



Evaluating nutrient composition of four native grasses as sustainable alternative forage sources for south Texas cattle producers

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INTRODUCTION

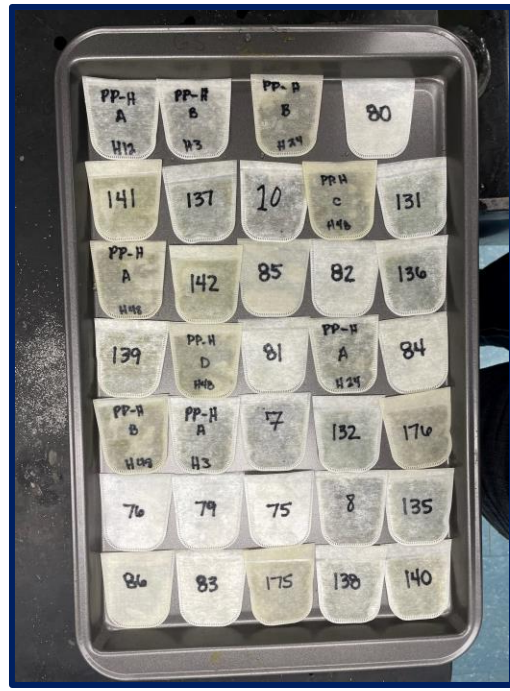
- Native grass (Poaceae) species are a promising alternative forage source for beef cattle in south Texas due to their ability to withstand the environmental conditions
- High temperatures and limited rainfall are common to south Texas
- Currently, a dearth of information exists concerning nutrient composition and digestibility of native forages

OBJECTIVES

- Evaluate the nutrient composition and digestibility of four forage species native to south Texas (Pink pappusgrass, Switchgrass, Multiflower false Rhodes grass and White tridens)
- Compare nutrient values of the four native forages to Bermudagrass, an introduced species commonly utilized by south Texas cattle producers

MATERIALS AND METHODS

- Native forages to be evaluated are: Pink pappusgrass (PP), Switchgrass (SW), Multiflower false Rhodes grass (MF), and White tridens (WT). Bermudagrass (BG) will be evaluated as a standard of comparison.
- Forages are established plots (approximately 5 years) at Texas Native Seeds, Kingsville, TX
- Samples will be obtained on a 28-day rotation for a 12 month period beginning Dec. 2024.
 - During each collection period, samples are obtained from five plants per species. Collection includes all growth above 6” from soil surface. Collection from the five plants are mixed to create an average sample for the collection period.
- The following measures will be evaluated:
 - Dry matter (DM)
 - Neutral detergent fiber (NDF)
 - Acid detergent fiber (ADF)
 - Crude protein (CP)
 - Extent and rate of degradation of DM and NDF - ANKOM Technology Method 3 IVTD procedure will be utilized. Samples will be anaerobically incubated for 0, 4, 8, 12, 24, and 48 hours. The extent of ruminal degradation will be separated into one of three fractions (A, B, and C) determined by disappearance from F57 filter bags (fraction A: disappearance at 0 h; fraction C: DM/NDF remaining after 48 h; and fraction B: 100%-A-C). Rate of degradation for fraction B will be the slope of the natural logarithm of disappearance of DM /NDF.

