

**PENGARUH TAKARAN POC LIMBAH CAIR PABRIK KELAPA SAWIT  
TERHADAP PERTUMBUHAN TANAMAN DAN HASIL JAGUNG MANIS  
PADA TANAH KAPURAN**

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**INTI SARI**

Penelitian ini bertujuan untuk mengetahui takaran pupuk organik cair (POC) dari limbah cair pabrik kelapa sawit (lcpks) terhadap pertumbuhan tanaman dan hasil jagung manis pada tanah kapuran. Penelitian dilaksanakan di UPT Gunung Bulu Universitas Mercu Buana Yogyakarta, Kelurahan Argorejo, Kecamatan Sedayu, Kabupaten Bantul, Yogyakarta, pada ketinggian tempat 114 meter diatas permukaan laut, dimulai pada Oktober 2020 sampai Januari 2021. Penelitian ini merupakan percobaan faktor perlakuan tunggal yang disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan empat aras perlakuan dan setiap perlakuan diulang tiga kali. Perlakuan yang diujikan adalah: kontrol (takaran pupuk NPK 300 gr/polybag tanpa POC), takaran POC limbah cair pabrik kelapa sawit masing-masing 1 liter/polibag, 1,5 liter/polibag, dan 2 liter/polibag. Setiap unit percobaan terdiri atas 10 polibag tanaman percobaan POC diberikan dengan cara penyiraman di atas permukaan tanah, aplikasi pada umur tanaman 14, 28, 42, 56, dan 70 hari. Variabel yang diamati meliputi tinggi tanaman, diameter batang, jumlah daun, bobot kering tanaman, bobot tongkol dengan dan tanpa kelobot, panjang dan diameter tongkol berkelobot, diameter tongkol tanpa kelobot, serta bobot tiap 5 tongkol dengan dan tanpa kelobot. Data dianalisis dengan analisis varians pada  $\alpha=5\%$  dan uji lanjut DMRT. Hasil penelitian menunjukkan bahwa di tanah kapuran, takaran pemberian POC limbah cair pabrik kelapa sawit mempengaruhi pertumbuhan tanaman jagung manis hanya pada tinggi tanaman 2 mst, dan terhadap hasil jagung manis hanya pada bobot per 5 gelondong tanpa kelobot. Takaran 1.5 liter/polibag mampu menghasilkan bobot per 5 tongkol tanpa kelobot tidak berbeda dengan kontrol dan takaran 2 liter/polibag lebih tinggi hasilnya dibanding perlakuan lainnya. Penambahan POC LCPKS dosis 1,5 liter/polibag dan 2 liter/polibag pada budidaya jagung manis di tanah kapuran berpengaruh positif bagi pertumbuhan dan hasil.

**Kata kunci:** takaran POC limbah cair pabrik kelapa sawit, jagung manis, pertumbuhan dan hasil, tanah kapuran

**EFFECT OF DOSAGE OF LIQUID ORGANIC FERTILIZER FROM PALM OIL MILL EFFLUENT ON THE GROWTH AND YIELD OF SWEET CORN ON LIME SOIL**

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**ABSTRACT**

*The study was done to know effect of liquid organic fertilizer (LOF) from palm oil mill effluent doses on the growth and yield of sweet corn and to know the best dose. The research was conducted at UPT Gunung Bulu, Mercu Buana University Yogyakarta, Argorejo Village, Sedayu District, Bantul Regency, Yogyakarta, at an altitude of 114 meters above sea level, starting from October 2020 to January 2021. This research was a single factor treatment arranged in a Completely Randomized Block Design with three replications. There were four levels of treatments and each experimental unit consisted of 10 experimental plants. The treatments tested were control (NPK-16-16-16 fertilizer 300 gr/polybag dose, without liquid organic fertilizer), dosage of palm oil mill effluent LOF 1 liter/polybag, 1.5 liter/polybag, and 2 liters/polybag respectively. Polybag measuring 30cmx30cm filled with lime soil. Application of palm oil mill effluent LOF by sprinkling on the soil surface, at the plant age of 14, 28, 42, and 70 days. Observation variables included plant height, number of leaves, stem diameter, plant dry weight, ear weight with and without husks, length and diameter of ear with and without husk ear diameter without husk, and the weight of every 5 ears with and without husk. Data were analyzed by analysis of variance at  $\alpha=5\%$  and Duncan Multiple Range Test. The results showed that in lime soil, the dose of LOF of palm oil mill effluent affected the growth of sweet corn plants only at plant height of 2 days after planting, and sweet corn yields only on weight per 5 fresh ears. The dose of 1.5 liters/polybag was able to produce weight per 5 fresh ears not different from the control and the dose of 2 liters/polybag was higher than the other treatments. The addition of LOF from palm oil mill effluent at a dose of 1.5 liters/polybag and 2 liters/polybag on sweet corn cultivation in lime soil had a positive effect on growth and yield.*

**Keywords : liquid organic fertilizer from palm oil mill effluent dose, growth and yield, sweet corn, lime soil**