INTISARI

Penelitian bertujuan untuk mengkaji peran mikrobia bermanfaat pada peningkatan produktivitas dan mutu hasil pertanaman teh klon gambung 7 di dataran tinggi. Penelitian dilaksanakan pada bulan Juni – Desember 2022 PT. Pagilaran Unit produksi Jatilawang yang bertempat di Desa Kertosari, Kecamatan Kalibening, Kabupaten Banjarnegara, Provinsi Jawa Tengah. Analisis laboratorium karakterisasi tanah, fisiologi, produktivitas dan mutu hasil teh akan dilakukan di Laboratorium Balai Pengkajian Teknologi Pertanian Yogyakarta serta Laboratorium Manajemen Produksi Tanaman Fakultas Pertanian Universitas Gadjah Mada. Percobaan disusun menggunakan Rancangan Lingkungan Acak Kelompok Lengkap (RAKL) faktor tunggal dengan tiga blok sebagai ulangan. Perlakuan yang digunakan adalah T: Tanpa perlakuan apapun, A: Pupuk anorganik, M: Mikrobia bermanfaat, K: Pupuk kompos, AM: Kombinasi pupuk anorganik dan mikrobia bermanfaat, MK: Kombinasi mikrobia bermanfaat dan pupuk kompos, AK: Kombinasi pupuk anorganik dan pupuk kompos, AMK: Kombinasi pupuk anorganik, mikrobia bermanfaat dan pupuk kompos. Pengamatan dilakukan pada variabel sifat kimia tanah yang dilakuansebnayak dua kali, aktivitas biokimia, fisiologis serta komponen produktivitas dan mutu hasil tanaman teh. Data yang diperoleh selajutnya diuji varian (ANOVA), Least significant Diffrence (LSD) α = 5% dan penentuan pengaruh langsung dan tidak langsung dengan analisis lintas (*path analysis*). Hasil penelitian menunjukkan aplikasi perlakuan kombinasi mikrobia bermanfaat (*Azotobacte*r sp. dan *Bacillu*s sp.) dan pupuk kandang dapat meningkatkan produktivitas dan mutu hasil pertanaman teh ditunjukkan dengan tingginya beberapa indikator jumlah pucuk, rasio jumlah pucuk, bobot pucuk, analisis petik , analisis pucuk, bobot segar, bobot kering, kandungan total flavonoid, kandungan total asam amino serta mampu mengurangi serangan penyakit cacar daun teh.

Kata kunci: Tanaman teh (klon gambung 7) , mikrobia bermanfaat (*Azotobacte*r sp. dan *Bacillu*s sp.), mutu hasil, prosuktivitas, dataran tinggi

ABSTRACT

The study aims to examine the role of beneficial microbes in increasing the productivity and quality of gambung 7 clone tea plantations in the highlands. The study was conducted in June - December 2022 PT. Pagilaran Jatilawang production unit located in Kertosari Village, Kalibening District, Banjarnegara Regency, Central Java Province. Laboratory analysis of soil characterization, physiology, productivity and quality of tea yields will be carried out at the Laboratory of the Yogyakarta Agricultural Technology Assessment Center and the Plant Production Management Laboratory, Faculty of Agriculture, Gadjah Mada University. The experiment was arranged using a single-factor Complete Randomized Block Design (RAKL) with three blocks as replications. The treatments used were T: Without any treatment, A: Inorganic fertilizer, M: Beneficial microbes, K: Compost fertilizer, AM: Combination of inorganic fertilizer and beneficial microbes, MK: Combination of beneficial microbes and compost fertilizer, AK: Combination of inorganic fertilizer and compost fertilizer, AMK: Combination of inorganic fertilizer, beneficial microbes and compost fertilizer. Observations were made on the variables of soil chemical properties carried out twice, biochemical, physiological activities and components of productivity and quality of tea plant products. The data obtained were then tested for variance (ANOVA), Least significant Difference (LSD) α = 5% and determination of direct and indirect effects with path analysis. The results showed that the application of a combination of beneficial microbes (Azotobacter sp. and Bacillus sp.) and compost fertilizer can increase the productivity and quality of tea planting results as indicated by the high number of shoot indicators, shoot number ratio, shoot weight, picking analysis, shoot analysis, fresh weight, dry weight, total flavonoid content, total amino acid content and can reduce tea leaf pox disease attacks.

Keywords: Tea plants (gambung 7 clone), beneficial microbes (Azotobacter sp. and Bacillus sp.), yield quality, productivity, highlands