

FOUR-LEGGED HARVESTERS REAP PROFIT

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There is a reason why we are seeing an increase in the number of pasture-based dairies, stocker operations, replacement heifer growers, and grass-fed beef producers in the Southeast: profit. Times have changed. Input prices have changed. Grazing management has changed.

The key to managing the rising costs of inputs is making sure that the operation is using what forage the land is capable of producing as efficiently as possible. Certainly, our diesel-powered harvesters can be efficient. But, need I elaborate on why \$4 – 5 diesel fuel prices pose a challenge to the cost-effectiveness of that system? Our livestock, that is our four-legged harvesters, can be efficient, too. But, like any harvester, they must be driven.

Managed Grazing Improves Efficiency

The single most important factor affecting the cost-effectiveness of the pasture-based enterprise is grazing management. Take a moment to think about how much of the forage in a pasture, hayfield, or silage field will actually make it into the mouth of the animal. Of the total forage that is produced, what percentage do the animals actually use? This percentage is referred to as forage use efficiency. After reviewing all the research articles that could be accessed, I've summarized in Table 1 the typical range in forage use efficiency various grazing and mechanical harvesting methods.

If cattle are allowed to freely graze one or two large pastures (i.e., "continuous stocking"), they will select certain areas, avoid other areas, and ultimately create a scenario where relatively little of the forage is actually consumed. The key is to ration out the forage. Rotational stocking requires the cattleman to put animals in and take animals out of a pasture in a relatively short amount of time. Simply splitting large pastures into several smaller pastures (or paddocks) and regularly rotating the animals between them can dramatically increase the efficiency of the forage system. Producers who allot daily strips for their cattle (strip or frontal grazing) can increase their efficiency even more, often rivaling our most efficient mechanical methods of harvesting.

Because of this increase in efficiency, it is possible to increase the stocking rate and carrying capacity of the land. Stocking rate increases of 35-60% have been reported in the scientific literature. As a general rule, however, stocking rates should only be increased by 10-25% during the first few years of transitioning from continuous stocking to moderately-intensive grazing management scheme (rotating every 2-4 days). This will allow the pastures and the forage manager's skills to improve. In the meantime, any excess forage production can be harvested as hay or mowed and returned to the soil.

Increased Performance per Acre

It is important to note, however, that intensively-managed grazing is unlikely to improve the performance (i.e., gain, lactation, etc.) of individual animals. Forcing the grazing animal to consume forage to a predetermined height eliminates their ability to selectively graze, sometimes reducing individual animal performance (e.g., average daily gain). Though individual animal performance is reduced, remember that it is the increase in stocking rate that results in higher productivity per acre. For example, a three-year study conducted in central Georgia showed that individual cow or calf performance (e.g., body weight, body condition score, rate of gain, etc.) was not increased or decreased. However, rotational stocking improved cow-calf stocking rate and calf production per acre by nearly 40%!

Table 1. The range in forage use efficiency of selected grazing and mechanical harvesting methods.

Method	Efficiency*
Grazing	
Continuous Stocking	30-40%
Slow Rotation (3-4 paddocks)	50-60%
Moderate Rotation (6-8 paddocks)	60-70%
Strip or Frontal Grazing	70-80%
Mechanical	
Hay	30-70%
Silage	60-85%
Green Chop	70-95%

* Efficiency is defined here as the relative amount of forage production (or that could be produced) that will actually be consumed by the animal.

Other Major Advantages

Improving the carrying capacity of the land and producing more per acre are significant accomplishments. However, many of the benefits and cost-savings come from the secondary advantages of improved grazing management. Covering all the advantages and benefits of an efficient grazing system is beyond the scope of this article, but in concluding this article I'd like to mention that improved grazing management 1) decreases the need for hay feeding during the winter and periodic droughts by as much as 1/3; 2) improves persistence of desirable forages; 3) improves clover and legume performance and contribution in mixed stands; 4) decreases weed pressure and reduces need for herbicides; 5) improves nutrient recycling and the uniformity of manure distribution within the pasture; 6) improves soil organic matter, which improves biological activity that stimulates additional growth; and 7) captures and retains more rainfall while minimizing runoff and environmental impact. To learn more about the benefits of improved grazing management, visit the Southeast Cattle Advisor website (www.secattleadvisor.com).