BIOCHEMICAL PROFILES OF ADVENTITIOUS ROOTING IN EASY AND DIFFICULT-TO-ROOT CLONES OF *EUCALYPTUS GLOBULUS X MAIDENNI*

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The clonal propagation of *Eucalyptus* is economically important for the pulp and paper industry. In the south of Brazil, *Eucalyptus globulus* and its hybrids are the most interesting genotypes for this industry due to their relatively higher frost resistant and lower lignin content, which facilitates cellulose extraction. On the other hand, plant materials containing *E. globulus* are generally considered recalcitrant for rooting. An important step in clonal propagation is adventitious root formation, a process which can be divided in two main phases, induction and formation. The objective of this work was to characterize the adventitious rooting phases in easy and difficult-to-root clones of *Eucalyptus globulus* x *maidenni* grown aseptically with or without auxin treatment. Rooting morphometrical parameters, total soluble peroxidase activity and content of total phenolic compounds were analyzed in both clones. The easy-to-root clone rooted only when submitted to auxin treatment and showed a lower peroxidase activity in the formation step followed by higher peroxidase activity in the formation phase. In contrast, the difficult-to-root clone did not root even when submitted to auxin treatment and displayed higher peroxidase activity throughout the cultivation period, as well as higher content of total phenolic compounds when compared to the easy-to-root clone. These differences may reflect variations in auxin homeostasis between clones (Support: Aracruz Celulose, CNPq, CAPES).
Keywords: adventitious rooting, peroxidase activity, phenolic compounds, auxin homeostasis