Be Prepared for Calving Season

Calving is one of the most important times on the production calendar. Management decisions made prior to this period can influence success at calving and ultimately profitability of an operation. Calving difficulty (dystocia) is a very important economic problem in the U.S. beef cattle industry.

Nutrition

The last trimester of pregnancy is when the majority of fetal growth occurs. During this period the nutrient requirements of the cow increase accordingly. In particular, the last 45 days prior to calving are a critical time. The best method to assess the nutritional status of the cow is to monitor body condition. Ideally, most cows should enter the calving season with a body condition score (BCS) of 5. However, early-calving cows (January and February) and young cows (2 and 3 year olds) should have a BCS closer to 5.5 or 6. Research has clearly demonstrated that body condition can have a dramatic impact on subsequent reproductive performance. If the cows are thinner than desired, it is advisable to alter the plane of nutrition to add body condition prior to calving. After calving, the nutrient demands associated with lactation make it difficult and expensive to add body condition.

A common misconception regarding pre-calving nutrition is that feeding cows too well results in increased calving difficulty. This is absolutely incorrect! Actually, underfeeding cows prior to calving could increase calf scours and mortality and reduce calf survival. Along the same vein, overfeeding can be a problem as well. Cows that are over-conditioned actually deposit fat in the birth canal which can lead to calving problems.

Some research suggests that calf vigor can be influenced by pre-calving plane of nutrition. Calves from cows on a maintenance or high plane of nutrition got up and nursed more quickly than calves from cows on a low plane of nutrition. Time to nurse is critical in getting an adequate amount of colostrum in calves prior to gut closure.

Timing of Feeding

The Konefal Calving Method was developed by a beef producer in Manitoba, Canada. This method involves feeding cows twice daily at approximately 11:30 am and 9:30 pm. Using this regime, Gus Konefal was able to get 80% of his cows to calve between 7:00 am and 7:00 pm. Research at Iowa State University produced similar results. Results of USDA research were not as dramatic, but still showed a 10 to 20% reduction in the number of cows calving between 10:00 pm and 6:00 am.

Vaccination

The focus of pre-calving vaccination programs is to provide immunity to the calf via colostrum. There are several diseases that can be vaccinated for at this time; however, to vaccinate for every possible disease is neither practical nor economically prudent. Consult with your veterinarian to develop the vaccination strategy that is appropriate to your operation.
Calving Management

Preparing calving facilities prior to calving is wise. The calving area should be clean and dry and be in close proximity to shelter and facilities needed to assist cows with calving difficulty. Maternity pens with a headgate, crowding gate, and nursing panel can also be quite helpful. Calf shelters and/or warming boxes should also be cleaned and checked (wiring in particular). Once the facilities are prepared, it is always wise to make a list of needed items and make sure they are accessible. Some key items would include: calving jack, OB chains or straps, iodine, tube feeder, rags or towels, light source, tags and/or tattoo equipment, and last but not least...your IRM red book.

Colostrum

Colostrum is critical to survival of the newborn calf. The immune system of newborn calves is not completely developed. Consequently, the antibodies and immunoglobulins in colostrum are a substantial component of the immune protection in newborn calves. Calves should receive 5 to 6% of their body weight as colostrum within 6 hours and again within the subsequent 6 hours.

If the calves are not able to nurse or the cow’s production of colostrum is insufficient, colostrums from other cows or commercial colostrums supplements may be necessary. Ideally, colostrum should be collected from cows within 24 hours of calving and fed fresh. Colostrum can also be collected, frozen and used later. Johne’s disease can be spread via colostrum, so caution should also be exercised when collecting colostrum from unknown animals. Colostrum should only be used from cows known to be Johne’s free.

When collecting colostrum, consider freezing it in “serving” sizes, or one to two quarts per container. Once colostrum has been thawed, it should not be re-frozen. Correct thawing will also help prevent the antibodies and immunoglobulins from being damaged. Frozen colostrum should either be slowly warmed in warm water to a final temp of 105 to 110°F or in a microwave on medium power. In both cases, the colostrum should be stirred frequently.

Commercial colostrum supplements are available and research suggests that calves fed colostrum supplements are healthier than calves that received no colostrum. However, the level of protection was lower than in calves fed frozen colostrum.

Profit Potential for the Next Two Years

The combination of sharply lower corn prices (down 45% from a year ago) and livestock prices that remain near all time record highs has dramatically changed the profit outlook for producers going forward. Predictably, the response has been to reduce the number of beef cows that are sent to market each week.

Normally beef cow slaughter increases into November as more cull cows become available ahead of the winter. This year, however, cull cow availability is particularly tight. Several years of liquidation in the beef cow herd have caused producers to cull many unproductive cows from their herds. According to calculations from the Livestock Market Information Center, cow-calf producers are on track to have the best margins on record next year and producers will try their best to carry as many cows over the winter as they possibly can. Some parts of the country that were hit particularly hard by droughts in recent years have seen a dramatic reduction in their beef cow inventory.

The expectation is for beef cow numbers to remain very tight through the end of the year and into next spring. It is important to note that weather will remain a key driver for the market in 2014. While the motivation to expand is strong and calf prices are promising record returns, it will all mean little if we have another drought next year. After all, the profit potential has been quite strong in the last two years as well and producers have been retaining heifers.

