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Formation of pro-embryogenic masses from mature seeds of *Plinia cauliflora*

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The jabuticabeira (*Plinia cauliflora*) is a native and endemic tree belonging to the family Myrtaceae, with distribution in the Southeastern and Southern regions of Brazil. Due to the recalcitrant nature of its seeds and the lack of efficient methods of vegetative propagation, commercial orchards have not been established yet. Somatic embryogenesis can be an alternative to obtain large numbers of plants in a short time, in good phytosanitary conditions. The objective of the present study was to initiate a protocol of somatic embryogenesis from mature seeds of *P. cauliflora*. The seeds were disinfested in 70% ethanol (1 min) and 5% sodium hypochlorite (10 min), followed by rinsing in sterile distilled water. The two cotyledons were separated and introduced individually, together with the embryonic axes, into test tubes containing Murashige and Skoog culture medium. For the induction of pro-embryogenic masses (PEM), three concentrations of 2,4-dichlorophenoxyacetic acid (2,4-D) were tested (5, 10 or 15 μM) without activated charcoal (AC) as well as different concentrations of 2,4-D (100, 200, 300 and 500 μM) combined with AC (0.5, 1 or 2 gL-1). In the AC-free culture medium, the formation of PEM started from the tenth day, while it was at the 20th day in the culture medium containing AC. The best concentration of 2,4-D used alone for PEM formation (70%) was 15 μM but oxidation of these masses was high (52.5%). Considering this high oxidation rate, AC was then tested as it can adsorb the phenolic compounds released by the seed tissues and reduce the oxidation. When 2,4-D was combined with AC, the concentration of 2,4-D was increased, since it is adsorbed by AC. In this case, the highest PEM formation rate was 82.5% and oxidation reduced to 3% in the medium containing 300 μM of 2,4 D and 1 $g.L^{-1}$ of AC. This result shows the importance of the addition of activated carbon to the induction medium of embryogenic cultures of *Plinia cauliflora*.

Key words: activated carbon, 2,4-D, Myrtaceae.