

## Quality and yield of seven forages grown under partial shading of simulated silvopastoral production system in east Texas

Jodi Hill\*, K.W. Farrish, B. Oswald, and J.L. Young  
Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University  
USDA NRCS East Texas Plant Materials Center, Nacogdoches, Texas

The overarching goal of this project is to evaluate the growth and nutritional characteristics of seven forages grown under simulated partial shading (50%) typical of a loblolly pine silvopastoral system. In order to meet the overall objective, individual, slatted shade structures were constructed that reproduce the quantity, quality, and overall light regime found beneath loblolly pines. The forages selected for the study are ‘Tifton 9’ bahiagrass (*Paspalum notatum*), ‘Tifton 85’ bermudagrass (*Cynodon dactylon*), ‘Alamo’ switchgrass (*Panicum virgatum*), ‘Kaw’ Big Bluestem (*Andropogon gerardii*), ‘Americus’ Indiangrass (*Sorghastrum nutans*), ‘Harrison’ Florida Paspalum (*Paspalum floridanum*), and Nacogdoches Eastern gamagrass (*Tripsacum dactyloides*). The experimental design will be a completely randomized design with forage type completely randomly assigned to plots, and shade treatment (0%, 50%) randomly assigned within forage type. Forage produced beneath the slats will be managed to simulate grazing, with recognition of minimum and optimal grazing heights based on forage type. Data will be collected on plant height, density, and dry matter yield, as well as on several nutritional parameters including *in vitro* true digestibility (IVTD), mineral nutrient concentration, crude protein (CP), neutral detergent fiber (NDF), and acid detergent fiber (ADF). Soil parameters will also be reported.