ENHANCING AXILLARY BUD FORMATION OF Dendrobium Red Emperor ‘Prince’ THROUGH BENZYL AMINO PURINE (BAP) ADDITION IN IN-VITRO CULTURE MEDIUM

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ABSTRACT

The purpose of this study is to determine the effect of the addition of BAP and the position of nodus on the formation of axillary shoots and to know the optimum concentration of BAP for the induction of Dendrobium Red Emperor 'Prince' axial shoots. The research design used is a Complete Factorial Randomized Design consisting of two treatment factors, namely: concentration of growing regulatory substances (ZPT) BAP (0ppm, 1 ppm, 2 ppm, and 3 pmm) and the position of the nodus (top, middle, bottom), each treatment repeated 5 times. The explant of the nodus were taken from plants produced by previous in vitro culture having 5 nodi. The basic medium used is New Phalaenopsis (NP) + Coconut Water + 1 ppm 2.4-D). The growth of axillary bud growth is measured based on the time of the bud emergence, growth of crown, and that of root. Data obtained were then analyzed using ANOVA. If there was a significant difference, the analysis was continued with a test of DMRT with a significant level of 5%. The results showed the addition of concentrations of 1 ppm and 2 ppm BAP influenced the time of the bud emergence, growth of crown, and that of root. The optimum concentration of BAP to induce the orchid axillary shoots is 2 ppm, whilst the best position of the nodus is the middle one. There is an interaction between the variation of BAP concentration and the position of the nodus against the time bud emergence, number of shoots and length of leaves of the orchid.

Kata Kunci: *Dendrobium Red Emperor ‘Prince’ orchid, axillary bud, BAP, in vitro culture*