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

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Introduction

It is a common practice to harvest and store forage as hay in most of the southern plains. Another forage management option is stockpiling of warm season grasses for grazing throughout the winter months. Understanding the nutritive quality and forage attributes of warm season grasses is important if used as a management option for decreasing winter feeding cost. Objective of this study is to evaluate how forage yield and quality of native and introduced warm season forages change from early fall to late winter under different forage management regimes.

Materials and Methods

- Location: USDA-NRCS James E. “Bud” Smith Plant Materials Center (PMC)
- Soil type: Miles fine sandy loam
- Plot Size: 10-ft x 20-ft
- Experimental design: factorial RCB with 4 replications
- Fertilization: 30 lb/acre nitrogen fertilizer broadcast applied annually at spring green-up
- Forage Management:
  - Simulated Grazed: Forages harvested July 1 and regrowth sampled from October 15 to February 15 (at 30 day intervals).
  - Ungrazed: Forage allowed to grow full season and sampled from October 15 to February 15 (at 30 day intervals).
- Forage quality estimates: Crude protein (%CP), In vitro dry matter disappearance (% digestibility)

Warm Season Grasses

- ‘Alamo’ switchgrass (Panicum virgatum)
- ‘Lometa’ Indiangrass (Sorghastrum nutans)
- ‘Selection 75’ kleingrass (Panicum coloratum)
- ‘San Marcos’ eastern gamagrass (Tripsacum dactyloides)
- ‘WW-B. Dahl’ old world bluestem
- OK Select Germplasm little bluestem (Schizachyrium scoparium)

Forage Yield

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<th>‘Alamo’ switchgrass</th>
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<td>Grazed</td>
<td>Forage Yield</td>
<td>Crude Protein</td>
<td>Digestibility</td>
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Digestibility

- ‘Alamo’ switchgrass
- ‘Lometa’ Indiangrass
- ‘Selection 75’ kleingrass
- ‘WW-B. Dahl’ old world bluestem
- ‘San Marcos’ eastern gamagrass
- OK Select Germplasm little bluestem

Summary/Conclusion

- All grasses showed potential for providing adequate yield and digestibility as stockpiled forages
- Eastern gamagrass crude protein was highest in the fall (7%) compared to the other forages (5% average)
- Digestibility of all forages remained near or above 50% from October to February with kleingrass the highest (63-54%) and switchgrass the lowest (56-48%)
- Supplemental protein is necessary to meet minimal protein requirement for all classes of beef cattle
- Winter weathering of the full season management did not effect yield of Indiangrass and little bluestem compared to the other forages
- In the simulated grazed management eastern gamagrass and old world bluestem exhibited significant yield loss from weathering

*Points on the same line having the same uppercase letters are not significantly different at P<0.05

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