

PRIMARY MACRO NUTRIENT CONTENT OF ORGANIC FERTILIZER OF SEVERAL TYPES OF VEGETABLE WASTE USING THE PILING BUCKET TECHNIQUE AND THE ADDITION OF BIOACTIVATORS

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ABSTRACT

Several factors affect the availability of nutrients in compost, including the type of material, length of incubation, and the presence of microbial material breakers. This research aims to see the effect of different types of materials, incubation duration, and the addition of microbes on the macro nutrients produced. Composting was carried out using the Pile Bucket Technique (TET) method. The research was conducted using a one-factor Completely Randomized Design (CRD) with five treatments. Treatment 1) composting with cabbage material, 2) composting with carrot material, 3) composting with spinach material, 4) composting with a mixture of cabbage, carrots, and spinach, 5) composting in treatment 4 plus bioactivator. The parameters analyzed were N-Total, P₂O₅, and K₂O. Observations on compost leachate or Liquid Organic Fertilizer (POC) were made on the 14th, 28th, and 56th days of incubation, while on Solid Organic Fertilizer (POP) on the 56th day of incubation. Observation data were processed using analysis of variance (ANOVA) with a real difference level of 5%, followed by the DMRT test because there were significant differences between treatments. The results showed that there was a significant difference from the different treatment types of materials used. After 56 days, the mixed + bioactivator treatment showed the highest nutrient content with 1.03% N-Total, 0.48% P₂O₅, and 0.34% K₂O. The addition of bioactivator significantly affected the addition of nutrients N, P, and K. Incubation time of 56 days showed the highest average value of the parameters tested in all treatments. The nutrient content of POP was 0.85% N-Total, 0.33% P₂O₅, and 0.38% K₂O.

Key words: Cabbage, carrot, EM4, N, P, K, pile bucket, spinach