

## Three Year Results of Ouachita District Bermudagrass Variety Demonstration

The Ouachita District County Extension Agriculture Agents along with Paul Beck, John Jennings, Vic Ford, and Rick Cartwright

A small plot bermudagrass variety demonstration was established by the Ouachita District County Extension Agents in the spring of 2012. In this demonstration located at the University of Arkansas SWREC, we established 11 bermudagrass varieties that are fairly common to our area in four 5' x 20' plots per variety. The varieties that were established included 5 hybrids (Genesis, Vaughn's #1, Ozark, Tifton 44, and Midland 99) and 6 seeded varieties (Mohawk, Cheyenne II, common, Sungrazer, Sungrazer Plus, and Wrangler).

The summer of 2012 was an establishment year and no yield or quality data was collected. To date forage yield has been collected on 2 dates in 2013 (with supplemental irrigation), 3 dates in 2014, and 4 dates in 2015. Plots were fertilized with triple 17 fertilizer (300 lbs/acre rate) in early May of each year supplying 51 pounds of nitrogen, phosphorus, and potassium. Additionally 50 pounds of actual nitrogen was supplied after each harvest. Forage quality was determined for the plots harvested in July and August of 2014 and all four harvests in 2015 (June, July, August, and September).

There are several points that are fairly clear from the harvest yields presented in the following Table. With the management in place the hybrid varieties were tops on the list in total production over the three years, even though in the first year the best of the seeded varieties performed fairly similarly to the best hybrid varieties. In the second year of production the hybrids Midland 99 and Tifton 44 began to be the most productive with other hybrids lagging slightly behind, while the seeded varieties were substantially lower in production. These two points illustrate that for hybrid varieties to show their true benefit and potential they must be managed intensively with high rates of fertility and frequent cutting interval and establishment may not be as quick as with seeded varieties. Over the three years, Tifton 44 produced 25% more than common bermudagrass, while the hybrids Midland 99 and Ozark produced 15% more than common. The selected seeded varieties (Sungrazer, Sungrazer Plus, Mohawk, Cheyenne II, and Wrangler) were similar or slightly less productive than common. The final point to consider is that the lowest performing variety is actually an excellent variety for where it was developed. Wrangler (a seeded variety) was developed by Oklahoma State University and is very productive and cold tolerant in Oklahoma, Kansas, and Missouri, yet does not seem to be a very good variety for our region in Southern Arkansas!

The forage quality analysis indicates that on the average all varieties would produce hay that is higher in nutritive value (Crude Protein and TDN) than required by a lactating cow. Our highest yielding variety (Tifton 44) was actually also our lowest in both Crude Protein (11.7%) and Total Digestible Nutrients (TDN, 60%). Several of the seeded varieties produced forage that was over 13% crude protein and 63% TDN, which is excellent hay quality for this region. Any of the varieties will provide excellent quality hay if managed with adequate fertility and harvested at the proper timing.

Dry matter yields of Ouachita District bermudagrass plots for growing seasons 2013 through 2015.				
Variety	Average Total Seasonal Yield	Rank	% Crude Protein	% Total Digestible Nutrients
Tifton 44	5,855	1	11.7	60.0
Midland 99	5,463	2	12.7	62.4
Ozark	5,432	3	12.6	62.3
Vaughan's #1	5,159	4	13.1	63.2
Genesis	4,820	5	13.7	64.7
Common	4,722	6	13.4	63.7
Sungrazer Plus	4,696	7	13.3	62.7
Sungrazer	4,560	8	13.7	63.4
Mohawk	4,488	9	13.6	63.2
Cheyenne II	4,486	10	13.4	63.0
Wrangler	3,986	11	14.5	64.5

This bermudagrass variety demonstration is managed and all the labor is supplied by the County Extension Ag Agents of the Ouachita District of Southwest Arkansas. It is a huge undertaking with a tremendous amount of time and energy involved, but the lessons learned and information collected are valuable to our clients , the forage producers of Southwest Arkansas.