# APLIKASI *ECO-ENZYME* DALAM MENINGKATKAN PERTUMBUHAN BIBIT KAKAO (*Theobroma cacao* L.) KLON BL -50

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# APLIKASI *ECO-ENZYME* DALAM MENINGKATKAN PERTUMBUHAN BIBIT KAKAO (*Theobroma cacao* L.) KLON BL -50


## Abstrak

Tanaman kakao (*Theobroma cacao* L.) adalah tumbuhan tropis yang berasal dari amerika latin. Indonesia merupakan negara penghasil terbesar ketiga dan menjadi komoditas penghasil devisa negara. Meskipun demikian, produktivitas kakao Indonesia masih rendah akibat penggunaan bibit yang kurang berkualitas, pemupukan yang kurang optimal, serta keterbatasan penerapan teknologi ramah lingkungan. Penelitian ini bertujuan untuk mengkaji pengaruh pemberian pupuk organik *eco-enzyme*, baik dalam bentuk cair maupun padat terhadap pertumbuhan bibit kakao klon BL-50. Penelitian ini dilaksanakan di Lahan Percobaan Kampus lll Universitas Andalas, Dharmasraya, Sumatera Barat, dilaksanakan dimulai dari Februari-Mei 2025 menggunakan Rancangan Acak Lengkap (RAL) dengan 8 perlakuaan dan 3 ulangan sehingga diperoleh 24 satuan percobaan. Parameter yang diamati meliputi tinggi tanaman, diameter batang, jumlah daun, luas daun, panjang akar dan rasio tajuk akar. Hasil penelitian menunjukkan bahwa aplikasi *eco-enzyme* memberikan pengaruh signifikan terhadap peningkatan tinggi tanaman, diameter batang, luas daun dan panjang akar bibit kakao. Namun, tidak berbeda nyata terhadap jumlah daun dan rasio tajuk akar. Perlakuan terbaik diperoleh pada aplikasi ampas eco-enzyme sayur dosis 500 gram yang menghasilkan tinggi tanaman 46,20 cm, diameter batang 11,44 mm, luas daun 5,49 $cm^2$ dan panjang akar 75,33 cm. Penggunaan ampas *eco-enzyme* sayur terbukti paling efektif dalam meningkatkan pertumbuhan bibit kakao. Sehingga, dapat direkomendasikan sebagai alternatif pupuk organik ramah lingkungan yang mampu meningkatkan kualitas bibit kakao klon BL-50.



Kata kunci: Kakao klon BL-50, *eco-enzyme*, *ampas eco-enzyme*, pertumbuhan bibit

# APPLICATION OF ECO-ENZYME IN ENHANCING THE GROWTH OF COCOA SEEDLINGS (*Theobroma cacao* L.) CLONE BL -50


## Abstract

The cacao plant (Theobroma cacao L.) is a tropical plant native to Latin America. Indonesia is the third largest producer of cacao and it is a major source of foreign exchange for the country. However, cacao productivity in Indonesia cacao productivity remains low due to the use of poor-quality seeds, suboptimal fertilization, and limited application of environmentally friendly technology. This study aims to investigate the effect of applying organic *eco-enzyme* fertilizer, both in liquid and solid forms, on the growth of BL-50 cocoa clones. The study was conducted at the Experimental Field of Campus III, Andalas University, Dharmasraya, West Sumatra, from February to May 2025 using a Completely Randomized Design (CRD) with 8 treatments and 3 replications, resulting in 24 experimental units. The parameters observed included plant height, stem diameter, number of leaves, leaf area, root length, and shoot-to-root ratio. The results showed that the application of *eco-enzyme* significantly influenced the increase in plant height, stem diameter, leaf area, and root length of cocoa seedlings. However, there was no significant difference in the number of leaves and shoot-to-root ratio. The best treatment was obtained with the application of 500 grams of vegetable eco-enzyme residue, resulting in plant height of 46.20 cm, stem diameter of 11.44 mm, leaf area of 5.49 $cm^2$, and root length of 75.33 cm. The use of vegetable *eco-enzyme* residue was proven to be the most effective in enhancing the growth of cocoa seedlings. Therefore, it can be recommended as an alternative organic fertilizer.



Keywords: BL-50 cocoa clone, *eco-enzyme*, *eco-enzyme* residue, seedling growth