

# ***IN VITRO* BIOMASS MULTIPLICATION OF SOMATIC EMBRYOS OF *Polyscias fruticosa* (L.) HARMS BY SHAKING CULTURE**

**Trinh Viet Nga, Nguyen Duc Minh Hung, Bui Minh Tri,  
Ngo Thi Anh Khoi, Trieu Thi Bich,  
Pham Thi Minh Tam, Nguyen Huu Ho**

## **Summary**

*In vitro* multiplication of somatic embryos biomass is one of the most effective methods for plant vegetative propagation, especially by shaking culture method. In this study, material for culturing was somatic embryos of *Polyscias fruticosa* (L.) Harms originated from leaf explants cultured *in vitro*. Two-factor experiments were laid out in randomized complete block design. T factor - inoculum size of somatic embryos (0.5 and 1.0 g ~ 0.625 and 1.25% w/v, respectively) and K factor - shaking speed (80, 100, 120 rpm) were examined. The results showed that biomass multiplication was best in the case of inoculum size of 1 g, shaking speed of 100 rpm; fresh weight was 7.5 g, embryos multiplication ratio was 8.5-fold after 30 - day of culture. The increase of somatic embryo biomass based on the formation of adventitious somatic embryos for producing secondary embryos. The curve of growth and growth rate of somatic embryo suspension cultures were carried out. Plant conversion from germinated embryos led to well-developed plants with high ratio, plants grew *in vitro* with normal phenotype and relatively equal size on the 1/2MS medium without plant growth regulators. This is the first report on *in vitro* biomass multiplication of somatic embryos of *Polyscias fruticosa* (L.) Harms by shaking culture.

**Keywords:** *Biomass growth, Polyscias fruticosa, shaking culture, somatic embryo.*