

Cattle Business in Mississippi – June/ July 2007
“Stocker Cents” article

The Critical Role of Forages in Stocker Operations

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Beef stockering differs from beef cow-calf production in several ways. Stocker operations are often higher risk enterprises than most cow-calf operations, yet the potential for greater profitability is often present in the stocker business. Beef stockering also typically requires a higher level and input of management than cow-calf production in many aspects including forage system management.

Cost Management

Major cost items in stocker operations include the cost of calves (along with interest on money borrowed for cattle purchases), pasture costs, supplementation costs (hay, silage and concentrate feeds), health program costs, death losses, labor, infrastructure (fencing, feed troughs or bunks, water tanks, etc.), transportation costs, and marketing expenses. In the long-term, perennial pastures are less expensive than annual pastures. While warm-season perennial forage options abound in Mississippi, cool-season perennial forage options are more limited. Tall fescue is the primary cool-season perennial forage used in the state, with the majority of tall fescue acreage concentrated in North Mississippi. Stocker operations in areas of Mississippi adapted to cool-season perennial forages should focus on developing this strategic advantage in their forage systems.

Forage systems for individual operations should be designed to include various forages in acreage amounts that provide acceptable yields and nutrient levels at strategic times throughout the year. Developing short-term and long-term forage plans for the farm including renovation, nutrient management, and utilization plans is a wise investment of time for stocker operators. The proper balance of warm- and cool-season forages for the operation should be addressed in these forage plans.

High Cattle Growth Performance

Pastures must provide acceptable rates of gain to be economically viable for stocker forage systems. Cool-season forages as compared with warm-season forages and legumes when compared with most grasses will typically support higher rates of gain in growing cattle. In general, warm-season perennial grasses such as bermudagrass and bahiagrass provide stocker calf average daily gains that are below acceptable levels without additional supplementation. Furthermore, many improved forage cultivars have been documented to exhibit characteristics that ultimately make them more profitable investments in stocker operations. It cannot be stressed enough that claims of improved forage traits be substantiated by sound research. Otherwise, the producer who establishes an “unproven” forage technology assumes the role of testing the forage.

Forages that can provide higher rates of gain for growing cattle during the summer months should be considered for incorporation into stocker forage systems. Chicory and alfalfa are example of forages that support higher average daily gains during the summer than traditional Mississippi summer forages. Higher levels of management must accompany the inclusion of these types of forages into stocker operations to ensure productive forage stands and subsequent calf performance.

Irrigation?

With the 2006 drought still a fresh memory and some areas of the state and much of the region experiencing droughty conditions in 2007, irrigation is a management practice that is being discussed on some cattle operations. Empty hay barns on many farms further highlight the importance of adequate pasture and hay production (both yield and



quality) this year. In the Southeastern U.S., irrigation is conventionally associated with row crop production and is currently not a widely used practice in livestock operations. After all, why should irrigation come into play when annual rainfall totals in the Southeastern U.S. are some of the highest in the nation and routinely provide for forage yields that exceed those in most other regions of the country throughout the year? Reality dictates that annual precipitation in the Southeastern U.S. is not always distributed

throughout the year in a manner that consistently promotes desired forage productivity levels. If forages are considered a crop and are the primary input into most Mississippi beef cattle (cow-calf and stocker) operations, then the cost-effectiveness of irrigation on pastureland and hayland is worthy of exploration.

Interestingly, irrigation of pasture is a widespread practice in New Zealand, a country with an economy that relies heavily on agricultural production and with animal agriculture focusing almost exclusively on forage-based production systems. There are a variety of irrigation types in operation on New Zealand beef cattle operations including portable pod sprinklers, border-dike flood irrigation, traveling guns, and center pivots. The New Zealand example provides a strong precedence for successful incorporation of irrigation in actual beef cattle production settings. It should be noted though that very little applied research results evaluating irrigation for forage-based beef production in the Southeastern U.S. are available to develop recommendations at present.



Irrigation of forage crops is likely to be more beneficial when the following conditions exist: 1) natural irrigation (precipitation) levels are severely limiting forage productivity, 2) adequate water resources to support irrigation are available, 3) the cost of feed supplements is high, 4) the cost of forages (grazed or stored) is high, 5) the cost of

fertilizer is high making it critical that fertilizer applications be highly effective to justify fertilizer expenditures, 6) cattle market conditions are such that the value of higher calf weight gains is elevated, 7) high quality forages are used, 8) earlier fall grazing of winter annual forages is desired, and 9) a substantial response to irrigation is expected from the forage being irrigated. The value of irrigation is evaluated by comparing the returns from improved forage productivity (both yield and quality) translating to higher carrying capacities and cattle performance to the costs associated with supplying irrigation to forages. The cost of alternative nutritional programs needs to be calculated when evaluating irrigation as an input in forage crop production. Irrigation costs may include irrigation equipment purchases, the cost of powering the irrigation system taking into account any necessary water pumping, and labor costs to implement the irrigation system.

The viability of irrigating forage crops on Mississippi beef cattle operations will vary from operation to operation depending on the availability and cost of various resources, forage system, type of operation, and level of management willing to be applied. Effectiveness of irrigation on forage productivity should be determined for use in irrigation decisions. Techniques to minimize evaporative irrigation losses might include the use of nighttime irrigation and precision application methods. Increased use of more drought-tolerant forages, strategic supplementation with by-product commodity feedstuffs, and decreased stocking rates are alternative management schemes to irrigation that can be implemented for a beef cattle operation to successfully survive extended drought conditions.

Successful Stockering

The most successful stocker operations will be the ones that buy and sell calves on the right margins for their cost structure and produce calves that stay healthy and grow well. With relatively high feed and other input prices at present, stocker operations that effectively and economically utilize forage systems to produce satisfactory calf weight gains are poised to be some of the more competitive participants in the beef industry today. Achieving high calf weight gains at reasonable costs of gain begins with strategic forage system development and use. For more information on stocker cattle production, contact your local Extension office.