

***Use Of Microorganisms And Organic Materials In Cultivation Of
Peanuts As An Intermediate Crop On Palm Lands***

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ABSTRACT

Land planted with young oil palms is susceptible to degradation, such as increased soil erosion and decreased infiltration rates, especially if not properly managed. One way to reduce erosion in oil palm land is by planting Legume Cover Crops (LCC). LCC also plays a role in maintaining soil fertility and moisture, and is able to bind free N, thereby increasing the availability of soil N. Soil improvement in oil palm plantations can be done by adding organic matter and microorganisms. This study aims to examine the growth of peanut plants on TBM oil palm land with the application of organic matter and microorganisms. This study was conducted on the Oil Palm land of the Jember State Polytechnic from December 2023 to March 2024. The experiment was designed using a Nested Design with 2 factors and 3 replications. The Organic Material treatment consisted of 3 levels, namely 0 tons/ha, 5 tons/ha and 10 tons/ha, while the Microorganism treatment consisted of 3 levels, namely without microorganisms, mycorrhiza and mycorrhiza + rhizobium. The results showed that the treatment of organic matter 5 tons/ha gave a significant effect on plant height (17.467 cm) and stem diameter (3.79 mm). In the peanut growth phase (plant height, stem diameter) tended to be better and more efficient in the treatment of organic matter 5 tons/ha. Organic matter increases the absorption of macro and micro nutrients so that the availability of nutrients in balanced amounts will be very important for plant vegetative growth. While the treatment of microorganisms showed a non-significant effect on all observation variables.

Keywords: *Intercropping cultivation, Legume cover crop, Rhizobium, Mycorrhiza*