REINVIGORATING OLEORESIN COLLECTION IN THE SOUTHEASTERN USA: EVALUATION OF STAND MANAGEMENT AND TREE CHARACTERISTICS WITH BOREHOLE TAPPING

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The borehole tapping method was used to extract oleoresin from the xylem in slash pine (*Pinus elliottii*) in North Florida. This closed collection system allows for the recovery of higher quality resin, which can be used for a variety of commercial products as well as a natural liquid biofuel. Conifers produce oleoresin naturally as a biochemical defense against plant pests, such as boring bark beetles. The objectives of this project are to develop cost effective methods to collect oleoresin in North Florida and assess the feasibility and impact of expanding collection of pine terpenes for renewable chemicals and biofuel production on a large-scale. Treatments were applied manually using a gas powered drill as well as with an automated drilling machine mounted on a tractor designed to drill 3 connecting boreholes at the base of the tree. Oleoresin yields were compared from North Florida slash pine plantations aged 11, 15, and 22 years collected in the summer and fall. Oleoresin yields increased with stand age and DBH, as well as in stands managed for pine straw raking. Methyl jasmonate stimulated higher rates of oleoresin production compared to all other chemical stimulants.

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