

Pengaruh Aplikasi *Mikoriza Arbuskular* dan Intensitas Penyiraman Terhadap Pertumbuhan Bibit Kopi Arabika (*Coffea Arabica* L.) pada Berbagai Kondisi Cekaman. The Effect of Arbuscular Mycorrhiza Application and Watering Intensity on the Growth of Arabica Coffee Seedlings (*Coffea Arabica* L.) under Various Stress Conditions. Pembimbing: Elly Daru Ika Wilujeng, S.P., M.Si

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ABSTRACT

Coffee is a very important plantation export commodity for the Indonesian economy. One of the determinants of successful coffee cultivation is the availability of superior and high-quality planting materials. In 2023, coffee production in Jember showed a decline of 27% and 30% of coffee plants died due to El Niño. One solution that can be utilised is arbuscular mycorrhiza. This research was conducted at the Seed Production Engineering experimental farm, the Seed Production Engineering Laboratory, the Coffee Plantation Processing Laboratory, and the Soil Laboratory of the Seed Production Engineering study programme, Department of Agriculture, Jember State Polytechnic, Jember Regency. This study used a complete randomized design (CRD) with two factors. The first factor was the application of Arbuscular Mycorrhiza, consisting of no treatment (M0), mycorrhiza with a dose of 10 grams (M1), a dose of 20 grams (M2), and a dose of 30 grams (M3). The second factor was irrigation intensity, consisting of irrigation every 3 days (K1), every 5 days (K2), and every 7 days (K3). The data were analysed using ANOVA (Analysis of Variance). If the results showed significant or very significant differences, a follow-up test was conducted using DMRT (Duncan Multiple Range Test) at an error rate (α) = 5%. The results showed that the application of arbuscular mycorrhiza had a very significant effect on the increase in height, stem diameter, leaf length, leaf width, root length, and colony infection percentage, and that the application with a dose of 30 g gave the best results. The watering intensity treatment had a very significant effect on the increase in height, stem diameter, and leaf length, and watering every 7 days gave the best results. The interaction between arbuscular mycorrhiza application (M) and watering frequency (K) had no significant effect on plant height increase, stem diameter increase, leaf length increase, leaf width increase, root length, and colony infection percentage.

Key Words : Arbuscular Mycorrhiza, Drought, Coffee Cultivation, Plant Growth