THE EFFECT OF APPLYING LIQUID ORGANIC FERTILIZER ON SOME CHEMICAL PROPERTIES OF SOIL REGOSOL AND LATOSOL ON GROWTH LETTUCE (*Lactuca sativa L.*)

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ABSTRACT

Regosol and Latosol are poor in N, P, K and C-organic nutrients. Application of liquid organic fertilizers (LOF) can increase N, P, K and C-organic nutrients. Liquid organic fertilizer is a solution from the decay of organic matter derived from vegetable and fruit waste. This study aimed to determine the effects of liquid organic fertilizer on soil chemical properties and the growth of lettuce plants (*Lactuca sativa* L.). This study was conducted using a Completely randomized design with two factors (2 x 5). The first factor was the types of soil, namely Regosol (T1), Latosol (T2). The second factor was LOF consisting of five levels: 0 ml / l (D1), 5 ml / l (D2), 10 ml / l (D3), 15 ml / l (D4), and 20 ml / l (D5). Each treatment was repeated 3 times. The soil parameters observed were pH, total N, available-P,available K, organic C, cation exchange capacity (CEC) and texture; while plant growth parameters included: plant height, number of leaves, wet weight of plants, and dry weight of plants. The data obtained were analyzed using ANOVA with a significant level of 5% and continued DMRT test. The results showed that application of LOF to Regosol at a dose of 20 ml/l can increase chemical properties (pH, available P, available K and organic C), while on Latosol increaseed the total N. Application of LOF to Regosol at a dose of 20 ml/L can increaseed plant height 68%, number of leaves 73%, and wet weight 23%.

Keywords: *latosol, liquid organic fertilizer, regosol, soil chemical properties.*