

Cattle Business in Mississippi – June/July 2005 **“Stocker Cents” article**

Fencing, Water, and Shade for Stocker Calves

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Introduction

Summer is bearing down, and stocker cattle throughout the state are experiencing the heat and humidity that is common this time of year. As temperature and humidity rise, feed intake drops, cattle start using more energy to cool themselves, therefore reducing production and efficiency. Immune response of newly weaned cattle is another concern during the heat of summer. Respiration rate increases during periods of heat stress. Increased respiration rate increases susceptibility to respiratory disease. Well-designed fencing, water, and shade systems can make a big difference in cattle comfort and productivity as well as labor efficiency for the stocker operator. These systems should be functional prior to receiving cattle and must be properly monitored and maintained throughout the year.

Fencing

In addition to keeping cattle out of the neighbors pasture and off the major highways, fencing is a key component of grazing management. Fencing not only allows control over the movement of cattle, it also allows control over the productivity, quality, and utilization of forage crops. With the introduction of low-cost, semi-permanent and temporary electric fencing systems, the ability to control and make more efficient use of pasture resources has never been easier.

The most important fence on the farm is the boundary or perimeter fence, as it is the one fence that cattle absolutely do not to be able to get through, whether they are going to or coming in from the neighbor's pasture or even worse, the highway. Typically, perimeter fences are constructed of woven wire or 5-strand barbed wire to create a strong physical boundary. Some producers have opted to go to a less expensive (\$0.30/ft vs. \$0.40-0.50/ft), multiple-strand high-tensile electric fence for a boundary, which relies more on a psychological barrier than a physical one, although some might consider 9000 volts quite a good physical barrier. The major risk with having electric perimeter fencing is if power is lost for some reason (e.g. a short), or if cattle are not used to an electric fence, cattle may try to break through. In a stocker cattle operation where new cattle are arriving on the farm each year, many of which have probably never seen an electric fence before, the idea of an electric perimeter fence is probably not a good one. In this case, the woven-wire or barbed-wire provides better insurance. However, for permanent and temporary internal subdivision, electric fencing really provides some significant advantages. Once cattle are trained to the electric fence, it is a convenient, quick and easy way to divide up pasture resources. For most permanent

or semi-permanent fencing, a 3-wire high tensile electric will be more than adequate. The wires should be set at an 18-inch spacing with hard wood or t-posts set at 40-foot intervals. These fences are quick and easy to erect and can generally be constructed for less than \$0.30/ft (materials only). For further temporary subdivision, poly wire or tape, with plastic tread-in posts can be used. It should be noted that poly wire should not be used for any long-term fencing solution.

A question that is frequently asked is, "How many paddocks should I have and how big do they need to be"? There is actually a simple answer to this question. Appropriate paddock size and number is a function of stock numbers, available forage, forage growth rate, and the frequency with which one intends to move the cattle. For example, during the rapid spring growth periods, where forage excess generally occurs, a fast rotation (around 20 days) is needed to keep on top of growth. A fast rotation means larger areas for shorter periods of time with shorter intervals between grazing. In this situation, a stocker operation could get away with fewer larger paddocks. Four paddocks in a 20-day rotation would mean moving animals every 5 days. Conversely, during slow winter growth or during a drought, closer to a 100-day rotation with longer periods between grazing, a restricted forage ration, and longer periods spent in each paddock may be more appropriate. In this situation, it may be necessary to divide the farm up into as many as 20 sections. In practicality, the number of paddocks probably needs to be somewhere between these two numbers. For most of the year, a 30-50 day rotation is likely to be used. This requires about 10 paddocks if cattle are moved at least once a week. The flexibility to cut paddocks out of the rotation to make hay on is also maintained. With this number of paddocks a producer can open gates or move animals more often during a faster rotation or use temporary electric fencing to further split paddocks during a slow rotation. As far as paddock shape, the most efficient shape for a paddock (length of fence line/unit area) is a square. Obviously, a perfect square is not always an available luxury, as access to water, shade, working facilities, and the natural lay of the land must be considered.

