

IDENTIFICATION OF MICROORGANISMS IN PEANUT AS A COVER CROP ON YOUNG OIL PALM PLANTATIONS

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ABSTRACT

The utilization of oil palm for cover crops offers many benefit. This study aims to identify microorganisms found in peanut intercrop land as a cover crop in TBM oil palm plantations. Peanuts were chosen because of their nitrogen – fixing ability and their role in reducing erosion and improving soil fertility. Peanut plants are used as ground cover in oil palm plantations, which are a major plantation crop in Indonesia. This research was conducted from January to March 2024 at the Biosciences Laboratory and TBM Land of Jember State Polytechnic. They study employed a descriptive method by observing the number of soil microorganisms both inside and outside the petri dishes over a period of 14 days, followed by data analysis and descriptive explanation. Parameters used to assess the number of microorganisms and the soil condition of the young oil palm plantations were included. The results showed interaction between legume cover crops and the identification of microorganisms in the peanut intercropping area. The Arachis hypogaea cover crop covered an area of 5 x 6 meters, providing a soil temperature of 1.750C inside the Petri dishes and outside the Petri dishes. The TPC test reluts indicated an increases from 1.37×10^6 CFU/gr to 5.09×10^6 CFU/gr. Chemical soil analysis showed increases in phosphorus (P) ans potassium (K) and a decrease in nitogen (N). Peanut intercropping as a cover crop on oil palm plantations increased the diversity and nimber of soil microorganisms, supporting soil fertility and plant growth.

Keywords: Cover crop, Peanuts, Oil Palm, Microorganisms, Soil Fertility.