ABSTRAK

UJI AKTIVITAS *COMPOST TEA* BERBAHAN LIMBAH ORGANIK RUMAH TANGGA YANG DIINDUKSI *Trichoderma* sp. TERHADAP TANAMAN TOMAT (*Solanum lycopersicum* L.)

NABILA NURALISAFITRI

Limbah organik rumah tangga merupakan sumber bahan baku potensial untuk pembuatan kompos dan produk turunan seperti *Compost Tea* (*CT*). Limbah sayur dan buah segar digunakan sebagai bahan utama pengomposan karena mudah terurai. Pengelolaan limbah organik melalui pengomposan dapat mengurangi pencemaran lingkungan sekaligus menghasilkan bahan yang bermanfaat bagi kesuburan tanah dan tanaman. Kompos yang digunakan untuk pembuatan *CT* diinokulasi dengan *Trichoderma* sp. sebagai agen dekomposer untuk meningkatkan kualitas kompos sebelum diekstraksi menjadi *Aerated Compost Tea* (*ACT*) dan *Non Aerated Compost Tea* (*NCT*). Penelitian ini bertujuan untuk mengetahui pengaruh jenis dan dosis *CT* berbahan kompos yang terinduksi *Trichoderma* sp. terhadap pertumbuhan tanaman tomat (*Solanum lycopersicum* L.). Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan tujuh perlakuan, yaitu 3 kontrol (P0, P1, P2), P3 (*ACT* 1 : 3), P4 (*ACT* 1 : 5), P5 (*NCT* 1 : 3), dan P6 (*NCT* 1 : 5), dengan 3 pengulangan. Parameter yang diamati meliputi jumlah daun, tinggi tanaman, berat basah, berat kering dan kadar klorofil daun. Data dianalisis dengan *Analysis of Variance* (*ANOVA*) dan apabila terdapat perbedaan nyata dilanjutkan dengan uji *Tukey* pada taraf 5 %. Hasil penelitian menunjukkan bahwa P3 (*ACT* 1 : 3) menunjukkan pengaruh terbaik terhadap pertumbuhan tanaman tomat.

Kata kunci: Limbah organik, *Trichoderma* sp., *ACT*, *NCT*, *Solanum lycopersicum* L.

ABSTRACT

ACTIVITY ASSAY OF COMPOST TEA PRODUCED FROM HOUSEHOLD ORGANIC WASTE INDUCED BY *Trichoderma* sp. ON TOMATO (*Solanum lycopersicum* L.)

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Household organic waste is a potential source of raw materials for the production of compost and its derivative products such as Compost Tea (CT). Fresh vegetable and fruit wastes are commonly used as the main materials for composting due to their high biodegradability. The management of organic waste through composting can reduce environmental pollution while producing materials beneficial for soil fertility and plant growth. The compost used for CT production was inoculated with *Trichoderma* sp. as a decomposer agent to improve compost quality prior to extraction into Aerated Compost Tea (ACT) and Non Aerated Compost Tea (NCT). This study aimed to determine the effect of type and dosage of CT derived from *Trichoderma* sp. inoculated compost on the growth of tomato plants (*Solanum lycopersicum* L.). The experiment was arranged in a Completely Randomized Design (CRD) with seven treatments, namely three controls (P0, P1, P2), P3 (ACT 1 : 3), P4 (ACT 1 : 5), P5 (NCT 1 : 3), and P6 (NCT 1 : 5), each with three replications. The observed parameters included number of leaves, plant height, fresh weight, dry weight, and leaf chlorophyll content. Data were analyzed using Analysis of Variance (ANOVA), and significant differences were further tested using Tukey's test at a 5% significance level. The results showed that P3 (ACT 1 : 3) exhibited the best effect on the growth of tomato plants.

Kata kunci: Organic waste, *Trichoderma* sp., ACT, NCT, *Solanum lycopersicum* L.