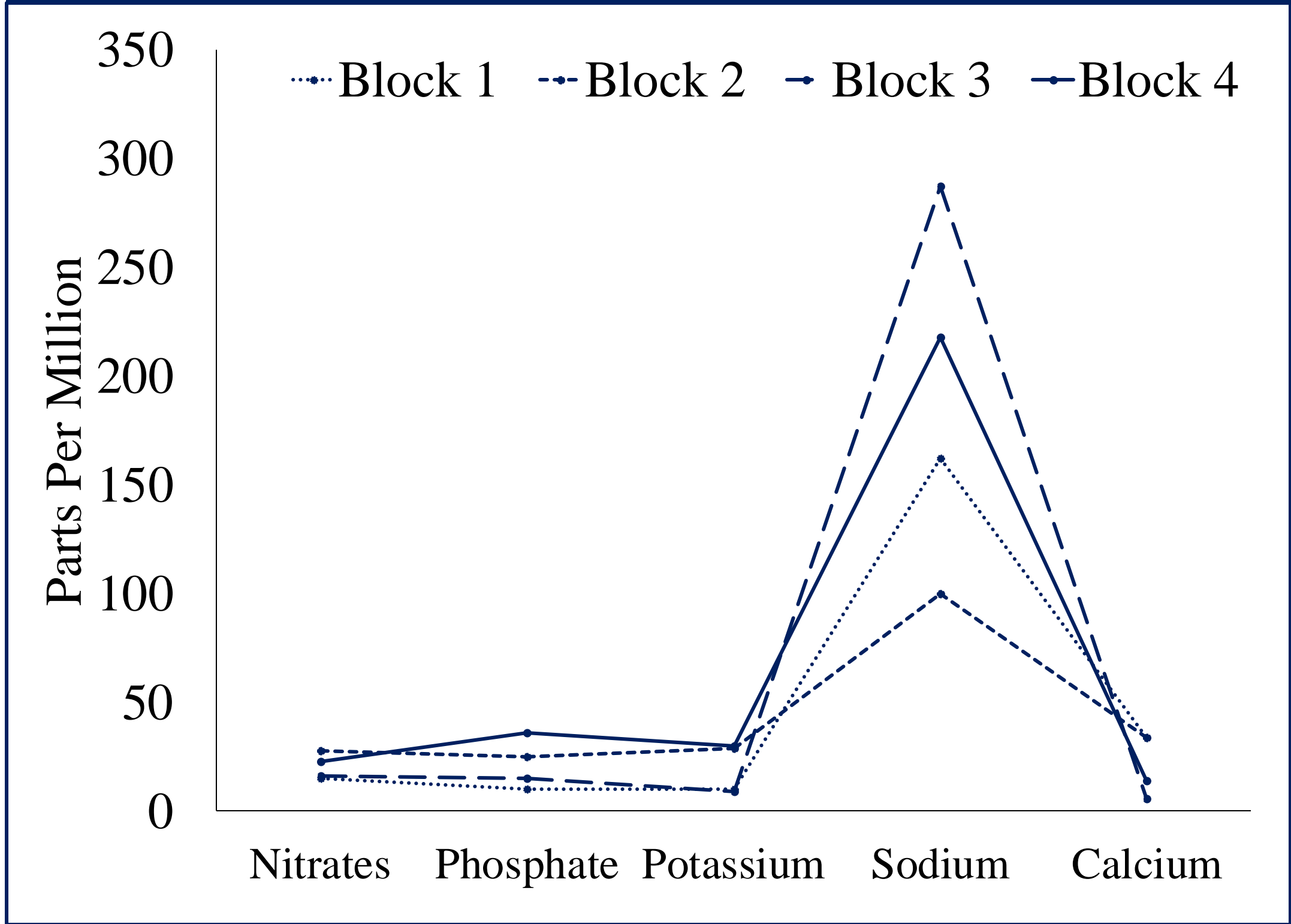


Native Forages to be Evaluated



