

IN VITRO CULTURES OF ADVENTITIOUS ROOTS OF GIAO CO LAM (*GYNOSTEMMA PENTAPHYLLUM*) and SAPONIN accumulation

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Summary

Giao co lam (*Gynostemma pentaphyllum*) is a rarely valuable medicinal herb useful for the people's health. However, that productivity is still limited and price is still high. Nowadays, the development of plant cell technology has opened up a new direction to solve some problems in the field cultivation. In particular, the adventitious root culture *in vitro* for biomass collection is considered as an effective technique. The *in vitro* leaf samples cultured on MS medium with NAA 1.5 mg/L induced callus with the highest rate (77.78%). The suitable medium for root-induced callus was MS added with 0.5 mg/L IBA (91.11%). The SH medium with 0.5 mg/L IBA and 0.5 mg/L NAA was suitable for proliferation of root biomass in liquid medium reached the highest weight of root biomass at day 28 of the culture. The supplementation of 10 mg/L methyl jasmonate into the culture media did not increase the proliferation of root biomass but it enhanced saponin content 34.67%.

Keywords: *Gynostemma pentaphyllum*, adventitious root cultures, methyl jasmonate, saponin.