



Improving Your Winter Grazing Efficiency

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As we approach the time of the year where most producers in Mississippi are presently grazing or preparing to graze their annual ryegrass or small grain pastures, there is the need to improve grazing efficiency. Improving grazing efficiency will allow better allocation of forages to increase utilization, stocking rate and perhaps increase gain per acre, maximize yield quality and quantity and hence, profits. By grazing winter annuals efficiently, animals can feed themselves (\$0.25 to \$0.40 a day) instead of requiring hay at \$2.00 to 2.50 per day. This approach will reduce labor as well as hay feeding losses and supplementation.

Good winter grazing starts with developing a grazing plan because careful animal rotation through fields significantly affects grass growth and grazing quality. During winter if grazing is limited to less than 3 days in one area, losses due to trampling could be reduced up to 70%. This could increase grazing days by 40% or carrying capacity by 10%. Depending on the rotation, animal harvest efficiency (the percentage of forage grown in a year or growing season that is actually consumed by livestock or other targeted animals) could range from 50 to 70%. Ideal grazing height for annual ryegrass in early winter is 8" to 10", but as temperatures warm up in early March ideal grazing height will be 6" to 8". Keep in mind that it is also time to move the animals when the grass height is down to 3". Be aware that if pastures are wet and soft, grazing strategies could be affected and trampling losses could increase.



It is also important to gradually shift the animals from hay to grazing winter annuals. This will allow the microbial population in the rumen to adjust to the changes. This should also be considered when grazing grass/legume mixtures. If more than 40% of the pasture is legumes, the risk of bloat may increase. To minimize this risk the use of anti-bloating blocks may be considered.

Unfortunately every year a large quantity of high quality forage in the form of winter annuals goes to waste in Mississippi as a result of poor grazing management. It is likely that in many cases, livestock producers who allow these wastes to occur are not even fully aware of the extent of the losses. While most producers are guilty of overgrazing most of the year, undergrazing is a common problem with winter annuals. Undergrazing winter annuals in the spring tends to occur because of the rapid growth achieved in the spring by these pastures produce exponentially more forage than in early winter. Therefore stocking rates suitable for winter grazing are not suitable for the spring. To avoid shifting balances that will affect forage production and animal gains, producers need to learn how to adjust their stocking rates or reduce the amount of pasture to which the animal have access to reduce forage waste. At the same time, concentrating animals can help ensure that quality of the forage in the pasture being grazed will remain high.

One question that most livestock producers forget to ask themselves before starting winter grazing is how many animals will my pasture support? Although this has been a very mild winter, typical late December to mid-February temperatures are much colder. Colder temperatures can negatively affect pasture growth, which means a grazing strategy needs to be put in place considering the temperature. As a rule for winter grazing, a producer could stock 400 to 500 lbs of beef per acre if 8 to 10 inches of forage is available. That means approximately 50 lbs of beef per acre-inch of forage. Keep in mind that you should subtract 3" from the total height stubble height otherwise regrowth opportunity could be drastically suppressed. Let's look at the following calculation:



$10'' - 3''$ (residual stubble height) = **7" of grazable forage or available forage**
7 inches x 50 lb. of beef/acre-inch = **350 lb. of beef/acre (average for the season)**

But what if you must acquire the cattle before your pasture develops? First, draw on your management practices and personal experiences. In a year with average temperature and rainfall, we can expect to grow about 3,000 lb Dry Matter forage for each acre of winter pasture. With adequate fertility (proper pH and sufficient phosphorus and potassium), we can expect 15 to 20 lb of additional dry matter forage per pound of actual nitrogen applied. If the nitrogen was applied at 60 pounds of actual nitrogen per acre, you would need to use the following:

188 lb. of liquid urea ammonium nitrate (32-0-0)/acre, or 130 lb. of urea (46-0-0)/acre, or 182 lb. of urea ammonium sulfate (33-0-0)/acre

Given this information, what will be the estimated stocking rate per acre?

1. $[(3000 \text{ lb. of dry-matter forage/acre}) + (60 \text{ lb. of N} \times 15 \text{ lb. of forage/lb. of N}) = \mathbf{3,900 \text{ lb of Dry Matter forage/acre}}$
2. Assume that the grazing season is 135 days (December 1 to May 15), then daily forage availability is 28.9 lb of Dry Matter forage/day.
 $(2900 \text{ lb/ac})/135 \text{ day} = 28.9 \text{ lb of DM forage/day}$
3. Assuming that's stocker cattle will be consuming 3% of their body weight, the average stocking rate for the season is 963 lb of beef/acre.
 $(28.9 \text{ lb}/0.03) = 963 \text{ lb of beef/acre}$

Winter annual forages are used as important components of stocker forage programs and can be an important part of the forage system for beef cow-calf operations. Think of your winter pasture as a large green factory to provide the necessary resources for your livestock. If pastures are grazed improperly, they will never express their full potential. The length of the grazing season depends upon environmental conditions, location of the farm within the state, plant variety selection, fertilization, forage production and utilization practices. Producers should use the correct grazing height for winter pastures since it determines regrowth rate, stand life, yield and quality.

One good way to use winter annual forage in dairy operations is to ration graze the pasture for 1.5 to 2 hours twice daily to supply the protein needs of animals. This rationing of the pasture stretches the number of grazing days. Time restricted grazing also reduces forage losses caused by animal trampling, defecation and urination. Using a control grazing system (rotational or strip) that subdivides a farm into small pasture or cells greatly helps managing grazing pressure. Such rotations can be achieved by using electric fences to adjust pasture size.

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