

***THE EFFECT OF APPLYING LIQUID ORGANIC FERTILIZER (SHRIMP WASTE AND CHICKEN MANURE) AND MANURE ON N, P, K, PERMEABILITY AND STABILITY OF AGGREGATES IN ENTISOL AND MUSTARD PLANTS GROWTH (Brassica juncea L.)***

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**ABSTRACT**

On the coast of Cilacap, many communities have established industrial activities of shrimp ponds and broiler chicken farms that produce waste. The effort to reduce waste is to use it into fertilizer. The purpose of this study was to determine the effect of applying liquid organic fertilizer from chicken manure waste and broiler chicken manure on elements N, P, K, Permeability and Stability of Entisol Soil Agregate and mustard plant growth. Waste and soil samples were taken from Pagubugan Village, Binangun District, Cilacap Regency. The soil analysis was conducted at the Land Conservation and Reclamation Laboratory of UPN “Veteran” Yogyakarta. The study used a two-factor Complete Randomized Design (RAL) method. The first factor is the POC dose of shrimp and broiler chicken waste consisting of P0= 0%, P1= 7.5%, P2= 15% and P3= 22.5%. The second factor is the dose of broiler chicken manure consisting of K0 = Without manure, K1 = 7.5 tons / ha, K2 = 15 tons / ha. The soil parameters observed were N-available, K-available, N-total, C-organic, aggregate steadiness and permeability, while the observed mustard growth parameters were plant height, number of leaves, wet weight and dry weight. The results showed that the effect of POC feeding of chicken manure waste had a significant effect on increasing the pH of H<sub>2</sub>O, N-total, number of leaves, wet weight and dry weight of mustard plants and could reduce the rate of permeability of Entisol. The application of manure has a noticeable effect on reducing the rate of permeability. The combination of POC application of shrimp-chicken manure waste and manure interacts and has a significant effect on increasing levels of C-organic, N-available, P-available and K-available. The best dose in the combination of POC shrimp-chicken manure waste and manure is at P3K2.

**Keywords:** liquid organic fertilizer, manure, shrimp waste, chicken manure, entisol, mustard.