

Resin Tapping from *Pinus elliottii* var. *elliottii* clones in the state of São Paulo, Brazil

T3.34 Tree improvement delivery system: breeding, selection, and seed and seedling production
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Abstract: The resin tapping has great economic importance in the forestry industry for the Southern and Southeastern regions of Brazil. *Pinus elliotti* var. *elliotti* is the most widely planted conifer for resin tapping. This is due to its high productivity and adaptability to different soil and climatic conditions. The aim of this work was to characterize the resin production of an untested clonal seed orchard of *P. elliotti* var. *elliotti* to identify the most productive clones and manage the orchard based on technical criteria. The clonal seed orchard was established in 1984 with grafts from selected resin-tapping trees at an intensity of 1:100,000 in the municipality of Assis in São Paulo State. The orchard has a spacing of 6 x 6 meters and consists of 980 trees. In 2022, resin tapping clones was extracted based on traditional methods with a panel size of 19 cm and 29 streaks. Resin was collected and weighed during the months of March, July, and December of the same year. Statistical analysis was performed using the Selegen-REML/BLUP program. Since the species is not adapted to the planting local soil and climatic conditions, the graft survival rate was 52%. The average total amount of resin was 4.6 kg for the 29 streaks, with an average per collection of 1.55 kg. The maximum and minimum values for each collection ranged from 0.05 kg to 5.77 kg between months. The phenotypic correlation between the average amount of resin per harvest and the total amount was 0.92. The correlation between the total amount and the individual harvests was also high, indicating that the most productive trees maintain their performance throughout the year. In addition to seed, propagule and pollen collection from the grafts that produced above-average resin were harvested to establish clonal and progenies tests. Furthermore, the pollen was used to performance and control pollination. The clone's productivity was validated based on the genetic tests.