STUDY OF APPLICATION ORGANIC FERTILIZER FROM MAGGOT LIVESTOCK WASTE AND NATURAL PHOSPHATE ROCKS ON THE CONTENT OF NPK IN SOIL POST FOLK GOLD MINING

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ABSTRACT

Post-gold mining land results in the soil having an acidic pH, low organic C content, and being poor in macro nutrients such as N, P, and K. This research aims to determine the effect of giving organic fertilizer from maggot livestock waste and natural phosphate rock on pH, C-Organic, N, P, and K in post-gold mining soil. The research method used a Completely Randomized Design (CRD) with 2 factors, the first factor was maggot livestock waste organic fertilizer with 3 doses, namely 0 gr/pot, 8.3 gr/pot, and 16.6 gr/pot, while the second factor was phosphate rock natural with 3 doses, namely 0 gr/pot, 0.16 gr/pot, and 0.33 gr/pot, so there are 9 combinations with repetition 3 times to get 27 treatments. The analysis parameters are pH, C-Organic, N-total, P-available, and K-available. To determine the effect of treatment, the observation data was analyzed using variance analysis (ANOVA) followed by using the Duncan Multiple Range Test (DMRT) at the 5% level. The results showed that maggot fertilizer showed an increase in available P and available K, while natural phosphate rock showed an increase in available P before treatment. When applying a combination of organic fertilizer from maggot livestock waste and natural phosphate rock, it shows a real interaction on the pH parameter. The best treatment combination to increase pH is 20 tonnes/ha of maggot fertilizer or the equivalent of 16.6 gr/pot and 400kg/ha of natural phosphate rock or the equivalent of 0.33 gr/pot.

Keywords: NPK content, post-gold mining, black soldier fly, phosphate rock.