

**MICROPROPAGATION OF A MEDICINAL HERB,**

*Tacca* sp.

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## ABSTRACT

### MICROPROPAGATION OF A MEDICINAL HERB, *Tacca* sp.

*Tacca* sp. is an interesting perennial herbaceous plant under the family Taccaceae. The genus *Tacca* is mainly distributed in the tropical region of Asia, the Pacific island and Australia. *Tacca* sp. are gaining attention due to their medicinal properties. *Tacca* sp. propagate from seeds but the seed germination rate was quite low. Thus, tissue culture is believed to be the best option for rapid and mass production of *Tacca* sp. The objectives of this study are to investigate the callus production and phenotypic change in the cultured explant of *Tacca* sp. and to identify the suitable hormonal treatment of Murashige and Skoog's media with four different combinations of plant growth regulators (Kn + 2,4-D, Kn + IAA, Kn + IBA, Kn + NAA). Standard micropropagation techniques used were sterilization of explant, followed by inoculation of explant on media and incubation in 16:8 hours photoperiod at  $26 \pm 2^\circ\text{C}$  for 6 weeks. Observation was done every week for callus morphology. The diameter of callus and the number of shoot induction was calculated every week. The data collected were subjected to ANOVA by applying  $P < 0.05$  as the level of significance. All the explants treated showed successful callus formation. Yellow and friable callus were observed in the early stage of callus formation while the mature stage of callus showed light green and compact callus. The treatments used in this study showed no significant differences on the callus diameter ( $P=0.628$ ) and shoot induction ( $P=0.438$ ) of *Tacca* sp. Therefore, no best hormonal treatment of MS media is recommended in this study.