Artifical Seed Technology Application in Propagation of Forest Trees

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Artifical seed production in forest trees using somatic embryos has been reported in *Eucalyptus citriodora, Santalum album, Pinus lambertiana, P. taeda,* and *Picea abies* usually with a very low regeneration rate (Gupta and Kreitinger, 1993). We utilized artificial seed production on selected tropical forest trees for which somatic embryos have not been produced. In our research the encapsulation of shoot-tip and/or axillary buds provided an alternative for the production of artificial seeds. In an attempt to improve the regeneration rate from artificial seeds two types of beads with a single or double layer were tested. The best result was obtained with double-layered beads containing media in the inner layer at a concentration of 10 times normal supplemented with 0.5% (w/v) activated charcoal and at normal concentration in the outer layer. High rates of bud emergence and shoot growth were achieved; 60% and 60% for *Cedrela odorata*, 100% and 80% for *Guazuma crinita*, and 100% and 100% for *Jacaranda mimosifolia*, respectively, (Maruyama et al., 1997). These techniques were also applied to *Paulownia tomentosa* and *Eucalyptus citriodora*. Encapsulated axillary buds were germinated under outside condition.

Development of a suitable coating for the artificial seeds, which will allow the artificial seeds to survive under non-aseptic condition, is required for practical implementation.

LITERATURE CITED

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