

ABSTRACT

THE EFFECT OF SUCROSE CONCENTRATION ON THE *IN VITRO* INDUCTION OF SOMATIC EMBRYOS OF TWO PEANUT (*Arachis hypogaea* L.) CULTIVARS

By

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Regeneration of peanut through somatic embryo is the most effective way for plant propagation, potential for use in gene transfer and development of transgenic plant. Induction of somatic embryo was dependent on auxin type (picloram/4-amino-3,5,6-trichloro picolinic acid) and sucrose concentration as a carbon source.

The objective of this study was to evaluate the effect of sucrose concentration on the in vitro induction of somatic embryos of two peanut cultivars. The study conducted at the Plant Tissue Culture Lab. of Department of Agronomy, Faculty of Agriculture, Lampung University. Somatic embryogenesis was evaluated on Murashige and Skoog media Supplemented with auxin picloram (16 μ M). The experiment was arranged in completely randomized design with 10 replication. The experiment unit was one bottle with five peanut leaflets as the explant. The treatment was four levels of sucrose concentration which ranged from 0, 10, 20, 30 and 40 g/l. The leaflets obtained from dry seeds of cultivars Sima and Jerapah. Variables observed were (1) The percentage of explants producing somatic embryos; (2) The average number of somatic embryos per explant.

The result showed that the sucrose concentration of 20 g/l was the most suitable to induce somatic embryos of Jerapah. On the others, the sucrose concentration of 30 g/l was the most suitable.