

Induction of somatic embryogenesis in *Psidium guajava* L. starting at the zygotic embryo stage

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Abstract

For the purpose of inducing somatic embryogenesis (SE) in guava (*Psidium guajava* L.), three dosages were studied (1, 5 and 10 mg L⁻¹) of acid 2,4 diclorofenoxiacético (2,4-D), in the immature zygotic embryo (ZE) stage of development in which the SE was induced and the percentage of ZE in each development stage: globular (G), heart (H), torpedo (T) and cotyledonal (CT), were studied in guava fruits (3,2; 3,4; 3,5 cm wide and 3,6; 3,7; 3,8; 3,9; 4 cm long) to determine the degree of T and CT association between the fruit size and the percentage of ZE in stage of T and CT, by means of a contingency analysis. The variables evaluated were: percentage of callus formation with embryogenic structures (%CFES), number of somatic embryos (E), embryogenic explant (NE) and percentage of ZE stage G, H, T and CT that E formed. NE was evaluated by means of the test of simple variance and the Tukey test; the variables expressed in percentages were analyzed statistically through the comparison of proportions test supplemented with the Fisher's exact test. With 1,0 mg L⁻¹ of 2,4-D it was possible to induce the SE (15,15% CFES) in an indirect way and in a low frequency starting from ZE in development state T (12%) and CT (7,7%). The largest percentage of ZE was observed in this state in immature fruits of 25 - 35 days after the anthesis, the length and width of which was around 4,0 and 3,5 cm, respectively.

Key words: *In vitro* culture, somatic embryogenesis, zygotic embryo, tropical fruit, guava, Myrtaceae.

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