

**Pengaruh Konsentrasi dan Interval Pengaplikasian POC Terhadap
Pertumbuhan Bibit Anggrek (*Dendrobium*) pada Tahap Aklimatisasi**
*(The Effect of Liquid Organic Fertilizer Concentration and Application Interval
on the Growth of Dendrobium Orchid Seedlings During the Acclimatization
Stage)*

Supervised by : Netty Ermawati. SP.,Ph.D

Nurliana

Study Program of Seed Production Technique
Majoring of Agricultural Production
Program Studi Teknik Produksi Benih
Jurusan Produksi Pertanian

ABSTRACT

Dendrobium Orchid is one of the ornamental plants with high economic value and is widely cultivated in Indonesia. In tissue culture propagation, the acclimatization stage is a critical phase that determines the success of plantlets in adapting from in vitro to ex vitro conditions. Successful acclimatization is influenced by nutrient availability, which can be enhanced through the application of liquid organic fertilizer (LOF). This study aimed to determine the effects of LOF concentration, application interval, and their interaction on the growth of Dendrobium orchid plantlets during the acclimatization stage. The study was conducted at the Greenhouse of the Tissue Culture Laboratory, Politeknik Negeri Jember, from June to October 2025. A factorial Completely Randomized Design (CRD) with two factors was used. The first factor was LOF concentration consisting of 1.5 mL L⁻¹, 2.0 mL L⁻¹, and 2.5 mL L⁻¹. The second factor was the LOF application interval consisting of 5, 10, and 15 days. Observed variables included number of leaves, leaf width, leaf length, and plant height. Data were analyzed using analysis of variance (ANOVA) followed by Duncan's Multiple Range Test (DMRT) at the 5% significance level. The results showed that LOF concentration had a highly significant effect on leaf length but did not significantly affect the number of leaves, leaf width, or plant height. The application interval had a highly significant effect on all observed growth parameters. The interaction between LOF concentration and application interval significantly affected the number of leaves, leaf width, and leaf length, but had no significant effect on plant height. The best treatment combination was 2.5 mL L⁻¹ LOF applied every 5 days (K3V1), resulting in 15.0 leaves, 9.3 cm leaf width, and 12.5 cm leaf length at 120 days after planting.

Keywords: *acclimatization, liquid organic fertilizer, fertilizer concentration, application interval, Dendrobium orchid.*