

Poplar Plantation Management for Biomass Production in the PNW

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GreenWood Resources Inc., through the Advanced Hardwoods Biofuel (AHB) AFRI funded program, established in 2012 and 2013, four poplar demonstration plantings in regions where the bio-refining industry is expected to first develop in the Pacific Northwest. Productivity trials were installed in each of these sites to evaluate the effect of planting density (2700, 3600, and 5400 trees per hectare (tpha)), harvest time (dormant vs active growing season harvest), and alder intercropping, on poplar biomass production. Two-year results for the trials located in Jefferson, OR and Hayden, ID are presented here. The average biomass production at Jefferson was 17.8 green metric tons per hectare (GMT/ha), 70% greater than the Hayden site with 10.53 GMT/ha. Planting density had a significant effect on biomass production only at the more productive site, with 37% more biomass at 5400 tpha than at 2700 tpha. However, the wider spacing resulted in tree diameters that were 30% and 17% greater than those in the tighter spacing at Hayden and Jefferson, respectively. Alder intercropping at Jefferson had no effects on poplar biomass production, but in average contributed with 2.17 GMT/ha to the productivity of the site, suggesting no significant competition for site resources between the two species at age 2.