

OPTIMAL MANAGEMENT AND PRODUCTIVITY OF EUCALYPTUS ON FORMER PHOSPHATE MINED AND CITRUS LANDS IN CENTRAL AND SOUTHERN FLORIDA: INFLUENCE OF GENETICS AND SPACING

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Eucalyptus short rotation woody crops (SRWC) with superior genotypes are promising in central and south Florida due to their fast growth, freeze resilience, coppicing ability, and site tolerance. Four *Eucalyptus grandis* cultivars, E.nergy™ G1, G2, G3, and/or G5, were established in 2009 at varying planting densities on a reclaimed clay settling area (CSA) in phosphate mined land in central Florida and a bedded former citrus site in southern Florida. Planting densities were 1025, 2050, and 3416 trees/acre on the CSA, and 581, 869, 1162, 1452, and 1742 trees/acre on the citrus site. Modified land expectation values (LEV) for coppicing species are reported for G2, G3, and/or G5 SRWCs on CSAs and citrus land. Optimal coppice stage and cycle lengths to the nearest 1/10th year were estimated for each cultivar × spacing × land scenario, assuming a range of coppice yields, cultural treatments (weed control and fertilization), plantation establishment and maintenance costs, stumpage prices, and real discount rates of 6, 8, and 10%. For example, at a 10% discount rate, stumpage price of \$14 green/ton, costs of \$250, 50, 974, 55, 90, and 10/acre for land preparation, bedding, planting, pre- and post-establishment weeding, fertilization, and annual management, respectively, and expected coppice yields, the LEV of CSAs under G3 at 1025 trees/acre was \$561/acre or an equal annual equivalent of ~\$56/acre/year. Currently, *Eucalyptus* is primarily harvested for landscape mulch, but markets are likely to expand into bioenergy and pulpwood applications.

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