2008 MFRP Study Brief: Establishment of Winter Feeding Areas

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When one thinks of turnips, grazing is not the first thing that comes to mind. Most agree that grazing is the most economical way to feed livestock, so any addition or extension to a grazing system is welcome. Maximizing production on forage acres translates to feeding less stored feed. Turnips are used as a grazing forage in many parts of the world, but are not commonly grazed in the Midwest. Turnips are part of the brassica family (i.e., rape, kale and swedes). In forage terms, turnips are an annual forb, a herbaceous plant that is neither a legume or a grass. Turnips, and brassicas in general, are cold, drought and heat tolerant, and provide excellent forage quality.

Turnips have been looked at more closely over the past couple of years at the University of Minnesota's NCROC-Grand Rapids to provide additional grazing and to extend the grazing season. In 2007, turnips were planted in small plots at 4 lbs/ac in early June with a Brillion seeder. Growing conditions were very warm and dry, however the turnips germinated and grew rapidly. At harvest in mid-October, above ground forage yield of turnips was 3,547 lb DM/ac, with crude protein (CP) content of 18%, total digestible nutrients (TDN) of 69%, and relative feed value (RFV) of 207. Forage yield of turnip bulbs was 2,943 lbs DM/ ac, with 18% CP and 72% TDN. Turnips were grown in small plots not set up for grazing and animal acceptance and performance of turnip forage was not evaluated.

Due to high nutrient values and yield in 2007, the 2008 objective was to observe cattle response to grazing turnips and turnip response to grazing. Two pastures previously used as winter feeding areas were seeded. Winter feeding areas are often under-utilized as a source of grazing so it was hypothesized that planting turnips in a winter feeding area may increase the value of the forage produced, while utilizing available nutrients. Turnips were planted in June at 3 lbs/ac with good growing conditions. Turnip germination and early growth was rapid, but weed germination and growth also grew rapidly.

Preliminary research showed turnips can be established successfully in less than optimum seedbeds, cattle will consume leaves and bulbs after adaptation, and multiple grazing can be achieved if grazing occurs when the turnips are short and not fully developed. Future research will focus on seeding rates and methods. Increasing the seeding rate may result in fewer weeds providing more palatable plants for consumption because weeds become less palatable as they mature. Incorporating turnips into a pasture mix, wheat or oat stubble, or seeding into winter feeding areas, if successful, may provide an opportunity to increase pasture productivity when cool-season grasses slow down in production in mid-summer.