

Pengaruh Jenis Media dan Konsentrasi Pepton Terhadap Pertumbuhan Planlet Anggrek (*Dendrobium* sp.) pada Tahap Subkultur (*Influence of Media Type and Pepton Concentrations on Orchid Planlet Growth (*Dendrobium* sp.) at the Subculture Stage*) Supervisor: Putri Santika, S.ST, M.Sc.

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ABSTRACT

*The production of orchid plants in nature is relatively slow and limited, so alternative techniques are needed to propagate these plants quickly and efficiently, through tissue culture. One of the main factors determining the growth rate of orchid plantlets during in vitro culture is the nutrient composition at each stage, including subcultures. This study was conducted to determine the influence of media type and peptone concentration on the growth of *Dendrobium* orchid plantlets at the subculture stage. The study was conducted at the Jember State Polytechnic Tissue Culture Laboratory from June 6 to September 6, 2022 using a factorial Complete Randomized Design (CRD) and three repetitions. There are two factors to be tested, namely the type of media (Murashige and Skoog & Vacin and Went) as the first factor and the concentration of peptone (0, 1, 2, 3, and 4 g/l) as the second factor. The results found that at the age of 45 days after inoculation (DAI), the use of M₂ type media (Vacin and Went) significantly affected the number of leaves in plants, while the use of M₁ type media (Murashige and Skoog) significantly affected the number of roots. The results of this study also showed that the use of peptone concentration at the level of P₄ (4 g/l) very significantly affected the growth of *Dendrobium* orchid plants at the subculture stage. Such concentrations have a significant influence on the number of leaves, the number of roots, the length of the leaves, and the length of the roots. At the age of 90 DAI, the type of M₂ media (Vacin and Went) has a very significant effect on the number of leaves and the type of M₁ media (Murashige and Skoog) has a significant effect on the number of roots. Peptone concentration at P₄ level (4 g/l) has a very noticeable effect on leaf count, root count, leaf length, root length, and leaf width. The interaction between media type and peptone concentration in the M₂P₄ treatment unit has a very noticeable influence on leaf count, root count, leaf length, root length, and leaf width. The conclusion of this study is that the type of media and peptone concentration can have a significant influence on the growth of orchid plantlets at the subculture stage, with Vacin and Went media and peptone concentration of 4 g/l producing the best growth.*

Key words: *Pepton, Media, Vacin and Went, Murashige and Skoog*