The problem is that with drought ravaged pastures, it is impossible to expand the herd. For now, producers appear to be once again retaining heifers, which could limit the supply of beef next year (fewer livestock going into feedlots). The decline in cull cow slaughter also will limit the supply of lean beef available in the market. With fat trim prices about 70% higher than a year ago and lean beef prices that could once again test record highs, ground beef could be at a significant disadvantage in the meat case. One need only look at the ratio of ground beef prices to chicken breast recently to understand what will be the favored protein in the meat case next year (chicken; Source: CME Group).
Managing Cold Stress in Cattle

Winter is here, and with it can come issues with cold stress in cattle. Wintertime conditions that can lead to cold stress include freezing temperatures, snow, ice, wind and a muddy environment. With a dry winter hair coat, a cow’s critical temperature for cold stress will be around 20° to 30°F. However, a cow’s low critical temperature will vary based on her hair coat thickness, moisture conditions, wind conditions and her body condition score. During periods of precipitation, when the hair coat is wet, the critical temperature is around 59°F because wet hair will lose its insulating quality, and the cow will chill quicker.

When cold stress occurs due to frigid temperatures, cows may exhibit muscle shivering, an increased heart rate, deeper breathing and an increased metabolism rate, resulting in an increase in the cow’s requirement for nutrient and energy intake. In periods of cold weather, cows may also tend to stand around in a wind break or huddle in a group to stay warm instead of grazing, which exacerbates their nutrient needs. Appropriate nutritional supplementation is key to managing cold stress during this time.

A good rule of thumb for supplementation during cold weather is that for every one degree drop below the cow’s critical temperature, a cow’s energy requirement (TDN) increases 1 percent. An example of this would be for a non-lactating 1,200 pound pregnant beef cow, normal intake is around 12.2 pounds of TDN per day. If the temperature drops 20 degrees below her critical temperature, she needs 20 percent more energy, equaling nearly 2.5 more pounds of TDN each day. To supply that increased need, you can feed her an extra 5 pounds of hay (containing 50 percent TDN) each day. This means that when the temperature drops below their critical temperature, the cattle need to be fed better. It is also ideal to use your higher-quality hay at these critical times to provide for the increased needs.

Some spring-calving herds will begin having a few calves in late winter when weather conditions can still be extreme. These newborns can be especially at risk for hypothermia in cold weather conditions. Studies have shown that adjusting the time of day you feed the pregnant cow will affect the time of day she will have her calf. Evening feeding (5:00 pm or later) has proven to increase the percent of cows that give birth during daylight hours compared to nighttime hours, lessening the risk of hypothermia since daylight hours are generally warmer.

During the winter, because of poor pasture conditions and prolonged hay feeding, cows can also suffer from problems related to protein and energy malnutrition. As discussed, many cows deal with increased nutritional requirements due to colder temperatures, heavy gestation and heavy lactation for those that begin calving. All of these factors may lead to a problem with the cow’s energy demand exceeding her daily intake. Even though a cow may appear to have a good appetite and exhibit rumen fill, she may be in negative energy balance. This scenario generally occurs in cows exhibiting poor body condition, and heavy, pregnant heifers are particularly susceptible. Cows that have a negative energy balance may act weak and may eventually get down and become unable to get up. This situation would more likely occur in combination with a cold snap. Preventing this issue with adequate nutrition is the best approach. To prevent potential problems, producers should take an inventory of body condition scores on the cows in their herd during late fall. Sort cows based on body condition, and supplement the animals that need better nutrition.

When calculating and planning for winter supplementation, it is important to first have a nutritional analysis performed on your hay. Producers can utilize their county Extension agent to assist them with developing a winter supplementation plan. It is much easier to increase body condition in cows before rather than after they have a calf. High nutrition after calving is directed first toward milk production and feeding cows to gain condition after calving and has little effect on increasing body condition. An ideal body condition score for cows prior to calving is a 5 to 6.

If not dealt with, problems observed in the winter can frequently carry over into the spring of the year. Cows that will calve in below normal body condition could exhibit poor colostrum quality leading to decreased calf immunity and calf health problems. Also, thin cows could have fertility issues during the following breeding season, resulting in lower pregnancy rates. Winter is rarely easy, so plan early to minimize potential problems with cold stress through improved nutritional supplementation this winter.

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Happy Birthday Extension – 100 Years Old!

May 8, 2014, marks the 100-year anniversary of President Woodrow Wilson’s signing of the Smith-Lever Act establishing a nationwide network of Cooperative Extension Services connected to land grant universities such as the University of Arkansas.

The roots of U.S. agricultural extension, however, go back to the early years of our country. There were agricultural societies and clubs after the American Revolution, and in 1810 came the first “Farm Journal.” It survived for only two years, but in 1819 John Stuart Skinner of Baltimore began publishing the “American Farmer.”

The Morrill Act of 1862 established land-grant universities to educate citizens in agriculture, home economics, mechanical arts, and other practical professions. Extension was formalized in 1914, with the Smith-Lever Act. It established the partnership between the agricultural colleges and the U.S. Department of Agriculture to provide for cooperative agricultural extension work. At the heart of agricultural extension work, according to the act, was:

- Developing practical applications of research findings.
- Giving instruction and practical demonstrations of existing or improved practices or technologies in agriculture.

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