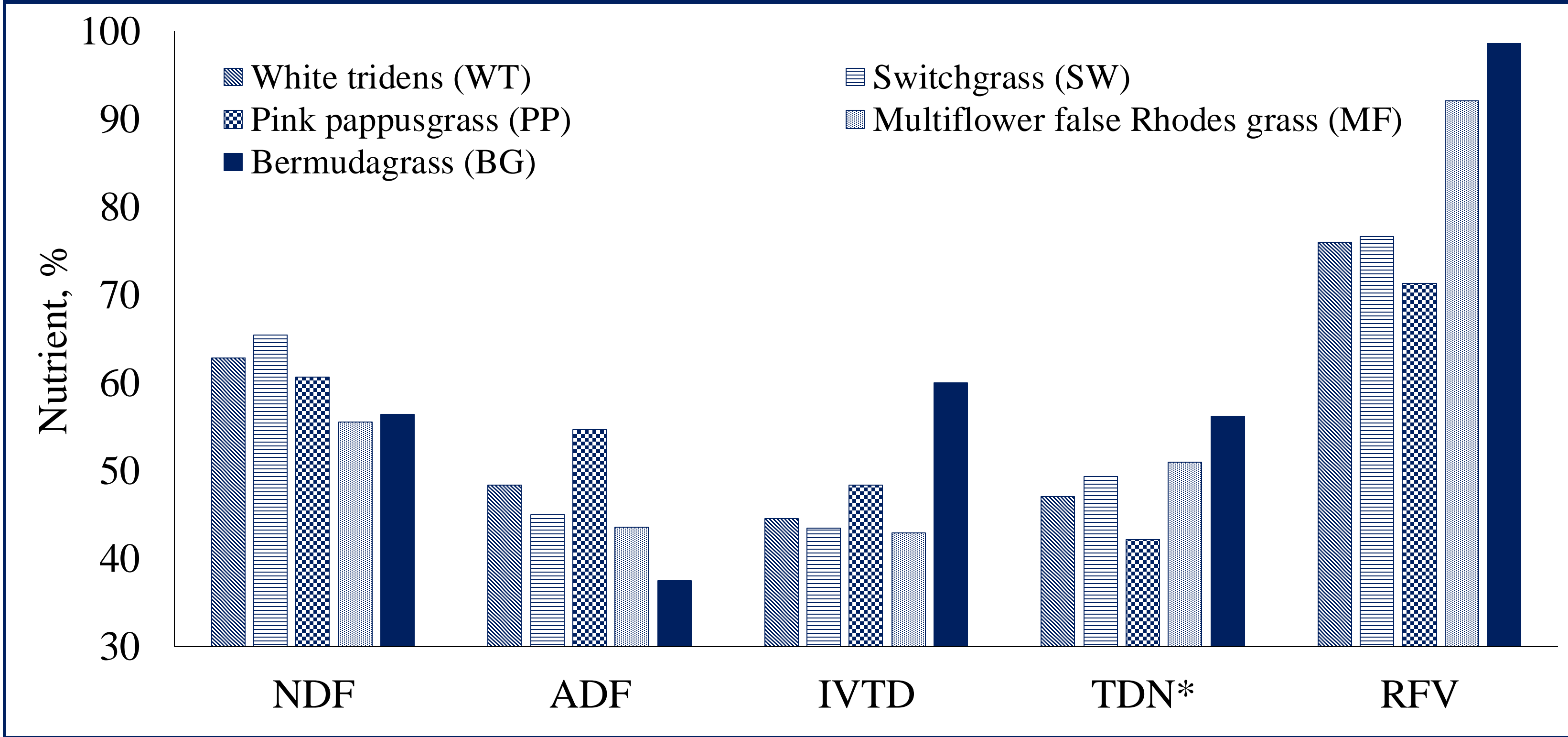
RESULTS

FIGURE 1. Soil Analysis



Soil analysis completed January 2025.

