IN VITRO SHOOT INDUCTION OF *Tacca integrifolia*

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ABSTRACT

IN VITRO SHOOT INDUCTION OF *Tacca integrifolia*

T. integrifolia is an endangered species that has high demand and economic value, especially for medicinal and ornamental purposes. However, habitat destruction and its low germination rate have threatened the survival of this species. Therefore, micropropagation technique has been applied to mass propagate this species in short period of time. The objectives of this study are to investigate the cells formation by subculturing of *T. integrifolia* in MS medium and determine the shoot induction by using different concentration of hormones. 0.5 cm of sterilized plantlets were cut from subculture of *T. integrifolia* and inoculated into four different treatments (T1-T4) and a control. The culture media were incubated under direct light of 16:8 hours light:dark photoperiod at 25°C for 8 weeks. The parameters used in this study were the diameter of callus, height of plantlets and number of shoots. Within 8 weeks of incubation period, the results showed that T1 were the best medium for callus growth (1.66 ± 0.10 cm) and it was significantly different ($p = 0.031$) with other treatments, while for the height of plantlets, T3 produced the highest plantlets (1.09 ± 0.11 cm) and was significantly difference ($p = 0.001$). As for the number of shoots, T3 was the best treatment since it produced the most number of shoots (6.21 ± 0.85 average numbers of shoots per explant) and was significantly different ($p = 0.025$) from the other treatments. Overall, from the analysis of results of all the three parameters, T3 (MS medium + 0.5 mg/L NAA + 1.5 mg/L BAP) was found to be the best medium for shoot induction of *T. integrifolia*.