PEMANFAATAN LIMBAH DAUN KAYU PUTIH SEBAGAI PUPUK ORGANIK PADA PERTUMBUHAN SELADA (*Lactuca sativa* L.)

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ABSTRAK

Limbah daun kayu putih merupakan hasil samping industri minyak kayu putih dapat meningkatkan polusi udara apabila dibiarkan menumpuk dan tidak ditangani dengan baik. Salah satu upaya untuk mengurangi penumpukan limbah tersebut adalah dengan memanfaatkan limbah daun kayu putih sebagai pupuk organik. Terbatasnya pertumbuhan dan produksi selada dipengarugi oleh beberapa faktor, salah satunya adalah ketersediaan unsur hara dalam tanah. Tujuan penelitian ini untuk mengetahui komposisi unsur hara limbah daun kayu putih setelah proses *composting* dan mengetahui perlakuan yang paling baik pengaruhnya terhadap pertumbuhan dan hasil tanaman selada. Metode yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 7 perlakuan dan 4 kali ulangan. Perlakuan yang diberikan yaitu P_1 = (pupuk menggunakan EM_4), P_2 = (tanpa perlakuan pupuk) P_3 = 100% limbah daun kayu putih, P_4 = 75% limbah daun kayu putih 25% kotoran ayam, P_5 = 50% limbah daun kayu putih 50% kotoran ayam, P_6 = 25 % limbah daun kayu putih 75% kotoran ayam, P_7 = 100% kotoran ayam. Data dianalisis dengan Uji ANOVA dilanjutkan dengan Uji Duncan taraf 5%. Hasil uji didapatkan bahwa kandungan limbah daun kayu putih setelah proses *composting* yaitu C-organik (44,28%), N total (2,82%), dengan C/N rasio (15,7), P (0,91%) dan kandungan K (0,45%). Pemberian pupuk perlakuan P_4 menunjukan hasil pertumbuhan tanaman selada terbaik dengan tinggi tanaman (23, 58 cm), panjang daun (18,65 cm), lebar daun (10, 98 cm). Dan hasil tanaman dengan berat basah per tanaman (16 g), berat basah per perlakuan (64 g), berat basah tajuk (15 g), dan daun berwarna hijau daun.

Kata kunci : *Composting*, limbah daun kayu putih, pupuk organik, selada.

UTILIZATION OF CAJUPUT LEAF WASTE AS ORGANIC FERTILIZER ON THE GROWTH OF LETTUCE (*Lactuca sativa* L.)

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ABSTRACT

Cajuput leaf waste is a by-product of the cajuput oil industry which can increase air pollution if it is allowed to accumulate and is not handled properly. One of the efforts to reduce the accumulation of this waste is to use cajuput leaf waste as organic fertilizer. The limited growth and production of lettuce is affected by several factors, one of which is the availability of nutrients in the soil. The purpose of this study was to determine the nutrient composition of cajuput leaf waste after the composting process and which treatment had the best effect on the growth and yield of lettuce. The method used was a completely randomized design (CRD) with 7 treatments and 4 replications. The treatments were P1 = (fertilizer using EM4), P2 = (without fertilizer treatment), P3 = 100% cajuput leaf waste, P4 = 75% cajuput leaf waste 25% chicken manure, P5 = 50% cajuput leaf waste 50% chicken manure, P6 = 25% cajuput leaf waste 75% chicken manure, and P7 = 100% chicken manure. The ANOVA test was used to analyze the data, followed by Duncan's test at a 5% level. The test results showed that the content of cajuput leaf waste after the composting process was C-organic (44.28%), total N (2.82%), with C/N ratio (15.7), P (0.91%) and K content (0.45%). The application of fertilizer with P4 treatment showed the best lettuce growth results with plant height (23.58 cm), leaf length (18.65 cm), and leaf width (10.98 cm). and plant yields with wet weight per plant (16 g), wet weight per treatment (64 g), canopy wet weight (15 g), and green leaves.

Keywords : Cajuput leaf waste, composting, lettuce, organic fertilizer.