

ABSTRAK

PENGARUH PUPUK GUANO DAN PUPUK ORGANIK CAIR DAUN GAMAL TERHADAP PERTUMBUHAN VEGETATIF TANAMAN TOMAT (*Lycopersicum esculentum* Mill)

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Tomat (*Lycopersicum esculentum* Mill) merupakan salah satu sayuran penting di Indonesia karena buah tomat sangat digemari dan memiliki nilai gizi yang tinggi sebagai sumber vitamin terutama vitamin A, B dan vitamin C. Tingginya pemanfaatan tomat menyebabkan permintaan tomat terus meningkat setiap tahunnya, namun produktifitasnya masih tergolong rendah. Optimalisasi penanaman tomat serta intensifikasi pertanian dapat tercapai apabila faktor-faktor yang mempengaruhi pertumbuhan dan perkembangan pada tanaman dapat terpenuhi yaitu dari faktor luar dan faktor dalam. Beberapa faktor luar dan faktor dalam sebagian ada yang dapat dikendalikan oleh manusia antara lain pemupukan. Penelitian ini bertujuan untuk mengetahui pengaruh pupuk guano dan pupuk organik cair daun gamal terhadap pertumbuhan vegetatif tanaman tomat. Rancangan percobaan yang digunakan adalah rancangan acak kelompok (RAK) faktorial dengan 2 faktor dan 3 ulangan. Faktor pertama, empat taraf konsentrasi pupuk organik cair daun gamal yaitu g₀=kontrol (tanpa POC daun gamal), g₁=konsentrasi POC daun gamal 100 ml/L air, g₃=konsentrasi POC daun gamal 200 ml/L air, g₄=konsentrasi POC daun gamal 400 ml/L air. Faktor kedua, empat taraf dosis pupuk guano yaitu a₁=5t/ha, a₂=10t/ha, a₃=15t/ha, a₄=20t/ha. Data dianalisis menggunakan sidik ragam dengan uji F dan dilanjutkan dengan Uji Jarak Berganda Duncan dengan taraf nyata 5%. 1). Hasil penelitian menunjukkan bahwa terdapat interaksi antara dosis pupuk guano dengan konsentrasi POC daun gamal terhadap tinggi tanaman, luas daun, laju asimilasi bersih (LAB) dan laju tumbuh tanaman (LTT) pada berbagai umur pengamatan tanaman tomat. Pemberian pupuk guano dosis 10 t/ha dengan pemberian POC daun gamal konsentrasi 200 ml/L air, dan pemberian pupuk guano dosis 15 t/ha dengan pemberian POC daun gamal konsentrasi 100 ml/L air menghasilkan pertumbuhan vegetatif tanaman tomat terbaik.

Kata kunci : hasil, tomat, POC daun gamal, pupuk guano

ABSTRACT

THE EFFECT OF GUANO FERTILIZER AND LIQUID ORGANIC FERTILIZER FROM GAMAL LEAVES ON VEGETATIVE GROWTH OF TOMATO (*Lycopersicum esculentum* Mill) PLANT

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Tomatoes (*Lycopersicum esculentum* Mill) are one of the important vegetables in Indonesia because tomatoes are very popular and have high nutritional value as a source of vitamins, especially vitamins A, B and vitamin C. The high use of tomatoes causes the demand for tomatoes to continue to increase every year, but their productivity is still low. relatively low. Optimization of tomato planting and agricultural intensification can be achieved if the factors that influence plant growth and development can be met, namely external and internal factors. Some external factors and some internal factors that can be controlled by humans include fertilization. This research aims to determine the effect of guano fertilizer and liquid organic fertilizer from gamal leaves on the vegetative growth of tomato plants. The experimental design used was a factorial randomized block design (RAK) with 2 factors and 3 replications. The first factor, four concentration levels of liquid organic fertilizer for gamal leaves, namely g₀=control (without POC of gamal leaves), g₁=POC concentration of gamal leaves 100 ml/L water, g₃=POC concentration of gamal leaves 200 ml/L water, g₄=POC concentration gamal leaves 400 ml/L water. The second factor, four levels of guano fertilizer dosage, namely a₁=5t/ha, a₂=10t/ha, a₃=15t/ha, a₄=20t/ha. Data were analyzed using variance with the F test and continued with Duncan's Multiple Range Test with a significance level of 5%. 1). The results of the research showed that there was an interaction between the dose of guano fertilizer and the POC concentration of gamal leaves on plant height, leaf area, net assimilation rate (LAB) and plant growth rate (LTT) at various ages of observation of tomato plants. Providing guano fertilizer at a dose of 10 t/ha with POC of gamal leaves in a concentration of 200 ml/L of water, and giving guano fertilizer at a dose of 15 t/ha with giving POC of gamal leaves at a concentration of 100 ml/L of water resulted in the best vegetative growth of tomato plants.

Key words: yield, tomatoes, POC gamal leaves, guano fertilizer