RESPONS TANAMAN TOMAT *(Lycopersicum esculentum* Mill*.)* TERHADAP PEMBERIAN PUPUK ORGANIK CAIR LIMBAH SAYURAN

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ABSTRAK

Tomat (*Lycopersicum esculentum* Mill.) merupakan salah satu komoditas hortikultura yang mempunyai arti penting bagi masyarakat karna kandungan gizi dan nilai ekonomisnya yang tinggi. Salah satu kendala dalam meningkatkan produktivitas tomat di Provinsi Jambi adalah kesuburan lahan yang relatif rendah karena didominasi oleh lahan ultisol serta budidaya tomat oleh petani yang mengandalkan pupuk anorganik yang berdampak pada menurunnya hasil serta rendahnya kualitas tanah. Upaya yang dapat dilakukan untuk memperbaiki dan meningkatkan kualitas tanah adalah dengan memberikan bahan organik pada tanah dengan memanfaatkan limbah sayuran sebagai pupuk organik cair. Penelitian ini dilaksanakan dengan tujuan untuk mengkaji respons tanaman tomat *(Lycopersicum esculentum* Mill) terhadap pemberian POC limbah sayuran dan mendapatkan konsentrasi yang terbaik dari POC limbah sayuran terhadap pertumbuhan dan hasil tanaman tomat. Penelitian dilaksanakan di *Teaching and Reseach Farm* Fakultas Pertanian, Universitas Jambi. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) dengan 4 ulangan dan 6 taraf perlakuan konsentrasi POC limbah sayuran yaitu p_0 = 0 mL. L^{-1}, p_1 = 50 mL. L^{-1}, p_2 = 100 mL.L^{-1} , p_3 = 150 mL. L^{-1}, p_4= 200 mL. L^{-1} dan p_5 = 250 mL. L^{-1}. Variabel yang diamati yaitu tinggi tanaman, diameter batang, umur mulai berbunga, jumlah buah per tanaman, berat buah per tanaman, dan berat per buah. Data diperoleh dianalisis menggunakan analisis sidik ragam (ANOVA) dan untuk melihat perbedaan antar perlakuan menggunakan *Duncan Multiple Range Test* (DMRT) pada taraf α 5%. Hasil penelitian menunjukkan bahwa POC limbah sayuran pada tanaman tomat Servo F1 memberikan respon terhadap variabel umur mulai berbunga, jumlah buah pertanaman, berat buah per tanaman dan berat per buah, namun tidak nyata pengaruhnya terhadap tinggi tanaman dan diameter batang tanaman tomat. Konsentrasi 200 mL. L^{-1} merupakan konsentrasi terbaik dalam meningkatkan jumlah buah per tanaman sebesar 41,32% dan berat buah per tanaman sebesar 49,32% serta mampu mempercepat umur mulai berbunga yakni 4 hari lebih cepat.

Kata kunci : Tomat, Limbah Sayuran, Pupuk Organik Cair.

RESPONSE OF TOMATO (*Lycopersicum esculentum* Mill.) TO THE APPLICATION OF LIQUID ORGANIC FERTILIZER VEGETABLE WASTE

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ABSTRACT

Tomato (*Lycopersicum esculentum* Mill.) are one of the commodities Horticulture has an important meaning for society because of its nutritional content and its high economic value. One obstacle in increasing tomato productivity in Jambi Province is land fertility which is relatively low because it is dominated by ultisol land and tomato cultivation by farmers who rely on inorganic fertilizers which has an impact on decreasing yields and low soil quality. Efforts that can be made to improving and improving the quality of the soil is by providing materials organic on the soil by using vegetable waste as liquid organic fertilizer.This study was conducted with the aim of examining the response of tomato plants (Lycopersicum esculentum Mill) to the application of vegetable waste POC and getting the best concentration of vegetable waste POC on the growth and yield of tomato plants (Lycopersicum esculentum Mill). The research was conducted at the Teaching and Research Farm of the Faculty of Agriculture, Jambi University. This study used a Randomized Group Design (RAK) with 4 replicates and 6 treatment levels at the concentration of vegetable waste POC, namely p0 = 0 mL. L^{-1}, p1 = 50 mL. L^{-1}, p2 = 100 mL. L^{-1}, p3 = 150 mL. L^{-1}, p4 = 200 mL. L^{-1} and p5 = 250 mL. L^{-1}. The variables observed were plant height, stem diameter, age at flowering, number of fruits per plant, weight of fruits per plant, and weight per fruit. Data obtained were analyzed using analysis of variance (ANOVA) and to see differences between treatments using Duncan Multiple Range Test (DMRT) at 5% α level. The results showed that vegetable waste POC on Servo F1 tomato plants responded to the variables of flowering age, number of fruits per plant, fruit weight per plant and weight per fruit, however there was no significant effect on plant height and stem diameter of tomato plants. The concentration of 200 mL. L^{-1} concentration is the best concentration in increasing the number of fruits per plant by 41.32% and fruit weight per plant by 49.32% and is able to accelerate the age of flowering, which is 4 days earlier.

Keywords: Tomato, vegetable waste, liquid organic fertilizer.