K-STATE Research and Extension | Meadowlark District

November 21, 2025

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Grazing Brassicas

A recent news column and complementary radio program about prussic acid testing has generated questions about issues with grazing forage brassicas. While prussic acid is not an issue with this forage resource, there can be other considerations in their utilization. A favorite story told around our house revolves around the first experience our family had working cows who'd been grazing turnips and the "shower" my Dad got pushing cows up to the chute. Let's look at grazing considerations today.

Brassicas popularity as a forage crop in the U.S. has been on the increase due to their suitability as cover crop. However, these plants have been utilized for over a century for the purpose of livestock feed. Many producers are attracted to the idea of improving their soil health while also feeding their livestock. Turnips, rape, and kale are traditional, well-utilized forages. Newer options include swedes (rutabagas), forage collards, mustards, radishes, and hybrids selected for various traits like those used to combat soil pests in crop rotations as cover crops. However, if the primary reason for growing them is for grazing, be sure the variety purchased was developed for grazing.

The strength of brassicas as a forage crop is their cold tolerance allowing them to provide high-quality pasture well into the fall and winter when most other forages are dead, dry and brown. Little new growth will occur after temperatures fall below freezing at night, but existing forage remains and holds its nutritional value very well. Brassicas extremely high moisture content makes preservation as a hay crop impractical.

Brassicas that form big bulbs, such as turnips, swedes, and radishes, can be grazed but are less suitable for multiple grazing's than varieties that do not raise their crowns on top of bulbs. However, there are turnip and radish varieties selected for grazing that have an increased proportion of top growth relative to the bulb and livestock readily learn to dig up brassica forage bulbs. Another strong point is a fast growth rate that, under good growing conditions, can provide emergency forage in as little as 45 days. Forage brassica yields are quite variable, ranging from 2 to 5 tons of dry matter per acre depending on species, variety, and environmental conditions.

Nutritionally, forage brassicas behave like a high moisture concentrate feed. Crude protein is typically sufficient to meet the needs of livestock on pasture. Brassicas are naturally low in fiber compared to grass and legume pasture. Brassica neutral detergent fiber (NDF) can range from 11 to 44 percent and has NDF digestibility up to 70 percent. Brassicas that form stems (rape and kales) will be at the higher end of the range, and leafy brassicas like turnips and radish will be at the lower end.

Due to their high nutritive value, brassicas can produce excellent animal performance but require adjustments to grazing management. Animals should be introduced to brassica-based pastures slowly to allow the rumen time to adapt and should never be grazed on pure brassica pastures. Effective fiber can be provided by planting brassicas in mixtures with small grains (oats, cereal rye, triticale, or wheat) or other forages, supplementing pastures with hay or providing access to separate grass pastures. A good rule of thumb is to limit brassicas to no more than 70 percent of the diet.

There is not a high frequency of issues related to grazing brassicas, but they can cause animal health disorders if not properly managed. The primary issues are polioencephalomalcia or PEM, hemolytic anemia (mainly with kale), nitrate poisoning, and pulmonary emphysema. In general, potential problems can be minimized by feeding brassicas as no more than 70 percent of the dietary dry matter intake, introducing animals to brassica pasture slowly, never turning hungry animals onto a brassica pasture, providing a trace mineral supplement that includes iodine, not grazing immature rape and avoiding excessive N and sulfur fertility.

The K-State Forage Facts Notebook S115 has a chapter covering Brassicas as forage. The University of Arkansas has a good reference on this topic as well found at:
https://www.uaex.uada.edu/publications/pdf/FSA61.pdf