

INTISARI

Anomali iklim *el nino* berdampak negatif terhadap pertumbuhan tanaman kopi robusta bahkan kematian. Pemupukan sejak pindah tanam dapat menjadi mitigasi dampak negatif *el nino*. Terdapat tiga jenis pupuk, yaitu organik, anorganik, dan hayati yang dapat merangsang pertumbuhan kopi robusta. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi tiga jenis pupuk secara tunggal dan kombinasinya terhadap pertumbuhan tanaman kopi robusta setelah pindah tanam. Penelitian ini dilakukan pada bulan November 2023 hingga Maret 2024 di Lingkungan Kebun Percobaan Departemen Budidaya Pertanian, Fakultas Pertanian, Universitas Gadjah Mada. Percobaan pot dilakukan mengikuti kaidah Rancangan Acak Kelompok Lengkap (RAKL) dengan 5 ulangan. Perlakuan yang dilakukan pada penelitian ini berupa aplikasi pupuk anorganik, organik, hayati, anorganik-hayati, organik-hayati, anorganik-organik, dan anorganik-hayati-organik. Pupuk anorganik diwakili oleh NPK 15-15-15 1 g/pot, pupuk organik berupa kompos 160 g/pot, dan pupuk hayati berupa *mycovir* 2 g/pot. Data kuantitatif dianalisis dengan analisis ragam (ANOVA) dengan taraf signifikansi 5% dan dilanjutkan uji lanjut *Honestly Significant Difference* (HSD) Tukey dengan taraf signifikansi yang sama. Data kualitatif dianalisis dengan analisis deskriptif. Hasil penelitian menunjukkan aplikasi jenis pupuk dan kombinasinya berdampak positif secara signifikan terhadap peningkatan pertumbuhan tanaman kopi robusta pada keragaan akar, kehijauan daun, bobot kering akar, nisbah akar/tajuk, dan persentase infeksi FMA; berdampak positif secara tidak signifikan pada diameter batang, jumlah daun, luas daun bobot kering tajuk, dan bobot kering total; dan berdampak negatif secara tidak signifikan pada tinggi tanaman.

Kata kunci : Kopi robusta, pertumbuhan, anorganik, organik, hayati.

ABSTRACT

The El Niño climate anomaly has a detrimental effect on the growth of robusta coffee plants, sometimes leading to fatalities. Fertilization immediately after transplanting has been identified as a potential mitigation strategy against these negative impacts. Fertilizers come in three main types: organic, inorganic, and biological, each capable of stimulating robusta coffee growth. This study aims to investigate the effects of applying these fertilizers individually and in combinations on the growth of robusta coffee plants after transplanting. The research was conducted from November 2023 to March 2024 at the Experimental Garden of the Department of Crop Cultivation, Faculty of Agriculture, Gadjah Mada University. The experimental design followed the guidelines of a Completely Randomized Block Design (CRBD) with 5 replications. Treatments included the application of inorganic fertilizers (NPK 15-15-15 at 1 g/pot), organic fertilizers (compost at 160 g/pot), and biofertilizers (mycovir at 2 g/pot). Combinations of these fertilizers were also tested: inorganic-biological, organic-biological, inorganic-organic, and inorganic-biological-organic. Quantitative data were analyzed using Analysis of Variance (ANOVA) at a significance level of 5%, followed by the Honestly Significant Difference (HSD) Tukey's test at the same significance level. Qualitative data were analyzed descriptively. The results indicated that the application of these fertilizers and their combinations had a significant positive impact on robusta coffee plant growth, particularly in terms of root performance, leaf greenness, root dry weight, root/shoot ratio, and percentage of AMF (Arbuscular Mycorrhizal Fungi) infection. There were non-significant positive impacts observed on stem diameter, leaf count, leaf area, shoot dry weight, and total dry weight, while plant height showed a non-significant negative impact.

Keywords: Robusta coffee, Growth, Inorganic fertilizers, Organik fertilizers, Biofertilizers.