

Cattle Business in Mississippi – May 2011

“Stocker Cents” article

Managing Nutrition

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Nutrition is oftentimes an overlooked concept when it comes to grazing cattle. In reviewing the literature conducted in the United States, there are many studies examining the production aspects of forage (growth, biomass, and nutrient content), and there are many studies examining the production aspects of cattle (daily gain, feed conversion, and liveweight), but few where the two meet. Many cattle production studies have focused on feed or supplementation strategies. A relatively inexpensive commodity market and a readily available by-product market may have been the reason behind this trend. However, as I recent heard in a discussion, we are in a new age where some of the old standards may not apply and may have to be revisited. Inexpensive commodities may never return, therefore we must begin to rely on managing what we have more effectively, whether it be feed or forage or a combination. In order to examine how effective an operation is, a thorough accounting of all inputs must be done. Factors such as fuel costs and feed costs constitute a high percentage of inputs in stocker cattle production, however are often overlooked.

Often the term “feed costs” immediately bring to mind thoughts of the local coop or commodity broker; however, all inputs required to feed the animal should be thought of as feed costs. Items such as fertilizer to prepare the ground, seed, and fuel if major pasture renovations or seedbed preparation is required, all should be thought of as feed costs. Some data suggest over-seeding a pasture rather than preparing a seedbed may be more cost effective in reducing fuel consumption, however, less forage biomass will accumulate under those conditions, which means reduction of the stocking rate. Producers must evaluate whether or not the reduced stocking rate is more economically feasible in the long run. However, it should be noted that recent trips by the author to some operations in South Mississippi seem to dispel this thought in that overseeded pastures seem to be as productive as prepared seedbeds. While interesting, this should be followed carefully for the next few years to see if this trend holds true.

With fertilizer costs increasing, greater attention must be given to soil fertility, and nutrient interactions such as the relationship between soil pH and nutrient uptake. An application of limestone may do as much good or more to pasture productivity than simply applying nitrogen. This clearly illustrates the need to soil test to actually find out what is required by the soil. While hay production may have always been a staple, one must consider the nutrients removed from the soil when hay is produced and determine if the future cost of replenishing those nutrients is worth the benefit of having hay put up. Additionally, if we are trying to maximize our grazing potential, it might be more prudent to maximize days on grass, rather than give up the last few weeks of grass growth to produce hay.

Data are plentiful regarding application of fertilizer to improve yield and crude protein of forage crops. However, what is unclear is to what extent is performance impacted by

either reducing or increasing N applications. Data examining cattle production on fertilized versus unfertilized pastures have shown that roughly 100 lb. of additional gain per acre can be achieved by the addition of 60-80 lb. of N per acre compared to pastures that did not receive N. What is unclear however, is the relationship between fertilizer rate and performance. Would a similar performance be achieved at 50 lb of N per acre? What about 40 lb.? Is the reduction in cost of fertilizer sufficient to make the reduced performance more profitable? A study published in 2009 from Nebraska, demonstrated that it might be more effective to supplement dried distillers grains (DDGS) and eliminate N in the form of fertilizer. However, does that same relationship hold true now that DDGS have increased \$100/ton? The answer may lie in a combination of the two, reducing N applied as fertilizer and supplementing at needed times. Strategic supplementing is a great concept and practice for cow/calf producers, in which a supplement is given at specific time (post calving period) to more closely match animal requirements and at the same time reducing inputs, and perhaps similar ideas need to be implemented in stocker cattle production. In growing cattle, studies from Texas have shown that as cattle increase in size, their protein needs decrease while their energy levels increase. Maybe by relying on the natural growth curve of cattle to achieve greater gains at the initiation of grazing and perhaps focusing resources (feed supplementation) towards the latter part of the grazing period when requirements are greater to more closely match the needs of the animals may be one area of thought.

A study from North Carolina, has recently demonstrated that by reducing the days a supplement is fed, and increasing the quantity similar performance can be expected. In this study, the researchers went from feeding 7 days a week to twice a week. At the end of week, they fed the same amount of feed, just in different offerings, which resulted in no performance differences. The grey area is that it is unclear but bears much thought, is how much fuel was saved by not running the tractor or truck for those 5 extra days. Another study recently done at White Sand Experiment Station evaluated the use of a cotton ginning by-product feed compared to a standard supplement of soybean hull pellets and dried distillers grains (DDGS). This cotton by-product was mix of gin trash, mote, added protein and a vitamin/mineral packaged, mixed and presented as a 500 lb bale, which is designed to be fed ad lib to cattle as needed. At White Sand, bales lasted about 7 days. The soybean hull/DDGS diet was hand fed daily. At the end of the period, cattle fed the soybean hulls/DDGS gained more weight, and were more efficient, however due to commodity price differences, overall cost of gain was similar between the cotton by product and the soybean hull/DDGS. Additionally, the use of the bale saved five or more trips to the pasture per week.

In conclusion, as input costs increase, greater management and greater thought is required to maintain profitability. The current set of data that we use to help determine practices, is somewhat limited in helping producers work with the set of challenges we are currently facing. However, there are some avenues in which producers may want to focus. As margins become tighter, more out of the box thinking is warranted, to ensure sustainability. For more information about stocker cattle production, contact an office of the Mississippi State University Extension Service.