

**THE EFFECT OF PALM OIL MILL EFFLUENT (POME)
APPLICATION ON THE POPULATION OF SOIL
MICROBIAL**

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ABSTRACT

THE EFFECT OF PALM OIL MILL EFFLUENT (POME) APPLICATION ON THE POPULATION OF SOIL MICROBIAL

POME is produced everyday in large quantity but its usage as organic matter or bio-fertilizer is still under utilized. There is lack of study that investigate the correlation between POME application and the population of soil microbial especially in Malaysia and also the information whether POME holds the potential as bio-fertilizer. The purposed of this study is to estimate the population of soil microbial due to POME application and to quantify which types of the soil microbe are mostly enhanced by POME application. The soil was applied with 0, 10, 50 and 90 ml of POME per 200g soil. The total bacteria and fungi counts of the soil samples were estimated by using pour plate technique. The data showed an increased in bacteria population counted with an increased of the POME concentrations. The fungi population is fluctuated with the increased in the application of POME concentration. The mostly enhanced soil microbe is bacteria where the highest increment percentage is 44.1% increased from the control in the soil that treated with 90ml POME. Meanwhile the highest increment percentage for fungi is 19.3% from the control in the soil treated with 50ml of POME. It could be proposed that POME application indirectly help to enhance the plant growth by encourage the richness of bacterial such as gram negative bacteria which could help in plant development. POME application also suitable to sustain the fertility of soil since certain fungi that contributed on the plant development could survive the chemical substance contain in POME.