teaspoon garlic powder or 1 teaspoon minced garlic
- 1 Tablespoon Worcestershire Sauce
- 1 (8 ounce) can tomato sauce
- 1 teaspoon paprika
- 1 teaspoon oregano
- 2 teaspoons chili powder (more or less for your taste)
- 1/2 teaspoon cumin
- 1/2 teaspoon black pepper
- 3 cups shredded cheese (Jack or Cheddar or combo)
- 1 (10 ounce) can enchilada sauce (red or green-your preference)
- 12 corn tortillas



- Brown ground beef and onion together, adding garlic the last few minutes (It gets bitter if cooked too long); drain. Add next 7 ingredients (Worcestershire through black pepper).
- In another skillet, heat oil. Add tortillas, one at a time, and cook about 10 seconds per side. Drain on paper towel.
- In 10 x 13 baking pan, pour in just enough enchilada sauce to coat the bottom of pan.
- Fill each tortilla with a spoonful of meat mixture and cheese. Roll tortilla and place, seam side down, over enchilada sauce in baking pan. Continue until all tortillas have been filled or until you run out of meat mixture.
- Pour remaining enchilada sauce over tortillas and top with cheese.
- Bake in 350 degree oven for 20 minutes. Serve with sour cream, refried beans and Spanish rice or salad.
- Note: You can refrigerate this dish overnight and then bake it about 30 minutes. Enjoy!

Recipe makes 4 servings

Calories per serving: 740.5

Cholesterol: 131.3 mg

Protein: 44.3 g

Calories from fat: 362

Total Carbohydrate: 51.8g

Sugars: 8.8 g

COOPERATIVE EXTENSION SERVICE

2301 S University Ave
Little Rock, AR 72204

Joe Paul Stuart—*County Extension Agent-Staff Chair*
jstuart@uaex.edu

Becky Reynolds—*County Extension Agent-Family and Consumer Sciences*
blreynolds@uaex.edu

Roxana Jones—*Administrative Office Supervisor*
rjones@uaex.edu

Little River County Extension Service

1411 N Constitution Avenue
Ashdown, AR 71822
Phone: (870) 898-7224 or 7225
Fax: (870) 898-7226

Joe Paul Stuart
County Extension Agent-
Staff Chair



*Arkansas is our campus
We are a university without walls, with faculty in*

All meetings and activities announced in this newsletter are open to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status and is an Affirmative Action/Equal Opportunity Employer. Persons with disabilities who require alternative means for communication of program information (large print, audiotapes, etc.) should notify the county Extension office as soon as possible prior to the activity.

"Sponsor credit or recognition does not imply the University of Arkansas' endorsement of the services or products named."

BEEF QUALITY ASSURANCE (BQA)

Time To Look At Hay Differently

We've always known that hay represented a cost to the cowherd, whether it was a direct purchase or home-raised feed. But this expense has not typically been given much scrutiny. Hay is a bulk commodity, with relatively low per-unit value and imprecise (or unknown) quantity and quality measures. Transactions are often based on nothing more than a set price for a bale of a stated type of forage, possibly embellished with ambiguous adjectives like "good" and "tight." Aren't I right?

But current conditions, driven in large part by the widespread drought, have many producers looking at hay in a different light. The first challenge is simply finding enough roughage to get cows through the winter; I heard yesterday of an operation that was utilizing baled cattails in their feeding program! With these tight supplies, the basic laws of economics have come into play, and prices are at record levels in many areas. Under this scenario, anyone needing to buy harvested feed must be prepared to make sound purchase decisions.

The key is knowing what your needs are, and then evaluating prices based on a given feed's ability to meet those needs. And that is only possible with known quantity and quality measures.

As an aside, I will be using "hay" in a very broad sense through this article; all these comments apply to crop residues, harvested weeds, and emergency forage crops as well as grass hay.

How much are you buying?

Every other input for the operation is purchased by set amounts (pounds of mineral, gallons of fuel), and we need to look at hay the same way. A "bale" is a tremendously vague descriptor, and the pounds of hay in each one is a function of size, density, and weathering. The table to the right reminds us how much difference weight variances can make on per-unit price of the hay. This next table illustrates the impact of size on the volume of bales of different proportions.

BALE WT, LB	COST PER BALE			
	\$45	\$60	\$75	\$90
750	\$120	\$160	\$200	\$240
900	\$100	\$133	\$167	\$200
1050	\$ 86	\$114	\$143	\$171
1200	\$ 75	\$100	\$125	\$150

Understanding these relative differences is important, but it is only part of the story. The density of a bale – that is, how much hay is contained in each cubic foot – can vary greatly. A 5 X 5 bale of coarse, loose forage may actually weigh less than a 4 X 5 bale of tightly packed fine grass hay. The only way to know is to physically weigh some representative bales. One final variable to factor in is time. A weight taken soon after harvest doesn't mean much 6 months to a year later. Various research trials have shown storage losses of 5 to 50% of the original weight of hay bales, depending on storage location, configuration, and weather conditions.

Consider, too, how much is actually usable. A lot of old, heavily weathered hay was fed last winter, and what didn't make it south then is likely to be used this year. But when considering the value of these bales, keep in mind that, for example, in a 6-foot bale fully 1/3 of the hay is located in the outer six inches. In a 5-foot bale, half is contained in the outer eight inches. If there is a significant outer layer that is going to be lost in transit or refused by the cattle, weight-based calculations should be adjusted accordingly.

SIZE	CUBIC FEET	AS % OF A 4x5
4 x 5	78.5	100%
4 x 5 ½	94.9	121%
5 x 5	98.1	125%
5 x 5 ½	118.7	151%
5 x 6	141.3	180%

What is it's true worth?

