

SUMMARY

Nepenthes mirabilis (Lour.) Druce is one of Indonesia's endemic plants whose population is endangered due to over-exploitation and habitat destruction. Conservation efforts to prevent the extinction of *N. mirabilis* can be carried out by *in vitro* propagation. The success of *in vitro* culture is influenced by many factors, including media formulations and solidifying agent. This research aimed to study the effect of the interaction between media formulations and phytagel concentrations on *N. mirabilis* microshoots growth and to determine the best media formulations and phytagel concentration for *N. mirabilis* microshoots growth.

This research was conducted experimentally using a Completely Randomized Design (CRD) on a factorial treatment pattern. The first factor was media formulations which consisted of 4 levels, namely full-strength MS, half-strength MS, half-strength MS supplemented with AB-Mix, and AB-Mix. The second factor was phytagel concentrations which consisted of 3 levels, i.e. 2.5 g.L⁻¹, 3 g.L⁻¹, and 3.5 g.L⁻¹. Each treatment combination was repeated 5 times, which resulted in 60 experimental units. The dependent variable observed was the growth of the *N. mirabilis* microshoots. The parameters measured include shoot emergence time, the number of shoots, the number of leaves, and shoot length. Relative Growth Rates were then calculated based on the parameter data. The data obtained were analyzed using an analysis of variance (ANOVA) at 95% and 99% confidence levels, followed by Duncan Multiple Range Test with a confidence level of 95%. The research result showed that media formulations and phytagel concentrations controlled the time of shoot emergence, the number of shoots, shoot length, and the number of leaves, and their respective RGR's. The interaction between media formulations and phytagel concentrations significantly affected the number of shoots of *N. mirabilis* in *in vitro* culture. The best media for *N. mirabilis* number of shoots growth was half-strength MS media solidified with 2.5 g.L⁻¹ phytagel.

Keywords: *AB-Mix, Microshoots, Murashige & Skoog, Nepenthes mirabilis*