



Evaluation of Patch-Burn Grazing Production and Impact to Vegetative Height-Density and Composition

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The benefit of patch-burn grazing over traditional management is greater heterogeneity in vegetation height and density. Many suggest this diversified cover benefits grassland wildlife and may contribute to vegetative diversity. Our objectives were to investigate the results of patch-burn grazing on vegetative height-density, plant species composition, and cattle performance. Each grazed unit consisted of three patches with each patch approximately 1/3 the size of the grazed unit, and stocked at a rate of 1AUM/5-6ac. Vegetation height-density was measured at approximately 1,130 points in control units and 1,250 points in grazing management units each sampling year. After a complete 3-yr burn rotation, structural diversity of grazed grasslands increased dramatically, whereas control units that received only spring burning were characterized by relatively uniform vegetation height and density. Vegetative composition sampling was conducted within the grazed units from paired plots with each pair consisting of a grazed plot and an enclosure. Species richness and the Floristic Quality Index (FQI) of enclosures were compared with grazed plots. Results indicate that patch-burn grazing with a moderate stocking rate has not imposed a significant change in species richness ($P > 0.05$) or FQI ($P > 0.05$). Grazing impacts regarding the abundance of species of concern were also investigated. Average daily gains were similar to the reported 0.97 and 1.41 lbs/day for cattle grazing high- and low-endophyte tall fescue, respectively. Our results indicate that patch-burn grazing can be a successful tool in rangeland management to provide diversified wildlife habitat, and maintain plant diversity while sustaining cattle production in Missouri.

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