



Maximizing Yield Potential And Utilization Of Forage Turnips



KENNY SIMON AND DR. JOHN JENNINGS

LITTLE ROCK, ARK.

The historical drought of 2012 has left many producers searching for alternative ways to provide forage for fall and winter grazing, especially since much of the winter hay supply has already been fed. Demonstrations conducted last fall showed that forage turnips planted between late August and early September can provide green forage for grazing by the end of October. The amount of forage produced will depend upon soil fertility and fertilization. The number of grazing days provided by forage turnips and other forage brassicas will be influenced by the type of grazing method implemented.

The optimum soil fertility for turnips includes a soil pH of 5.3 to 6.8, soil test phosphorus level of at least 60 pounds per acre and soil test potassium level of at least 250 pounds per acre. Follow soil test recommendations for the proper amount of lime, phosphorus and potash fertilizer to apply. Use Arkansas Soil Test Code 210, "Winter Annuals," for the correct fertilizer and lime recommendation. Apply 40-50 pounds per acre of nitrogen at time of planting if planting into a well-prepared seedbed. If planting into lightly disked sod, delay nitrogen application until a successful stand has been established and the plants are 3 to 4 inches tall. If the soil test phosphorus or potassium levels are below optimum, the application of phosphorus or potash with the nitrogen tends to increase yield.

Proper grazing management is important to optimize the true potential of these crops. Rotational or controlled grazing can potentially increase forage utilization over continuous grazing by more than 40 percent. Grazing large areas increases trampling and waste of the available forage. Strip grazing small areas will provide the most efficient utilization. Increasing forage utilization creates additional management options such as a) increasing the number of animal unit grazing days per acre, b) extending the grazing period and c) reducing input costs and time savings.

Forage brassicas such as turnips and rape may be managed for multiple grazings. Forage brassica regrowth is initiated at the top of the root, so it is important to leave tall stubble after grazing to promote rapid regrowth. Begin grazing when the plants have reached 12-18 inches

tall, and remove livestock when the forage is grazed down to 6-10 inches in height. Regrowth may be grazed in as few as four weeks after the first grazing. During the second or final grazing, the whole plant can be consumed.

Dry matter digestibility is high for all the plant parts. Forage brassicas maintain excellent forage quality through the fall and into early winter, making them ideal for stockpiling as winter pasture. Ruminant diets should not contain more than 75 percent brassica forage because the fiber content of brassica crops is too low for maintenance of proper rumen activity. With their high digestibility and low fiber content, brassicas should actually be considered as "concentrates" rather than "forage" in nutritional planning for livestock.

Brassica crops can cause health disorders in grazing animals if not managed properly. Researchers have discovered that these disorders can be avoided by adhering to two management rules:

- Introduce grazing animals to brassica pastures slowly. Avoid abrupt changes from dry summer pastures to lush brassica pastures. Don't turn hungry animals that are not adapted to brassicas into a brassica pasture.

- Brassica crops should not constitute more than 75 percent of the animal's diet. Supplement with dry hay if continually grazing brassicas, or allow grazing animals access to grass pastures while grazing brassicas. Broadcasting into lightly disked sod will reduce the risk of these disorders because of grass in the brassica pasture.

Note: Most livestock have never grazed forage brassicas and may appear to refuse grazing them at first turn-in. On the demonstration farms last year, we observed that the animals were slow to start grazing the turnips. The livestock tended to consume all other available forage before transitioning to the turnips. This transition period may take up to 4-5 days. Be patient. The livestock will eventually begin grazing them.

Summary

- Turnips can produce high yields of palatable and nutritious forage for livestock during periods when perennial forages have limited production. The digestibility of the forage remains high over a relatively longer period than perennial crops.

- To improve forage yield potential, apply fertilizer according to soil test recommendations.

- Proper grazing management can increase the number of grazing days by 40 percent over continuous grazing.

- Plan for a transition and adjustment period to allow livestock time to accept this new forage.

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KENNY SIMON: Program Associate, University of Arkansas

DR. JOHN JENNINGS: Professor, University of Arkansas