PENGARUH KOMPOS LIMBAH PASAR PADA TANAH BERPESTISIDA TERHADAP STRUKTUR ANATOMI AKAR, PERTUMBUHAN SELADA (*Lactuca sativa* L.) DAN DINAMIKA UNSUR HARA TANAH

Siti Efiyati
16/401973/PBI/01422

INTISARI

Dalam bercocok tanam, petani tidak pernah terlepas menggunakan pestisida. Pestisida selain bermanfaat, juga menimbulkan dampak negatif, salah satunya menyebabkan pencemaran tanah. Penelitian ini bertujuan untuk menganalisis pengaruh pemberian bahan organik limbah sayuran pasar berupa kubis dan sawi pada tanah berpestisida terhadap struktur anatomi akar dan pertumbuhan tanaman selada (*Lactuca sativa* L.), serta dinamika unsur hara tanah. Prosedur kerja diawali dengan pembuatan *screen house* dan kompos dari limbah pasar berupa sawi dan kubis. Kompos yang sudah jadi selanjutnya dimasukkan ke dalam media tanam sesuai perlakuan, yaitu setengah dosis anjuran pemupukan kompos untuk tanaman selada, sesuai dosis anjuran, dua kali dosis anjuran, kontrol positif (tanah berpestisida) dan kontrol negatif (tanah tidak berpestisida). Selada dipanen pada umur 42 hari setelah tanam. Pengujian residu pestisida tanah dan pengukuran kadar C organik, N, P, K, BOT (Bobot Organik Total), pH tanah, dan KPK (Kapasitas Pertukaran Kation) dilakukan sebelum dan setelah perlakuan. Data yang didapat dianalisis menggunakan SPSS uji ANOVA taraf signifikansi 5%, apabila terdapat pengaruh nyata, dilanjutkan uji DMRT pada taraf signifikansi 5%. Hasil penelitian menunjukan pemberian bahan organik limbah sawi dan kubis pada tanah berpestisida menurunkan tebal sel epidermis, menaikkan tebal jaringan korteks, namun tidak berpengaruh terhadap diameter stele akar selada, menaikkan rerata tinggi dan berat kering tanaman selada, namun tidak berpengaruh terhadap jumlah daun, berat basah, dan panjang akar selada, serta tidak berpengaruh terhadap seluruh paramater dinamika hara tanah berpestisida, meliputi bobot organik total, kadar C Organik, nilai KPK (Kapasitas Pertukaran Kation), serta kandungan N, P, dan K tanah.

Kata kunci: kompos, tanah berpestisida, *Lactuca sativa* L., pertumbuhan, anatomi, hara.

THE EFFECT OF ADDITIONAL MARKET WASTE COMPOST ON PESTICIDES SOIL TO THE ANATOMY STRUCTURE OF ROOT, GROWTH OF LETTUCE PLANT (*Lactuca sativa* L.) AND DYNAMICS OF SOIL NUTRIENTS

Siti Efiyati
16/401973/PBI/01422

ABSTRACT

In agriculture, almost of all the farmers always use pesticides. Pesticides are not only beneficial, but they also cause negative impacts, such as soil pollution. This study aimed to determine the responses of root anatomical structure and growth of lettuce plant (*Lactuca sativa* L.), as well as the dynamics of soil nutrients in the pesticides soil, after being treated with the market organic waste (mustard greens and cabbage). The procedure began with making of *screen house* and compost organic fertilizer from market organic waste (mustard greens and cabbage). The mature compost was used on planting media, which were ½ doses of recommendation of compost fertilizer on lettuce plant, according to recommended dosage, and 2x of recommended dosage, positive (pesticide soil) and negative control (non pesticide soil). The soil pesticide residue test and measurement of C, N, P, K on the soil, total of soil organic matter, soil pH, and CEC (Cation Exchange Capacity) were done before and after the treatment. The data obtained were analyzed using SPSS application with ANOVA test at 5% level. If the effect was significant, it was continued to DMRT test at 5% level. The results showed that giving organic matter from mustard greens and cabbage on pesticides soil decreased on thickness of epidermal cells and increased of cortical thickness of lettuce root, leaf number, root length, and fresh weight of lettuce, plant high and dry weight of *Lactuca sativa* L., and no effect to stele diameter, and all nutrients dynamic parameters, including total of soil organic matter, soil organic carbon content, CEC (Cation Exchange Capacity) value, N, P, and K content.

Keywords: compost, the soil pesticides, *Lactuca sativa* L., growth, anatomy, nutrients.