

ABSTRACT

THE EFFECT OF TYPES OF FOLIAR FERTILIZER AND THE FREQUENCY OF BENZILADENINE APPLICATION ON GROWTH OF SEEDLINGS DENDROBIUM HYBRIDS ORCHID

By

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Dendrobium orchid is an Indonesia original species that has various colors, shapes and flavors. Demand for orchids as potting plants and cut flowers in Indonesia cannot be supplied by orchid producers. Availability of hybrid seeds, lack of technology in vitro clonal propagation and cultivation of orchids is still a problem due to lack of orchid breeding activities. Therefore, Indonesia still imports the seeds. One way of increasing orchid production is by promoting growth and enhancing flowering.

This study aimed to determine the effect (1) effects of foliar fertilizers on growth of seedlings *Dendrobium* hybrids orchid, (2) effects of BA (0, 2, 4, and 6 times / month) on growth of seedlings *Dendrobium* hybrids orchid, (3) investigate whether there was interaction between effects of foliar fertilizers and BA on growth of seedlings *Dendrobium* hybrids orchid.

This research was conducted in a green house, Faculty of Agriculture, University of Lampung from June to October 2010. Treatments were factorially arranged in a completely randomized block design (RKTS) with three replicates. There were two factors. The first factor was types of foliar fertilizers (Growmore and

Hyponex) and the second factor was the frequency of BA application (0, 2, 4, and 6 times / month). All data were analyzed by ANOVA. Data analysis followed by Least Significant Difference test (LSD) at 5% significance level (SAS System for Windows V6.12). The variables were the height of shoots, leaf number, stem diameter, number of shoots, number of primary roots and fresh weight.

This research showed that (1) types of foliar fertilizer (Growmore and Hyponex) had no significant effect on the variables of observation as follows : the height of shoots, leaf number, stem diameter, number of shoots, number of primary roots, and fresh weight of *Dendrobium* hybrids (2) the frequency of BA application of 4 or 6 times / month resulted in the best response in shoot height and fresh weight of *Dendrobium* hybrids, and the frequency of BA application of 6 times /month resulted in the best response in number of primary roots (3) there was interaction between types of foliar fertilizers and the frequency of BA application on shoot height, number of primary roots, and fresh weight of *Dendrobium* hybrids orchid . Treatment Combination of Hyponex and frequency of BA application of 6 times / month led to highest average score for all three variables.

Key words : *Dendrobium* orchid, foliar fertilizer, frequency of BA application, growth.