## Swath Grazing: Extend the Grazing Season

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Producers are always looking to cut costs in livestock operations because of marginal profit opportunities in commodity-based markets. One way to cut fall and winter feeding costs is to extend the grazing season and allow livestock to harvest the forage instead of relying on mechanical harvest. This will reduce the labor required to cut, bale, and feed hay.

At issue is the harvest efficiency of grazing versus mechanical harvesting and the costs associated with each. Grazing can be an inefficient process (Figure 1), especially during the growing season when residual leaf material is needed to maintain plant vigor. In extensive grassland systems, this efficiency is usually 25%. Under somewhat more intensive management, efficiency could approach 35% under moderate grazing pressure (25 AUD•Mg<sup>-1</sup>).

However, after a plant sets seed or after a killing frost, less residual leaf material is needed to ensure plant vigor and, therefore, greater grazing pressure can be applied to increase the harvest efficiency. In this situation, harvest efficiency might be increased to 50% under very heavy stocking rates or grazing pressures that approach 50 AUD•Mg<sup>-1</sup> (Figure 1). By contrast, haying could be as high as 80-90% efficient depending on cutting height. Combining the advantages of these two techniques (high harvest efficiency of cutting and low labor costs of grazing) is the underlying principle behind swath grazing.

Harvest efficiency of swath grazing can be calculated by multiplying the efficiency at harvest time by the efficiency of grazing the swaths in the fall and winter. Typically, one might assume 80% harvest efficiency at cutting and a 75% efficiency during the grazing of the swaths. Therefore, a 60% overall harvest efficiency (80% x 75%) would be realized. In order to increase the grazing efficiency, strip grazing the swaths can help to lessen wastage (Photos 1 and 2).



**Photo 1.** Grazing swathed intermediate wheatgrass in January at Wagner Ranch near Chamberlain, SD. Ungrazed swaths are on right; grazed swaths are on left.



Photo 2. Cattle are given enough forage for 1-2 days of grazing. Previously grazed swaths are regrazed so ~90% of the swath is consumed. Photos by Terry Gompert

In this system, the producer spends about  $\frac{1}{2}$  hour per day to move the temporary electric fence to allocate new swaths. Feeding hay using round bales would take a similar amount of time but would also include the costs of running the tractor. Therefore, the producer is eliminating the costs associated with baling and bale moving.

Water availability should be well planned in advance. In addition, the nutrient content of the swaths should be tested prior to grazing so appropriate adjustments in supplements can be made. Most likely some level of protein supplement would be required.

In conclusion, swath grazing can be an effective strategy to extend the grazing season and reduce costs to livestock operations.



Figure 1. Forage disappearance as affected by grazing pressure (animal unit days per 1000 kg of forage; AUD•Mg<sup>-1</sup>) (Source: Smart unpublished data).