

# **Effect of Local Microorganisms from Household Waste Against the Quality of Liquid Organic Fertilizers**

**by Suhartini, Sudarsono, Budiwati dan Suhandoyo**

## **ABSTRACT**

This study aims to find out: 1. Types of Local Microorganisms (MOL) / indigen in household waste (leftover rice, vegetables, and rotten fruit) which accelerates the process of making Liquid Organic Fertilizer (POC), and 2. Quality of Liquid Organic Fertilizers (POC) in terms of physical, chemical and biological properties and 3. Knowing the effect of variations in household waste types on the quality of Liquid Organic Fertilizers

This study used a Completely Randomized Design (CRD) with 2 treatments of household waste as independent variables, namely 1) Rice and vegetable waste and 2) fruit waste. The dependent variables are: 1. POC physical properties include color and smell; 2. Chemical syphas include analysis of total N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, C Organic, C/N ratio, Fe and Zn ;. and 3. Biological properties with identification of local microorganisms found in each household waste treatment. Data were analyzed descriptively by comparing POC standards according to SNI. Chemical analysis was carried out at the Chem-Mix Primary Laboratory. Physical and biological analysis was carried out in the Mikrobioloi laboratory, Jurdik Biology, FMIPA, UNY. The Liquid Organic Fertilizer Standard referred to is Permentan No. : 28 / Permentan / SR.1 30/5/2009.

The results obtained were found 11 genera of bacteria, namely genus Bacillus, Alcaligenes, Megasphaera, Ancylobacter, Bdellvibrio, Caryophanon, Cellulomonas, Syntrophospora, Anaerovibrio, Azospirillum, and Lactobacillus. Based on the standard of fertilizer used, for macro elements namely total N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O is still below the standard of Liquid Organic Fertilizer from the Ministry of Agriculture, but for micro elements, especially Zn, it has met the standard of quality, ranging from 0.1753-3.2359. Based on the quality in terms of chemical properties, the POC from rice and vegetable wastes gives results that are more mature than the waste from vegetables

*Kata Kunci: Local Microorganisms, Household Waste, Liquid Organic Fertilizers*