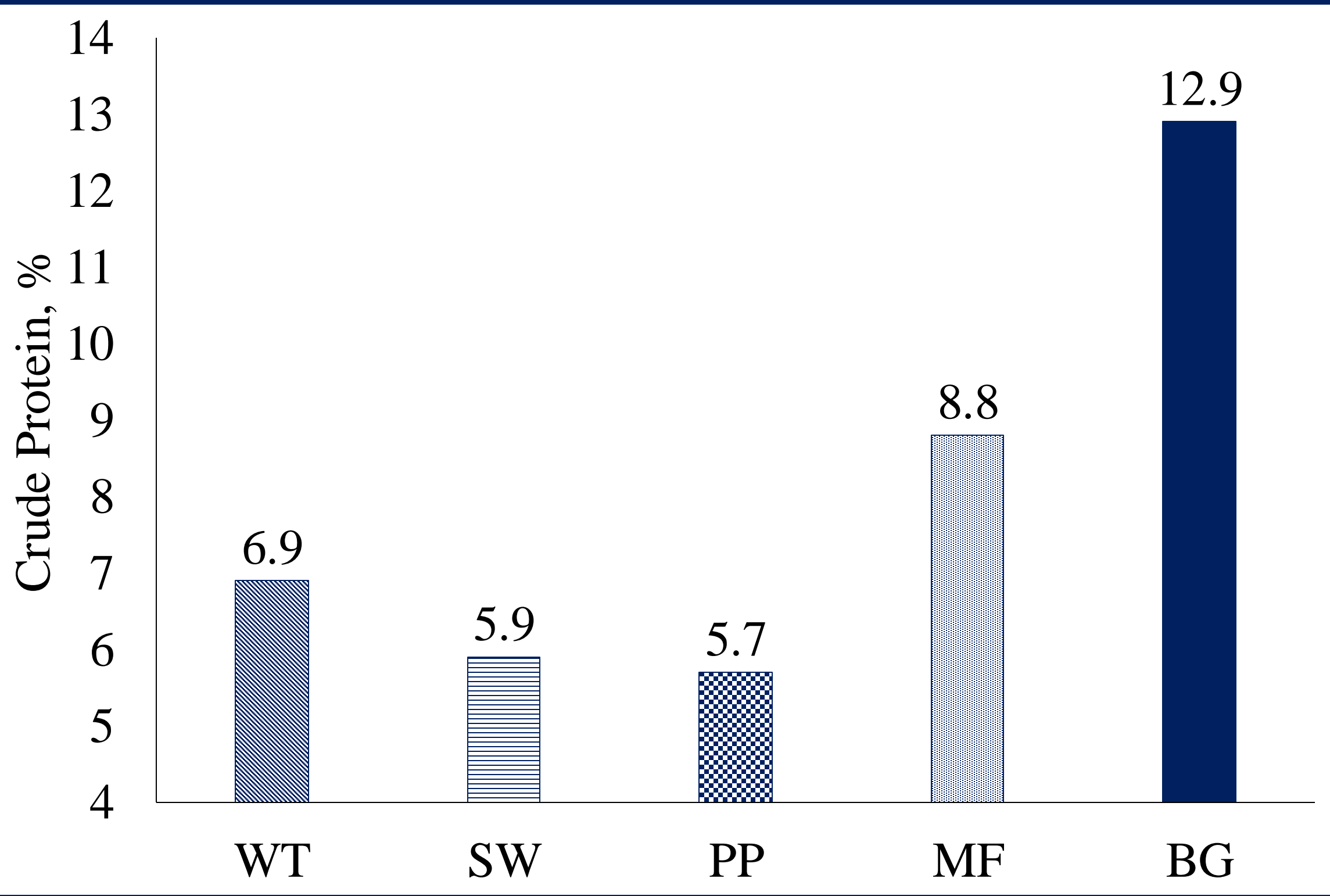
FIGURE 2. Preliminary forage nutrient composition



Nutrient composition values were obtained from NIR analyses, Texas A&M University AgriLife Extension Soil and Forage Lab, College Station, TX

*TDN values are based on ADF

FIGURE 3. Forage crude protein



FUTURE WORK

Collections will continue as scheduled every 28 days over a 12 month period. Samples will be analyzed, using wet chemistry techniques, for nutrient composition to determine suitability as alternative forage sources for south Texas cattle producers. Data will aid cattle producers in utilizing native rather than introduced forage species.

ACKNOWLEDGEMENTS

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