The value of hay is determined largely by its quality, but "quality" is sometimes hard to define. Basically, we need to consider nutrient content and digestibility (that is, how much of the "nutrition" contained in the feed can actually be used by the animal), offset by any anti-nutritional factors or palatability concerns.

The whole point in providing hay to our cows is to help meet their nutrient requirements for maintenance, production, and health. In most feeding programs, forage is expected to supply as much of the needed energy and protein as possible. Deficiencies will have to be compensated for by more expensive supplements. So it makes sense to compare hay prices on a per-unit-of-energy or per-unit-of-protein basis. Examples are below.

Hay cost, \$/ton	HAY ENERGY CONTENT, % TDN				Hay cost, \$/ton	HAY PROTEIN CONTENT, %			
	35%	40%	45%	50%		4%	6%	8%	10%
	COST PER TON TDN					COST PER LB PROTEIN			
75	\$214	\$188	\$167	\$150	75	\$.94	\$.63	\$.47	\$.38
100	\$286	\$250	\$222	\$200	100	\$1.25	\$.83	\$.63	\$.50
125	\$357	\$313	\$278	\$250	125	\$1.56	\$1.04	\$.78	\$.63

Even if hay was put up with good protein and energy content, extended or exposed storage will knock those values back considerably – sometimes without markedly changing a bale’s outward appearance. We sometimes don’t look at it this way, but HAY IS A PERISHABLE PRODUCT. Having a current nutrient analysis is at least as important as having a current bale weight.

One Canadian paper cited losses, just from late summer and fall rains, of 8-12% total weight, 5-10% digestible energy, and 20% protein. I realize the concept of summer and fall rains was a moot point for many of you in 2012, but these numbers do illustrate how dramatically the value of a hay bale can go down in a relatively short period of time.

Vitamins are particularly susceptible to degradation in hay, especially the fat-soluble A, D and E. If the forages being fed were harvested more than 90 days ago, these essential nutrients need to be supplemented. And if hay was made from drought-stressed grasses, the vitamin A level was probably very low to begin with, and a supplemental source should be provided from the start.

As mentioned above, another important quality consideration is the potential presence of “anti-nutritional” factors. If conditions warrant concern about excessive mold, nitrates, prussic acid, endophyte toxins, ergovaline, or physical characteristics (barbs, dust) that would discourage cattle from eating, test if possible, dilute if needed, and adjust the price you are willing to pay accordingly.

Getting more bang for your buck

If you have the luxury of multiple hay sources to consider, make comparisons based on solid information. Calculate what it will cost to put the needed amounts of nutrition in front of your animals, using the different sources. And if you find yourself forced to feed “the only hay available,” focus on management practices (storage, feeding method, supplementation) that ensure the cattle get as much good as possible out of what is now a precious commodity.



During that same time, cow slaughter increased from 17% of FI slaughter to more than 20%. Steer slaughter dropped from about 53% to 47% of FI slaughter. “The problem, of course, with trying to maintain beef production in the short run by elevating female slaughter is that it leaves fewer females in the breeding herd, which makes beef production in the long run that much lower,” he says.

Mark says the female-to-steer slaughter ratio has been increasing for the past five years and neared 100% in 2010. The historical impact on beef cow numbers is fairly evident when this ratio is at or above 100% – cow numbers decline for several more years. It isn't until a female-to-steer slaughter ratio approaches 90% that the beef cowherd inventory begins to increase.

“The declining size of the beef cowherd and resulting calf crop has important implications on the cattle-feeding and beef-processing sectors. Each has been running below capacity for the last couple of years, which is economically inefficient. Most margin businesses such as these would prefer to be close to 90% capacity or more,” Mark says.

But he points out that cattle feeders in Nebraska were closer to 75% last summer. While that's increased to more typical levels this fall, it isn't true for cattle feeders in parts of the country with higher costs of gain.

“If the long-run trend toward fewer cattle continues, that suggests that there will be fewer feedyards and fewer beef packers and processors as well. Not only would that be devastating for the families and companies that find themselves squeezed out of the market, but it would have a significant impact on employment and other indirect impacts on the rural communities where they are located. Further, this isn't isolated to the feeding and processing sectors of the industry. Cow-calf producers will be similarly affected,” Mark says.

Long-term beef demand is another issue. Commercial beef production is forecasted to decline 2% in both 2011 and 2012, while commercial pork production will be steady in 2011 and up 1-2% in 2012. But poultry production is expected to grow about 2% in 2011 and 3% in 2012.

“As the beef industry continually produces less beef each year, consumers necessarily will eat less beef and prices will rise. Although it depends on the relative quantity and price changes and the elasticity of demand, this will likely translate to a decrease in beef demand. Further, higher beef prices could cause consumers to shift away from beef to poultry. While this isn't a certain outcome yet, the stage appears to be set for this to play out,” Mark says.

“The biggest ‘if’ in this scenario is whether consumers will return to higher levels of beef consumption once retail supplies of beef begin growing, which will be several years down the road. If they don't, the size of our industry could forever be reduced, unless exports grow even more rapidly than they have been.”

So, what's a producer to do with information like this that is apparently bullish on prices and somewhat bearish on the industry structure? For the cow-calf producer, it's time to create heifer-development budgets and weigh those returns against potential feeding profits, Mark says. Meanwhile, the cattle feeder needs to make plans for operating at lower capacity.

“There will certainly be a lot to sort out in the upcoming year, but cattle producers as a whole always do the 'right' thing according to the economic incentives in the market. The resiliency of the industry will therefore continue into 2011 and beyond, but we need to be prepared for it to look a little different by the end of this next year,” Mark says.

-- Darrell Mark, LMIC's In The Cattle Markets

