

PERFORMANCE OF SWEETGUM VARIETIES ON UPLAND SITES IN NORTH LOUISIANA

Joshua P. Adams¹, Robert Hane¹, Michael Blazier², and Michael Cunningham³

¹Louisiana Tech University, School of Agricultural Sciences and Forestry, Ruston, LA, USA

²Louisiana State University Agricultural Center; School of Renewable Natural Resources, Baton Rouge, LA, USA

³Arborgen Inc., Tallahassee, FL, USA

Hybrid sweetgum (*Liquidambar styraciflua x formosana*) has been successfully brought to operational forestry alongside of native, but improved, sweetgum (*L. styraciflua*). These complementing stocks may provide ready sources of fiber on an array of sites, including upland areas. In 2015, six sweetgum genotypes were planted at two sites in North Louisiana in Homer, LA (LSU Hill Farm Research Station) and Ruston, LA (Louisiana Tech University). Genotypes consisted of four elite hybrid clones and two superior native sweetgum half-sibling families. At both sites 25-tree square plot experimental units were established for the genotype treatments, which were replicated four times in a randomized complete block design. After the first growing season there were significant differences in survival percentage, with native sweetgum generally performing poorly relative to the hybrids. Only one hybrid clone had survival under 90% while both native sweetgum families were under 90% survival. Growth rates were also significantly affected by genotype. Ground line diameter (GLD) and height change for the first growing season mirrored survival trends, with both native sweetgum genotypes performing poorly relative to the hybrid clones. Furthermore, these differences among planting stock were generally stable across the two sites with only GLD being significantly affected by site in the first year. First year results indicate new hybrid clones may be superior to native sweetgum genotypes for upland site afforestation.

Testing height and ground line diameter growth of hybrid Sweetgum varieties in the first year after planting compared to native half-sibling Sweetgum families to be used as fiber source for pulpwood industry.

Contact Information: Joshua Adams, Louisiana Tech University, Forestry, 1501 Reese Drive, Ruston, LA 71272, Phone: 318-257-4457, Email: adamsj@latech.edu