



BEEF CATTLE TIME

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Feeding Poor Quality Hay Results in Poor Performance

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Winter feeding is the most expensive part of cow-calf production. However, a limited number of producers plan or think about the winter feeding program until winter is here. Then, it is too late.

Why is winter feeding so expensive? Much of the feed comes from harvested hay, a valuable commodity that is expensive to feed. It will be more costly this year thanks to increased cost of inputs to produce and harvest. Some areas of the state experienced dry weather, resulting in reduced hay and pasture production. In addition, some producers have already been feeding hay due to the dry weather.

Not only is quantity of hay a cost factor, quality of hay is, too. Feeding poor quality hay results in poor cattle performance and eventually reduced returns. The hay harvested in Tennessee by beef producers varies widely in quality. For example, all hays tested in the UT Forage Testing Laboratory ranged from a low of 5.8 percent to 19.0 percent crude protein and from 41 percent to 66 percent total digestible nutrients (TDN), a simple measure of energy content of the forage. Date of harvest or stage of maturity at harvest determines hay quality. In other words, quality is under the control of the producer.

To determine the feeding value of hay, it is recommended that it be forage tested. Hays that test less than 8 percent crude protein are poor quality, while hays with TDN value below 50 percent are poor quality. Hays of these nutrient levels should be supplemented, and that increases cost of the feed. However, if hay is fed that does

not meet the animal's nutrient need, a greater cost will be incurred due to losses result of inadequate nutrition. Cows fed hays of 55 percent TDN and around 12 percent crude protein would probably not require supplementing.

What is the impact of poor quality hay on cow performance? Several production traits will be reduced:

- **Loss of weight and body condition.** Cows consuming poor quality hay cannot consume enough to meet their nutrient needs. To satisfy their hunger, cows need to eat about 2.5 percent of their body weight per day. For example, a 1,000-pound cow needs about 25 pounds of hay daily. When consuming poor quality hay, they may be able to eat only 1.5 percent to 2.0 percent of their body weight, resulting in a loss of overall weight and body condition.

- **Reduced reproduction.** Cows will be slower to start cycling and experience a lowered calf crop percentage born and weaned. Their reduced production will also spill over to subsequent years. Both cows and their calves will be more susceptible to the effects of subclinical health disorders and develop chronic diseases and increase the probability of death.

- **Lower calf survival rates.** Cows fed poor quality hay could lose enough weight and body condition to result in small, weak calves at birth. In addition, these cows would produce both low volume and poor quality of colostrum, which also would contribute to reduced calf survival and increased incidence of scours and other health problems. If these calves survive, their future performance will be reduced, too.

"You are what you eat." I am sure that you have heard this. This statement is also true with cows and calves. Consuming poor quality hay will result in poor performance. Have a forage test done on your hay and if needed, supplement. Testing and feeding based on the test is much more profitable than failing to meet the cows' and calves' nutrient needs.

Are You in Sync?

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A few days ago, the highway paving crew showed up at 8 o'clock sharp. The day before, they had parked their heavy equipment in front of our house. The road crew spent about 45 minutes getting organized for the day. The lubricant man had come the evening before to fill diesel tanks and apply grease to all moving parts. About 8:45 they set out as if in a parade or procession with each worker and piece of equipment in sync to provide a new pavement surface to Highway 33.

When I saw it happen, I wondered, "How many serious beef producers are that organized?" The consequences of being out of sync may not be as obvious as that of the paving operation, but they still can have dire financial consequences.

How do you keep your production in sync? Have a management and marketing plan and to work that plan. Timing is extremely important in a beef cattle operation. A few time-sensitive tasks include over-seeding pastures, fertilization, weed control, ordering semen, breeding soundness exam for the bull, pregnancy testing, determining which hay will be fed first, vaccinating, etc. Dr. Jim Neel publishes a list of management practices each month to remind producers what they either need to be doing or preparing to do. He sends them to Extension agents and we post them on www.tnbeefcattleinitiative.org.

So, do you have a plan in action? We are approaching breeding time for fall-calving cows. It will only be a few months before it will be breeding time for spring calving cows. Are you ready? What is the product you expect to market? A calf right off the cow, a preconditioned calf weaned 45 to 60 days, or a backgrounded yearling? If marketing with other producers, will your calves match in size, color and grade?

How far are you looking ahead? With the large increase in cow slaughter taking place in the drought-stricken Southern Plains, cattle supplies are expected to be smaller for the next two to three years. As a result, prices are projected to be as high as or higher than we have seen in 2011. Corn prices are expected to continue to be as high as we have seen this year. A large crop next year, some reduction in exports, or possibly reduced demand in the U.S. could bring lower prices. That reduced demand is

most likely to come from smaller livestock numbers. The broiler business is already cutting production, due to rising feed costs and subsequent losses. Cattle on feed numbers will be lower in 2012. The debate over use of corn for ethanol versus feed/food will heat up as food costs rise. Exports, which should receive much credit for the high prices in 2011, will likely continue to support prices in 2012.

So even though costs of production are higher, the cow-calf and stocker business should be profitable for the next two to three years. It will take that long for the drought-stricken areas to recover assuming rainfall is more plentiful in the months ahead. With the high price of feed grains and co-products, more cattle will be grown to heavier weights on grass before going into feedlots for finishing. Some of these will be owned by the people eventually putting them on feed.

Consider taking spring 2011 calves into 2012 before marketing. Our research indicates based on historical prices and cost of gain that it has been profitable about nine out of 10 years. Going from seasonally low prices in the fall to typically stronger prices early in the year has made that post-weaning strategy profitable. For stocker operators, the value of gain for calves purchased in the October to December period has been about \$10 per hundred higher than calves purchased in August or September.

