

# Knox City Knowledge

January 2015 Newsletter Volume 6 Issue 1

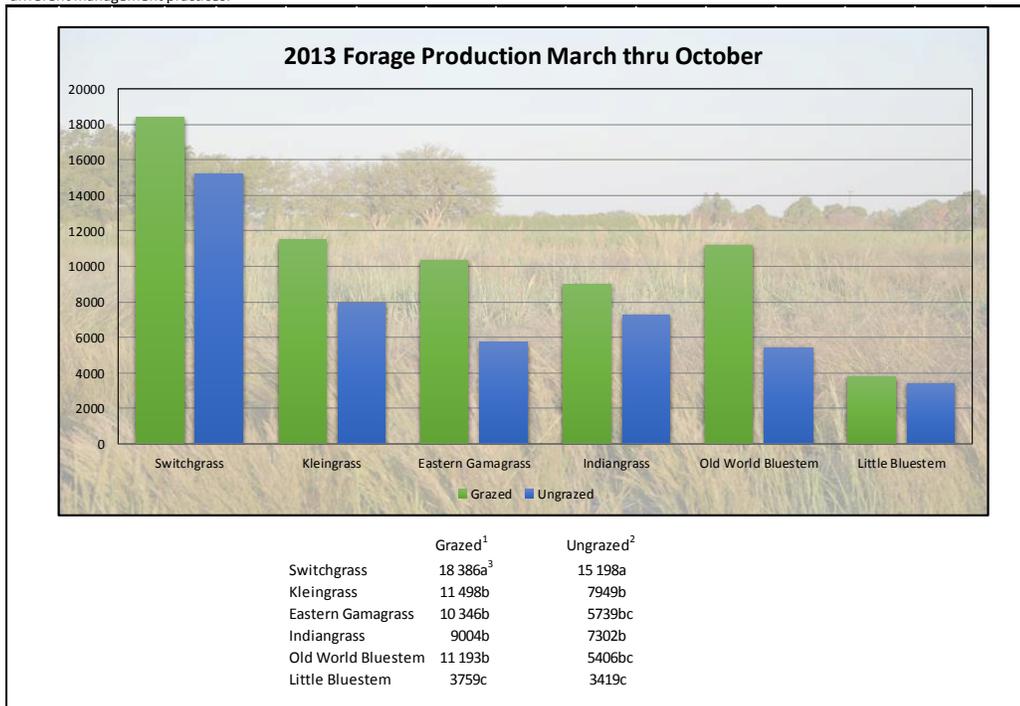
## Biomass Comparison of Grazing Management on Warm Season Grasses

The winter stockpiling evaluation is in the second year of data collection. This is a study at the James E. “Bud” Smith Plant Materials Center, with the collaboration from the Texas Coalition Grazing Land Conservation Initiative (GLCI), studying the effects of grazing management for winter stockpiling of warm season grasses. While forage quality has not been completely collected and analyzed, biomass production throughout the growing season can be seen in the following figures. Figure 1 shows data collected in 2013 and figure 2 shows 2014. Biomass overall was slightly less in 2014 compared to 2013.



One major conclusion we can see from the two years of biomass data is that pastures are more productive when they have proper grazing management. As the following figures show, all six warm-season grasses produced more total biomass when the early season growth was removed. Grazing keeps plants in the stem and leaf elongation stage of growth compared to the seed production stage where forage becomes less desirable to grazing livestock. Kleingrass, eastern gamagrass, and old world bluestem have the potential to produce twice as much forage for grazing compared to a pasture un-grazed throughout the year.

**Figure 1.** 2013 forage production potential (lb/ac) of six perennial, warm-season grasses collected at the end of the growing season under different management practices.

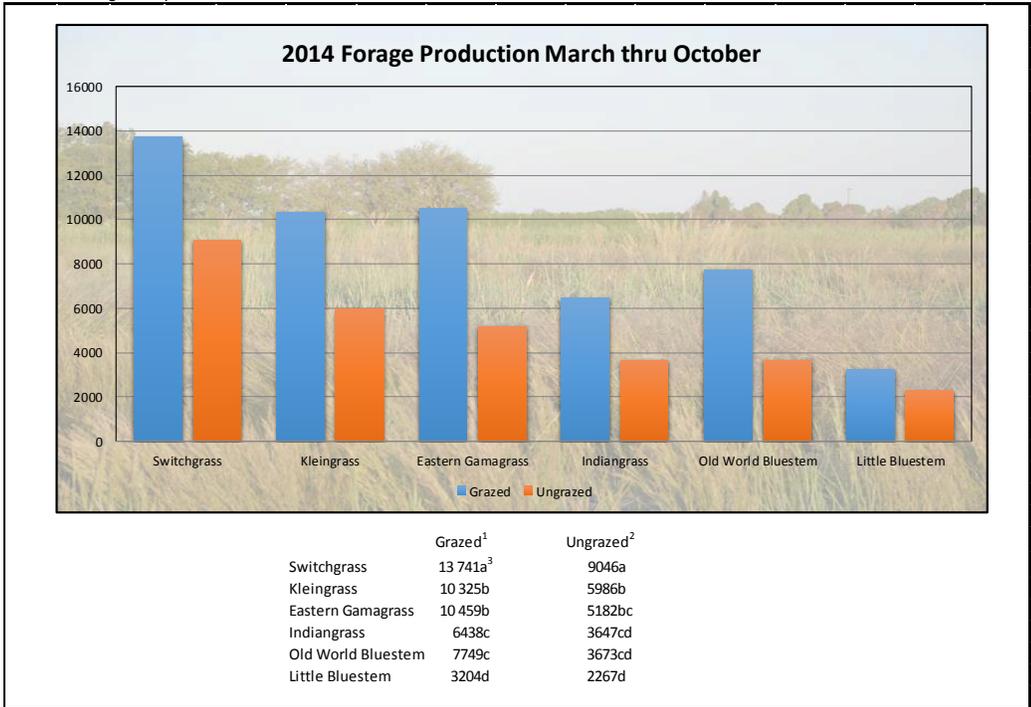


<sup>1</sup>Grazed is biomass produced from spring greenup to July 1st combined with biomass produced from July 1st to killing frost.

<sup>2</sup>Ungrazed is biomass produced from greenup in the spring to killing frost.

<sup>3</sup>Values within columns followed by different lower-case letters differ between specie (P<0.05).

**Figure 2.** 2014 forage production potential (lb/ac) of six perennial, warm-season grasses collected at the end of the growing season season under different management practices.



<sup>1</sup>Grazed is biomass produced from spring greenup to July 1st combined with biomass produced from July 1st to killing frost.

<sup>2</sup>Ungrazed is biomass produced from greenup in the spring to killing frost.

<sup>3</sup>Values within columns followed by different lower-case letters differ between specie (P<0.05).

## Wireless Soil Moisture and Temperature Sensors Aid in Soil Health Data Collection

New data collection sensors are being used to constantly monitor the soil moisture and temperature in the soil health demonstrations. The new system records data every hour. This will allow the PMC the opportunity to monitor spikes in the soil temperature under different management practices. The following example shows the volumetric water content (VWC) on the irrigated cotton- winter cover demonstration. From the graph, we see the differences between management practices when precipitation was received or tillage occurred. It will also allow us to better manage irrigation requirements for crop production.

