

ABSTRACT

EFFECT OF ACTIVATED CHARCOAL AND COCONUT WATER IN MEDIUM ½ MS GROWTH OF PROTOKORM ORCHID *Dendrobium* sp. IN VITRO

by

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Orchid is a plant that grows as an epiphyte with a ride on a stem or stalk of the parent plant without harming the mother. However, orchids are plants that are already familiar. One type is the famous orchid orchid *Dendrobium* sp. By color, size, fragrant, and a variety of flower shapes, thus making orchid *Dendrobium* sp. much in demand by orchid lovers. However, the request was not accompanied by the production of orchid seedlings, especially in Lampung. This is due in Lampung orchid seed availability is limited and is derived from the outer islands.

Tissue culture is one alternative way of providing orchid seeds with good quality, except that we can create a new hybrid orchid to a cross between elders orchids. Method for multiplication is performed by adding additional material such as activated charcoal and coconut water as adenda. Thus the provision of material adenda additional and are expected to have a positive effect on the growth of orchid culture.

This study aims to (1) Knowing the effect of activated charcoal administration of 2 g/l in ½ MS medium on the growth of the orchid *Dendrobium* sp. protokorm. (2) Knowing the effect of coconut water concentrations (0, 50, 100 and 200 ml/l) on ½ MS medium on the growth of the orchid *Dendrobium* sp. protokorm. (3) Knowing the interaction between activated charcoal and coconut water concentrations (0, 50, 100, and 200 ml/l) on ½ MS medium on the growth of the orchid *Dendrobium* sp. protokorm.

The research was conducted at the Plant Tissue Culture Laboratory, Faculty of Agriculture, University of Lampung, from October 2011 to March 2012. The research was carried out using a factorial treatment design (2x4). The first factor is (to use activated charcoal 2 g/l and no use of activated charcoal 0 g/l). The second factor is the use of coconut water (0, 50, 100, 200 ml/l). Homogeneity

range between treatments were tested with the Bartlett test, while additivity was tested with the Tukey test. If both assumptions are met, then proceed with data analysis sidikragam. Mean separation by LSD at 5% level.

The results showed that (1) Addition of activated charcoal 2 g/l in ½ MS medium can increase the height of shoots, leaf length and plant wet weight, but had no effect on leaf length, and number of leaves of the orchid *Dendrobium* sp. (2) Provision of coconut water on ½ MS media can increase the height of shoots, leaf length, and weight of the explants, but had no effect on leaf number and root length orchid *Dendrobium* sp. (3) Effect of increasing concentrations of between 50 to 200 ml/l as well in enhancing the growth of orchids *Dendrobium* sp. on ½ MS medium. (4) In general, there is no interaction between the administration of activated charcoal and coconut water affect plant growth in the orchid *Dendrobium* sp.

Key words: *Dendrobium* sp., Activated charcoal, Coconut water