It will be extremely important to manage costs in the months ahead. High-priced crops will drive the demand for purchased inputs. So, those prices will also likely rise. Data from the Kansas Farm Management Association Records indicate that more than three-fourths of the average difference in net return to management between high and low profit cow-calf farms is due to cost differences. The other 22.8 percent is due to differences in gross income per cow. Furthermore, the relationship between depreciation and machinery cost and total cost per cow was greater than between feed cost per cow and total cost. It is easy to spend on machinery based on the high received from an increase in gross income. As Chuck Danehower, West Tennessee Farm Management Specialist has said, "It is the decisions made in good times, not hard times, that gets one into financial trouble." In summary, get your operation in sync. Begin with the end in mind and plan your production with a marketing plan and end point in mind.

“Cow Math:” Estimating Cow Herd Productivity

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Over the summer, many questions were raised about individual cow and cow herd efficiency. Several meetings were held where this topic was addressed and great discussion was stimulated about how to improve efficiency through genetics and management. However, record-keeping (the most important aspect about being able to make profitable changes) was glanced over in many of those discussions. Maintaining production records has been the cornerstone of Extension education programs in Tennessee for the 100 years of its existence.

There are many ways to keep records on a cow herd. They range from complicated spreadsheets and commercially available software to calving books or notes on the back of a feed tag. More powerful decisions can be made with more detailed records. Remember that “without data, everything else is just an opinion.” Choosing a record-keeping system that is easy to use should result in more dedication to keeping it updated. Even simple records are useful for many different purposes, but a minimum amount of individual cow and calf data is required.

Once the records are in place, making decisions with them can sometimes be as intimidating as setting up the system in the first place. Again, keeping it simple and gradually moving up to more complicated calculations is likely the best way to approach it. Several methods exist to determine cow and calf productivity. This article will address using calf weaning weight records to track productivity of a small cow herd.

Consider this example: Calves are weaned and a total weight is calculated (either by weighing them on the farm or using the pay weight from a marketing facility check). Then, the total pounds of calf weaned are divided by the number of calves weaned:

$$\text{Basic Weaning Weight} = \frac{\text{Total Pounds of Calf Weaned}}{\text{Number of Calves Weaned}}$$

This is a decent start, but there are several major flaws in using this simple calculation as an indication of productivity. It does not account for differences in individual calf ages, the number of steers and heifers, weight of the cows, cows that did not calve and calves that died between calving and weaning. It also does not account for shrink if using pay-weights from the marketing

facility. While weaning weight is likely the simplest and most widely used, it is also the most abused measure of productivity. So, to begin to get a true understanding of productivity, weaning weights should be adjusted.

One commonly used method to account for age variation is to adjust all weights to 205 days (approximately 7 months). To do this, birth weight and birth dates are needed. These can be estimated for commercial purposes, but actual measurements are ideal and are required for registered cattle. Simply subtract the calf’s birth weight from the actual weaning weight. Then, divide that gain by calf age in days. The resulting number is the Average Daily Gain (ADG) from birth to weaning. Now, multiply the ADG by 205 days for a uniform adjustment. There are other factors that can skew this adjustment, but it is adequate for making basic productivity estimates.

$$\text{Adjusted Weaning Weight} = ((\text{Weaning Weight} - \text{Birth Weight}) / \text{Days of Age}) \times 205 \text{ Days}$$

Total weaning weight should also be adjusted for the number of steers and heifers in that calf crop. Over a number of years, the sex ratio will usually balance out to be 50:50. But individual years often yield more of one sex than the other. Knowing this is important because, all else being equal, steers weight more at a given age and grow faster than heifers. The first step in adjusting for sex is to calculate the actual difference in weaning weight between the steers and heifers and divide by two. Then, subtract that adjustment from the individual steer weights and add it to the individual heifer weights.

$$\text{Adjusted Steer Weights} = \text{Individual Steer Weight} - ((\text{Avg. Steer Weight} - \text{Avg. Heifer Weight}) / 2)$$

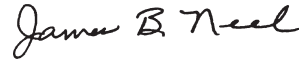
$$\text{Adjusted Heifer Weights} = \text{Individual Heifer Weight} + ((\text{Avg. Steer Weight} - \text{Avg. Heifer Weight}) / 2)$$

So, what should be done with the total or average weaning weight once it is adjusted for individual age and sex of the calf crop? The ideal measurement for most commercial cattlemen will be the “pounds of calf weaned per cow exposed.” Again, a number of factors influence cow and overall herd productivity, including reproductive efficiency, genetics, nutrition and health. These factors are accounted for when the total adjusted weaning weight is divided by the number of cows that were originally exposed during the breeding season, regardless of whether they calved or weaned a calf.

**Pounds of Calf Weaned per Cow Exposed = Adjusted
Total Weaning Weight / All Cows**

If the capability is there to weigh all the cows at weaning, the “pounds of calf weaned per pound of cow exposed” can similarly be determined — an even more powerful tool for determining the production efficiency. At least calculating the pounds of calf weaned per cow exposed gives a commercial cattlemen the power to compare calf crops from year to year to determine how

management decisions and changes in the environment (drought, heat, sever winter, hay shortage, etc.) really affected productivity. Having that information makes it easier to know how to improve it. More importantly, when income and expenditures are applied, profitability can be also be analyzed. Without these data, decisions at best are based on an educated guess. Basing decisions that affect profitability and quality of life on an educated guess is not sustainable practice.



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Beef Cattle Time

From:

Leader/Agent

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<http://utextension.tennessee.edu/>

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