Warm- and Cool-Season Grasses for Grazing: Are Improved Varieties Better?

WISCONSIN GRAZING LANDS CONSERVATION INITIATIVE GRANT PROGRAM

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Research Brief
#7

In a time when most Wisconsin graziers predominantly use non-native, cool-season grasses due to their high productivity and forage quality, UW-Madison Agronomy Professor Randy Jackson sought to determine whether or not warm-season grasses that were native to Wisconsin's plant community in the past would be able to compete on the same level as the non-native grasses currently in use.

There were two objectives for the warm-season grass project. One was the development of effective methods for managing and maintaining native warm-season grass pastures in the upper Midwest. The second was to determine how native grass seed types responded to defoliations that occur at different times within a growing season, both above and belowground.

There were a number of above ground responses relative to available forage accumulation, forage quality and vegetation cover. First, the results showed that delaying initial graze timings until mid-July in Wisconsin resulted in greater total accumulation of available forage than amounts that accumulated when graze timings were initiated in June. Forage quality of native grasses was inversely related to forage quantity at each initial graze timing, as the quality of forage was significantly higher in June than July in both 2009 and 2010.

Another observation was that initiating grazing rotations earlier in the growing season (June) resulted in a shorter rest period needed to obtain target quantities of forage regrowth – 38 day rest period when first grazed in June vs. 60 day rest period when first grazed in July.

Thirdly, the native grass guild dominated vegetation cover in all experimental paddocks. Big bluestem and Indian grass cover was slightly greater in variety seed paddocks than ecotype paddocks, however there were no effects of graze timing treatments on native grass cover.

Finally, cover of undesirable pasture species such as Canada thistle and dandelion were affected by graze timing treatments. Thistle cover was significantly greater in early graze timing paddocks. In contrast, dandelion cover was significantly greater in late graze timing paddocks.

The main below ground response was related to etiolated biomass accumulation of big bluestem and Indian grass. Across all species, ecotype seed etiolated biomass was significantly lower under early graze timing treatments compared to all other treatment combinations.

These results have important implications for farmers as they outline tradeoffs associated with the management of native grass seed types under different graze timings, which could ultimately inform farmer decisions when choosing seed to establish a native grass pasture.

The Grazing Lands Conservation Initiative Grant Program is a partnership between the private sector GLCI Steering Committee, the USDA Natural Resources Conservation Service and the WI Department of Agriculture, Trade, and Consumer Protection. This series of research briefs summarizes projects funded by this program. Our mission is to expand the use of profitable, grazing-based livestock production systems that foster environmental stewardship. This is accomplished through high quality technical assistance to owners and operators of private land, university and producer coordinated research, and educational programs. For more information on the program or on the research in this Brief, contact: Laura Paine, Grazing and Organic Agriculture Specialist, WI Department of Agriculture, Trade, and Consumer Protection, (608) 224-5120, laura.paine@wi.gov; or Rhonda Gildersleeve, Extension Grazing Specialist, University of Wisconsin-Extension, (608) 723-6243, rhonda.gildersleeve@ces.uwex.edu. This summary was written by Ken Barnett with University of Wisconsin-Extension.