

OPTIMIZATION OF FERTILIZER BASED INVITRO CULTURE MEDIUM FOR ORCHID PLANT MULTIPLICATION

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ABSTRACT

The aimed of this research is to know the effectiveness of various fertilizers as nutrition source in Dendrobium antennatum (D. Antennatum) in vitro culture. It's an experimental research, with 2 factor completely randomized design. The factor is the type of fertilizer and concentration of fertilizer. The main material in this research was the D. antennatum at 12 months after planting (map) and various fertilizer (Hyponex, Gaviota, and Gandasil-D). Plant growth was measured on plant height, shoots number, leaves number, leaves length, roots number, root length, root diameter, stem diameter and fresh weight at 18 weeks after subcultured. All types of fertilizers were effective for nutrition D. Antennatum in vitro culture medium. Gandasil-D concentration 2 g.L⁻¹ was the most effective in supporting growth in the bud system, while Gaviota concentration 2 g.L⁻¹ and Gandasil-D concentration 2 g.L⁻¹ was the most effective in supporting root system growth. The best type of fertilizer to support the total growth of plants in this research was Gandasil-D concentration 2 g.L⁻¹.

Kata Kunci: *fertilizer, in vitro culture medium, plant multiplication, Dendrobium antennatum*