

**STUDY ON EFFECT OF GROWTH REGULATORS ON
IN-VITRO SHOOTING OF *Calathea ornata* FOR
COMMERCIAL CULTIVATION**

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ABSTRACT

Clathea ornata is a foliage plant belongs to the family Marantaceae, having high commercial value all over the world as a house plant due its attractiveness. This study, focused to develop cost effective shoot induction protocol to obtain high number of shoots for commercial usage. The effects of different sterilization techniques, explant types, various combination and concentration of plant growth regulators on shoot induction were studied. The meristem explant showed high induction rate of shoots with minimum contamination percentage when explant treated with 20% (v/v) NaOCl for 10 minutes, 0.3% HgCl₂ in 15 minutes and 70% alcohol 2 minutes. Further, the maximum number of multiple shoots was obtained in MS basal medium supplemented with 3.0 mg l⁻¹ 6-Benzyl Amino Purine (BAP) and 3.5 mg l⁻¹ Naphthalene Acetic Acid (NAA). Initiated shoot then sub cultured for shoot multiplication in terms of highest number of shoots and shoot length was observed in MS media in combination with BAP 3.0 mg l⁻¹ with NAA 3.5 mg l⁻¹.

Key words: sterilization, NAA, BAP, sub culture, *in-vitro* shoots