

IMPLICATIONS OF DENSITY ON EARLY SURVIVAL AND BIOMASS PRODUCTIVITY OF *POPULUS* CLONES GROWN ON MARGINAL LANDS

Solomon B. Ghezehei, Dennis W. Hazel, Elizabeth Guthrie Nichols, Shawn D. Shifflett
Department of Forest and Environmental Resources, North Carolina State University,
Faucette Dr., Raleigh, NC, 27695, USA
sbghezeh@ncsu.edu

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Short rotation woody crops are the most promising sources of future woody feedstock supply. In particular, growing *Populus* in the southeastern United States region, the leading wood pellet exporter, is expected to play a primary role in ensuring profitable woody feedstock production by growing large volumes per acre relatively close to the wood pellet facilities in the southeast United States. However, major policy mandates including the 2007 U.S. Energy Independence and Security Act and the European Renewable Energy Directive 2009/28/EC strongly oppose the use of croplands, productive forestlands, wetlands and high biodiversity value lands for bioenergy production. In addition to these mandates, growing global bioenergy markets and the significant global availability of marginal lands that can be used for bioenergy production have led to the consideration of using marginal lands for energy crop production. We will report on the evaluation of field performance of young *Populus* clones on marginal lands in North Carolina in terms of survival and biomass productivity in response to density in order to identify the best-performing clones. The trial stands are younger than a year old, growing at high elevations in North Carolina with three density options.