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Research article

In vitro response of reproductive organs of *Crescentia alata* kunth to callogenesis, an important multipurpose medicinal tree

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Key words: *Crescentia alata,* Bignoniaceae, *In vitro* callogenesis, reproductive explants, ovary culture, plant growth regulators.

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Abstract

Crescentia alata is an important species in the trumpet-flower family. It is an important medicinal and commercially valuable tree which belongs to the family Bignoniaceae and it is commonly called as Mexican Calabash tree. *C. alata* is a part of the herbal mixtures reported in various traditional medicines for respiratory ailments, bronchitis, cough, colds, and toothaches, headaches, as laxative, anti-inflammatory and febrifuge. Plant tissue culture is a fast and efficient tool for developing new varieties in a comparatively short time. Various explants excised from reproductive organs of *Crescentia alata* were inoculated on Murashige and Skoog (MS) medium. It was supplemented with different concentrations and different combinations of PGRs (BAP, KIN, IBA, NAA, IAA, 2, 4-D) for callogenesis. Initial callus induction was found to be highest in style with ovary explants on 2, 4-D 3.0 mg/l and Kinetin 0.5 mg/l in 13th day of the culture, respectively. Style with ovary found to be the best explant for callus induction and growth (80%). Use of Style with ovary explant source is the best among various reproductive parts already explored. 2, 4-D & Kinetin seems to be better growth hormone for both callus induction and callus growth. This protocol can be helpful to propagate male and female plants swiftly by subsequent embryogenesis and organogenesis.