

IN VITRO PROPAGATION OF *Polyscias fruticosa* L. Harms

Nguyen Thi Tho¹, Khuat Thi Hai Ninh², Vu Thi Phan³,
Le Viet Viet⁴, Bui Van Thang⁵

^{1,2,3,4,5} Vietnam National University of Forestry

SUMMARY

Polyscias fruticosa L. Harms, belonging to the family Araliaceae, is a small shrub plant with multi-purposes such as a type of spice, an ornamental plant, and a traditional medicine, especially in its tuber root. *P. fruticosa* consists of many valuable compounds as saponin and polyacetylene, which commonly appear in the *Panax ginseng*. Nowadays, the need for planting *P. fruticosa* in Vietnam is high, while the resource of seedlings or cuttings is limited. Thus, application of advanced method (*in vitro*) to propagate this high - value plant is extremely necessary. The result of this research showed that the nodal segments of *P. fruticosa* sterilized by rinsing for 1 minute with 70% alcohol and 8 minutes with 0.1% HgCl₂ have resulted in the highest rate for survival (41.7%). For multi-shoot stage, the highest number of shoot (5.47 shoots/explant) was obtained at Murashige and Skoog's (MS) base medium supplemented with 3% sucrose; 0.7% agar; 1.5 mg/l BAP; 0.5 mg/l kinetin and 0.5 mg/l IBA. For root stage, the number of roots (11 roots per shoot) and root length (5.1 cm per root) were the best on the MS medium supplemented with 3% sucrose; 0.7% agar, 1 mg/l α -NAA and 0.1% activated carbon. The result of this research is recognized that the method of *in vitro* can be used to develop the suitable protocol for propagation of *P. fruticosa* and to propagate the number of seedlings with high quality for development of *P. fruticosa* in Vietnam.

Keywords: *In vitro* propagation, *Polyscias fruticosa*, tissue culture.