

## ABSTRAK

### **PENGARUH APLIKASI *ECO ENZYME* DAN PUPUK ORGANIK CAIR BERBASIS TEKNOLOGI *NANOBUBBLE* BERBAHAN DASAR LIMBAH UDANG DAN ECENG GONDOK PADA BIOMASSA DAN PRODUKSI JAGUNG MANIS (*Zea mays saccharata* Sturt.)**

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Jagung manis (*Zea mays saccharata* Sturt.) merupakan komoditas hortikultura bernilai ekonomi tinggi yang produktivitasnya perlu ditingkatkan melalui pemupukan yang efisien dan ramah lingkungan. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian *eco-enzyme* dan pupuk organik cair (POC) berbasis nanoteknologi serta interaksinya terhadap biomassa dan produksi jagung manis. Penelitian dilaksanakan pada November 2025 hingga Januari 2026 di Kelurahan Kota Sepang Jaya, Kecamatan Labuhan Ratu, Kota Bandar Lampung menggunakan Rancangan Acak Kelompok (RAK) faktorial  $3 \times 3$  dengan tiga ulangan. Faktor pertama yaitu *eco-enzyme* terdiri atas 0, 1, dan 2 mL/L, sedangkan faktor kedua yaitu POC nano terdiri atas 0, 5, dan 10 mL/L. Data dianalisis menggunakan analisis ragam dan uji BNJ taraf 5%. Hasil penelitian menunjukkan bahwa pemberian *eco-enzyme* dan POC nano berpengaruh nyata terhadap pertumbuhan dan hasil jagung manis, dengan konsentrasi terbaik masing-masing sebesar 2 mL/L dan 10 mL/L. Interaksi pemberian *eco-enzyme* konsentrasi 1 mL/L dan POC nano konsentrasi 5 mL/L berpengaruh nyata terhadap lingkaran tongkol, jumlah baris per tongkol, bobot berangkasan segar, dan produksi ubin. Kombinasi *eco-enzyme* dan POC nano mampu meningkatkan biomassa dan produksi jagung manis.

Kata kunci: biomassa, *eco-enzyme*, jagung manis, pupuk organik cair nano, produksi.

## **ABSTRACT**

### **EFFECT OF ECO-ENZYME APPLICATION AND NANO-BUBBLE TECHNOLOGY-BASED LIQUID ORGANIC FERTILIZER DERIVED FROM SHRIMP WASTE AND WATER HYACINTH ON THE BIOMASS AND YIELD OF SWEET CORN (*Zea mays saccharata* Sturt.)**

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*Sweet corn (*Zea mays saccharata* Sturt.) is a horticultural crop with high economic value whose productivity can be improved through efficient and environmentally friendly fertilization. This study aimed to evaluate the effects of eco-enzyme and nanotechnology-based liquid organic fertilizer (nano LOF), as well as their interaction, on the biomass and yield of sweet corn. The study was conducted from November 2025 to January 2026 in Kota Sepang Jaya Village, Labuhan Ratu District, Bandar Lampung City, using a 3 × 3 factorial Randomized Complete Block Design (RCBD) with three replications. The first factor was eco-enzyme consisting of 0, 1, and 2 mL/L, while the second factor was nano liquid organic fertilizer consisting of 0, 5, and 10 mL/L. Data were analyzed using analysis of variance followed by the Honestly Significant Difference (HSD) test at the 5% level. The results showed that the application of eco-enzyme and nano liquid organic fertilizer significantly affected the growth and yield of sweet corn, with the best concentrations being 2 mL/L and 10 mL/L, respectively. The interaction between eco-enzyme at 1 mL/L and nano liquid organic fertilizer at 5 mL/L significantly affected ear circumference, number of kernel rows per ear, fresh biomass weight, and plot yield. The combined application of eco-enzyme and nano liquid organic fertilizer was able to increase the biomass and yield of sweet corn.*

**Keywords:** *biomass, eco-enzyme, nano liquid organic fertilizer, sweet corn, yield.*