

## Managing ‘Highlander’ Eastern Gamagrass for Sustainable Forage Production in the Upper Southeastern United States

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‘Highlander’ eastern gamagrass [*Tripsacum dactyloides* (L.) L.] is a native warm season perennial bunchgrass with potential for use as a forage crop in the southeastern U.S. Sustainable production and stand longevity are influenced by cutting management and N fertilization. The USDA-Natural Resources Conservation Service, Jamie L. Whitten Plant Materials Center and Mississippi State University conducted studies to determine management recommendations for long term sustainable production of ‘Highlander’ eastern gamagrass in the upper southeastern U.S. A 45-day clipping frequency produced higher yields with similar quality as a 30 day clipping frequency. Stands declined significantly under a 30 day clipping frequency while stands of a 45 day clipping frequency persisted and produced a three year average yield of 6 tons/acre. Nitrogen fertilization experiments on silt loam and clay soils in northern Mississippi found 120 and 240 lb N/acre/season, applied in three, equal applications of 40 and 80 lb/acre, produced season total yields of 4 and 6 tons/acre, respectively. Crude protein (CP) ranged from 6 to 10 % with 40 lb/acre/application and 7 to 12 % with 80 lb/acre/application. ‘Highlander’ harvested on a 45 day harvest frequency produced higher yields and similar quality as a ‘Tifton 44’ bermudagrass [*Cynodon dactylon* (L.) Pers.] harvested on a 30 day frequency. Silage yields of ‘Highlander’ exceeded those of corn (*Zea mays* L.) varieties by 61 % (tons/acre = 23 vs. 14) but digestibility of corn was 16 percentage units higher (*in vitro* true digestible = 75 vs. 59).

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