

***In vitro* shoot multiplication and plant regeneration from organogenic callus of *Curcuma alismatifolia* Gagnep and *C. cordata* Wall. (Zingiberaceae)**

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Abstract

This research aims to evaluate the effect of different concentration sets of BA and 2,4-D combinations on *Curcuma alismatifolia* Gagnep and *C. cordata* Wall. lateral bud proliferation and callus induction to construct plantlet regeneration systems. The results indicated that the lateral shoots proliferation of *C. alismatifolia* and *C. cordata* were reached 3.45 and 4.25 buds per decapitated stem explant. In MS medium with 5.0 mg l⁻¹ BA; the explant materials from leaf sheath were easier to induce good quality callus, while induction rate were 65.0% and 85.3%, respectively. Only in VW medium with 0.5 mg l⁻¹ 2,4-D and 0.05 mg l⁻¹ BA, the pale yellowed leaf sheath calli were able to form larger aggregated cells which regenerated adventitious shoot primordia in culture medium without plant growth regulators. Proliferated shoots and adventitious buds regenerated from calli developed into plantlets after culturing 1-2 month, and the plantlets were then able to grow *ex vitro* with survival rate at least 95%.

Key words: *Curcuma alismatifolia*, *C. cordata*, Adventitious lateral shoot, Plant regeneration

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