HERBACEOUS MIMOSA PERFORMANCE REVIEW FOR USE AS A PERENNIAL NATIVE WARM SEASON LEGUME IN PASTURES IN THE WESTERN COASTAL PLAIN

Previous performance of perennial legume species in controlled plots by Texas Agrilife showed Crockett Germplasm herbaceous mimosa, a warm season, perennial legume released by the ETPMC, was capable of producing in excess of 6500 lb/acre of high quality forage per year. In further advancing the potential for Crockett Germplasm as a forage component in southern pastures, the ETPMC, in cooperation with LSU Ag Center’s Red River Research Station, established Crockett Germplasm into bermudagrass in twelve grazing paddocks. The goal is to determine the feasible of utilizing Crockett Germplasm with bermudagrass as a sustainable forage for southern livestock producers. Experimental grazing treatments include:

- Continually grazed year round, no restricted access
- No grazing, 100% access restricted
- Periodic grazing, grazed as foliage allows with recovery time permitted between grazing events
- Grazed until September 1 of each year.

QUALITY AND YIELD OF SEVEN FORAGES GROWN UNDER PARTIAL SHADING OF A SIMULATED SILVOPASTORAL SYSTEM IN EAST TEXAS

This three year study was developed in 2012 to determine the effects of shade on the growth and production of seven forage grasses, ‘Tifton 85’ bermudagrass, ‘Tifton 9’ bahiagrass, ‘Kaw’ big bluestem, ‘Americus’ Indiangrass, ‘Alamo’ switchgrass, ‘Nacogdoches’ eastern gamagrass, and Harrison Germplasm Florida paspalum. Forages were exposed to an open environment (non-shaded) and 50% shade. Plots were harvested on two week intervals to simulate intensive grazing in a silvopastoral system and to evaluate yield and forage quality of crude protein and digestibility. There was a decline in forage yield under shade, but the decrease in production was minimal when compared to the open environment. Shade improved forage quality of both native and introduced forages.

ADAPTATION OF PLANT MATERIAL PROGRAM RELEASED NATIVE WARM SEASON PERENNIAL GRASSES FROM THE SOUTHEASTERN US TO EAST TEXAS

The ETPMC is evaluating the performance and adaptation of native, warm season, perennial grasses for conservation use. The evaluation focuses on commercially available, cultivar releases of big bluestem, little bluestem, switchgrass, and Indiangrass developed by USDA NRCS Plant Materials Centers. Half of each plot is harvested at the boot stage of growth. A second harvest is made after first frost to assess season long production and the regrowth from the first harvest made at the boot stage. In addition to biomass, plant height, stem diameter and percent stand is taken to further categorize their performance. Performance of grass cultivars have been surprisingly similar at the ETPMC.

SHELTER BELTS FOR IMPROVING AIR QUALITY ADJACENT TO POULTRY PRODUCTION FACILITIES

The ETPMC has a cooperative study with Dr. Sherry Jerez, Stephen F. Austin State University, to evaluate the effectiveness of arborvitae, Arizona cypress, roughleaf dogwood, eastern red cedar, American holly, yaupon, and wax myrtle for reducing particulate matter, ammonia, and odor from exhaust areas of poultry production houses. Ventilation rates and air speed from exhaust fans determine tree orientation from the house. Particulate matter, concentrations of ammonia, hydrogen sulfide, and odor are obtained at critical periods to assess air quality and their effects on tree growth and survival. Early results have shown yaupon and American holly to have excellent survivability.