



Grazing Management and Winter Stockpiling of Warm Season Grasses in the Southern Plains

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The desire to conserve and restore the landscape of native grasslands while utilizing the forage for livestock production is a challenge for producers. Management decisions include the amount of forage available, stocking rates, and grazing expectations. A common practice for livestock producers in the southern great plains is to harvest and store forage as hay for winter-feeding. An alternative to managing forage as a hay is stockpiling the forage for grazing during the winter months. This is achieved by deferring grazing for most, if not all, of the growing season so forage can be utilized later in the year. Understanding the nutritive quality and production of warm season grasses is crucial for their utilization as stockpiled forage. Objective of this study is to evaluate how forage yield and quality of native and introduced warm season grasses change from early fall to late winter under different forage management regimes. ‘Alamo’ switchgrass (*Panicum virgatum* L.), ‘San Marcos’ eastern gamagrass [*Tripsacum dactyloides* (L.) L.], ‘Lometa’ Indiangrass [*Sorghastrum nutans* (L.) Nash], ‘Selection 75’ Kleingrass (*Panicum coloratum* L.), ‘WW-B.Dahl’ old world bluestem [*Bothriochloa bladhii* (Retz) S.T. Blake], and OK Select germplasm little bluestem [*Schizachyrium scoparium* (Michx.) Nash] were evaluated in replicated plots on a Miles fine sandy loam soil at the James E. “Bud” Smith Plant Materials Center, Knox City, Texas. Forages were fertilized annually with 30 lb N/acre at green up. Forage production and quality estimates of percent *in vitro* dry matter digestibility and crude protein (CP) were determined annually beginning 15 October to 15 February 2013-2016 at 30 day intervals from simulated grazed and ungrazed plots. Forages clipped 1 July simulated early season grazing management compared to unclipped forages representing the ungrazed management regime. Results suggest these grasses have the potential to provide sufficient yield and digestibility as a stockpiled forage, but crude protein content was near or below the dietary requirement for all classes of beef cattle. Winter weathering did not affect yield of Indiangrass and little bluestem while eastern gamagrass and old world bluestem in the grazed management exhibited significant yield loss during the winter months (~48%). Eastern gamagrass crude

protein was highest in the fall at 7% compared to the other forages that averaged ~5%, but CP decreased following the first killing frost. The digestibility of all forages remained near or above 50% in both grazing management regimes from October to February with kleingrass having highest digestibility of 54-63% and switchgrass the lowest at 48-56%. Native warm season grasses can provide an alternative to introduced species for winter grazing needs while also performing other valuable services such as improving wildlife habitat, providing protection from soil erosion, and restoring the landscape to native grasslands.

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