

Increasing Pseudobulb Size through Increased Sucrose and Phosphate Concentration on In Vitro Culture Medium of *Dendrobium* and *Cattleya* Orchid

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ABSTRACT

The aim of this research is to increase the size of *Dendrobium antennatum* and *Cattleya aurantiaca* pseudobulb by increasing the content of sucrose and phosphate on their in vitro culture medium. The mediums used in this study were New Phalaenopsis (NP) + 150 ml.L⁻¹ coconut water added with various concentration combination of sucrose (20; 22,5; 25; 30; and 40 gr.L⁻¹) and phosphate (1x, 1.5x, and 2x KH₂PO₄ content in NP medium). The 6 months after seed sowing (mass) plants were subcultured on each medium (2 plant/container) with 3replication. The observation of growth characteristics were done on leaf number, root number, leaf length, plant height, and stem/pseudobulb diameter. The best pseudobulb growth for *D. antennatum* orchid was achieved on medium with a combination of 30 g.L⁻¹ sucrose and 2x phosphate, while *C. aurantiaca* was achieved on medium with a combination of 40 g.L⁻¹ sucrose and 1x phosphate.

Kata Kunci: *pseudobulb*, *Dendrobium antennatum*, *Cattleya aurantiaca*, *sucrose*, *phosphate*