

1. INTRODUCTION

1.1 Background

The current environmental crisis has raised public awareness of the importance of saving the environment. Likewise with farmers in Indonesia, farmers are turning towards organic farming that is environmentally friendly. According to Herniwati and Nappu (2011), organic agriculture is an environmentally friendly agricultural system that seeks to return all organic matter into the soil, both in the form of residues and agricultural wastes that can improve fertility status and soil structure. Organic farmers try to be independent by utilizing materials available in nature to make various types of fertilizers that are environmentally friendly. However, modern technology that has a high dependence on agrochemicals, such as chemical fertilizers, pesticides and other agricultural (Sutanto, 2002).

From the above problems, innovation is needed to find solutions such as the use of agricultural products and environmentally friendly environmental products such as the use of local microorganisms (MOL) in restoring fertility and being able to maintain the stability of microorganisms in the soil. Local microorganisms are sourced from various local ingredients, including cow urine, banana flower, spinach, fruits, stale rice, household waste, bamboo shoots, and elephant grass which can play a role in the process of managing livestock waste (Sutari, 2010).

In this study the type of composition for the manufacture of local microorganisms uses materials that are easily found in the surrounding environment and sometimes this type of material becomes waste because it is no longer used like a banana heart which is easily found in our surroundings and sometimes becomes market waste in the central market place banana sales. Furthermore, there are spinach plants that become our daily consumption, which of course is easily found in our

residential areas. The final main ingredient is the use of sap water from palm trees as a composition for fulfilling nutrients for local microorganisms (MOL) to be made.

Making MOL is an effort to find environmentally friendly products that are effective and appropriate and can compete with similar products that have been sold commercially such as EM4 products that are known for various shortcomings in terms of relatively expensive prices and effective performance which sometimes do not match the conditions other regional environment. Therefore, this research is expected to be a way out for farmers and related parties in overcoming agricultural problems in agriculture, and is able to replace EM4 products as effective microorganism products, especially in agriculture.

I.2 Problem Formulation

The problems in this study can be formulated as follows:

- a. What groups of microorganisms are contained in MOL and what is the total presence of these microorganisms and what is the comparison with EM4?
- b. What are the results of compost products using MOL and EM4?

I.3 Research Objectives

- a. To find out the comparison of groups and the total number of microorganisms found in MOL with EM4.
- b. To see the quality of compost produced in the composting process using MOL and EM4.

1.4 Benefits of Research

The benefits of this study are to provide information on the presence of local microorganism products (MOL) made from fruit-organic organic waste and vegetables that are easily available and certainly have equal work effectiveness even more than commercial products such as EM4.