Water

Water is a critical nutrient required for a wide variety of body functions in cattle. Water requirements depend upon the size of the calf, stage of production, activity level, environmental conditions, and diet. Anything that influences body water losses will increase a calf's water intake requirements. Cattle lose water through urine, feces, sweat (to a limited degree), and by evaporation from the lungs and skin. According to the most recent edition of the Nutrient Requirements of Beef Cattle, a 400-pound growing calf requires approximately 5.8 gallons of water per day when the temperature is 70 degrees Fahrenheit. This increases to 9.5 gallons per day when the temperature reaches 90 degrees Fahrenheit. As the size of the calf increases, water requirements also go up. For a 600-pound calf, daily water intake needs are 7.8 gallons at 70 degrees Fahrenheit and 12.7 gallons at 90 degrees Fahrenheit.

Restricting water intake to less than is required by the animal will result in decreased feed intake and reduced performance. Thirsty cattle may indicate that water needs are

not being met. Not all water required by cattle must come from drinking. Feeds and forages contain some water as well. Cattle should be supplied with all the water they can drink to avoid stress, production losses, and possible dehydration. If cattle have to travel long distances to water, grazing distribution may be affected.

Water quality and accessibility are important in maintaining adequate water intake. Water source can have a significant impact on the quality of water for livestock use. A continuous supply of clean water is essential for stocker cattle. Possible water quality problems may include high concentrations of minerals or salt, high nitrogen, contamination with fertilizers or other chemicals, bacterial contamination, or algae growth. Keeping water tanks clean from debris and excluded from light can help control algae growth. Finally, be aware of any potential disease problems where water serves as a carrier and the environmental implications of livestock use of streams and ponds where runoff and groundwater contamination is a concern.

Shade

Providing cool clean water is the most important factor producers can manage to help cattle through periods of heat stress. Providing adequate shade is the second major factor to consider. Providing shade does not decrease air temperature, but it does reduce the exposure to the sun's radiant energy. Research in Australia indicates that shade reduced respiration rate and lowered rectal temperature during the hottest times of the day. Shade did not influence dry matter intake, but it did alter the eating habits of cattle. The unshaded cattle ate more at night compared to the shaded cattle. Trials in Kansas have shown a three percent increase in feed efficiency and a six percent improvement in gain during hot weather in cattle with access to shade.

Natural shade is often taken for granted where substantial numbers of trees are located in a pasture. However, care should be taken in situations where only a few trees are growing. High concentrations of cattle over extended periods of time can kill trees and leave pastures with limited shade.

Permanent shades can be provided in the form of sheds or barns. These shades can be costly and do not allow for flexibility in developing grazing systems. These permanent structures can develop problems with mud during the wet seasons and harbor diseases that can affect production.

Portable shades made from welded pipe can be low cost and built sturdy enough to take cattle abuse and withstand mud and manure. Shades can be moved with cattle as needed or moved to various locations to avoid mud and manure build-up. Shades should be from 7 to 14 feet high and covered with shade cloth to allow air movement. A minimum recommendation is to provide shade at 80% of the requirement. Minimum shade requirements are 18 square feet per head for 400-pound calves and 25 square feet per head for 800-pound stockers.

Stocker Cattle Short Course

Adequate planning of fencing, water, and shade systems for stocker cattle is an important step in achieving more productive and profitable stocker operations. For more information on stocker cattle or related topics, contact your local Extension Service office. Also do not forget that the Mississippi – Louisiana Stocker Cattle / Heifer Development Short Course is coming up on Monday, August 8, 2005. It will take place at the Lincoln County Multipurpose Center in Brookhaven, MS from 9:00 a.m. to 4:00 p.m. Short course topics will include health programs for growing cattle, nutrition and management considerations for the transition from weaning to grass, forage systems for growing cattle, stocker cattle marketing options, working with feedlots, heifer breeding management, electronic ID demonstration, identifying sick cattle, hospital pen considerations, and an injection site and necropsy demonstration. Short course registration information is available through the county Extension offices or on the MSUcares beef cattle website: <http://msucares.com/livestock/beef/>. The registration deadline is August 1, 2005. Next month Stocker Cents will address stocker cattle economics and marketing.