

RINGKASAN

Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi pemberian POC Nasa, Hasil Fermentasi Limbah Cair Tahu, dan kombinasi keduanya terhadap pertumbuhan, hasil, dan mutu buah tomat.

Penelitian ini dilaksanakan pada bulan September 2020 sampai Februari 2021 di Desa Melung, Kecamatan Kedung Banteng, dan Laboratorium Agronomi dan Hortikultura Fakultas Pertanian, Universitas Jenderal Soedirman. Percobaan ini menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan 2 faktor dan 3 ulangan. Faktor pertama adalah konsentrasi pemberian pupuk organik cair. Aras pupuk organik cair yang dicoba adalah: P_0 = tanpa POC; P_1 = 1 mL POC/L, P_2 = 3 mL POC/L; P_3 = 5 mL POC/L. Faktor kedua adalah konsentrasi pemberian hasil fermentasi limbah cair tahu (T) yaitu T_0 = tanpa HFLCT, T_1 = 150 mL HFLCT/L, T_2 = 300 mL HFLCT/L; T_3 = 450 mL HFLCT/L. Variabel yang diukur terdiri atas tinggi tanaman (cm), jumlah daun (helai), luas daun (cm²), usia awal berbunga (hst), bobot brangkasan segar (gram), bobot brangkasan kering (gram), jumlah buah per tanaman (buah), bobot buah (gram), diameter buah (cm), kadar vitamin C (mg/100g). Data yang diperoleh diuji keragamannya dengan analisis ragam (uji F). Apabila uji F menunjukkan beda nyata dan sangat beda nyata maka dilakukan uji beda nyata antar perlakuan dengan menggunakan uji Duncan (DMRT = *Duncan's Multiple Range Test*) pada taraf kepercayaan 95%.

Hasil penelitian menunjukkan bahwa konsentrasi POC Nasa berpengaruh nyata terhadap kandungan vitamin C buah tomat. Konsentrasi POC Nasa 5 mL/L memberikan kadar vitamin C tertinggi dengan nilai rata-rata 46,35 mg/100g. Pemberian Hasil Fermentasi Limbah Cair Tahu (HFLCT) tidak menunjukkan adanya perbedaan yang nyata pada pertumbuhan tanaman, hasil dan mutu buah. Tidak ada interaksi antara kombinasi pemberian POC Nasa dan HFLCT pada pertumbuhan tanaman, hasil, dan mutu buah tomat.

Kata kunci: konsentrasi, pupuk, fermentasi, tomat

SUMMARY

This research aimed to determine the effect of Nasa liquid organic fertilizer and fermented tofu liquid waste, and the combinations of two on the growth, yield, and quality of tomatoes.

This research was conducted from September 2020 until February 2021 in Melung, Kedung Banteng, and the Laboratory of Agronomy and Horticulture, Faculty of Agriculture, Jenderal Soedirman University. This experiment used a randomized complete block design consisting of 2 factors with 3 replications. The first factor was concentration of Nasa liquid organic fertilizer. The levels of liquid organic fertilizer (LOF) that were tried: P₀ = control/without LOF; P₁ = 1 mL LOF/L, P₂ = 3 mL LOF/L; P₃ = 5 mL LOF/L. The second factor was the concentration of fermented tofu liquid waste (FTLW) consisted of T₀ = control/without FTLW, T₁ = 150 mL FTLW/L, T₂ = 300 mL FTLW/L; T₃ = 450 mL FTLW/L. The variables consisted of plant height (cm), number of leaves (strands), leaf area (cm²), age of flowering (hst), fresh vegetative organ weight (g), dry vegetative organ weight (g), number of fruit (fruit), fruit weight (g), fruit diameter (cm), and content of vitamin C (mg/100g). Data obtained were analyzed using the F test and continued with DMRT when the F test showed significant difference.

The results showed that the concentration of Nasa liquid organic fertilizer had a significant effect on the content of vitamin C in tomato fruit. The concentration of Nasa liquid organic fertilizer 5 mL/L resulted in the highest content of vitamin C, namely 46,35 mg/100g. Provision of fermented tofu liquid waste did not show any significant differences in plant growth, yield, and fruit quality. There was no interaction between the combination of LOF Nasa and FTLW on the growth, yield, and fruit quality of tomato.

Keywords: concentration, fertilizer, fermentation, tomato