ABSTRAK

RESPONS PERTUMBUHAN BIBIT KAKAO *(Theobroma cacao L.) HALF-SIB* KLON MCC 02 TERHADAP APLIKASI KOMPOS AEROB DAN PUPUK ANORGANIK DI PEMBIBITAN

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Produksi kakao di Indonesia terus mengalami penurunan tiap tahunnya, salah satu penyebabnya yaitu capaian produksi yang belum optimal. Peningkatan produksi dapat dilakukan melalui penggunaan bahan tanam bermutu dan bersertifikat agar menghasilkan bibit unggul dengan potensi hasil maksimal. Bibit unggul memerlukan media tanam yang mampu memenuhi kebutuhan unsur hara melalui aplikasi pupuk guna menunjang pertumbuhan. Pupuk yang digunakan dalam penelitian ini adalah kompos aerob dan pupuk anorganik (urea dan NPK). Penelitian ini bertujuan untuk mengetahui apakah respons bibit kakao terhadap pemberian kompos aerob dipengaruhi oleh pemberian pupuk anorganik dan mengetahui kombinasi pupuk manakah yang menghasilkan pertumbuhan bibit kakao terbaik. Penelitian ini dilaksanakan di Rumah Kaca Fakultas Pertanian, Universitas Lampung pada bulan Juni-Oktober 2025 menggunakan Rancangan Acak Kelompok (RAK) faktorial 2×3 dengan dua faktor: kompos aerob (K0 = tanpa kompos, K1 = aplikasi kompos) dan pupuk anorganik (P0 = aplikasi NPK dan urea 0% dosis rekomendasi, P1 = aplikasi NPK dan urea 50% dosis rekomendasi, P3 = aplikasi NPK dan urea 100% dosis rekomendasi). Hasil penelitian menunjukkan bahwa sebagian besar respons pertumbuhan bibit kakao terhadap aplikasi kompos aerob dipengaruhi oleh pemberian pupuk anorganik pada variabel jumlah daun, tingkat kehijauan daun, diameter batang, bobot segar tajuk, dan bobot kering tajuk. Kombinasi kompos aerob dan tanpa pupuk anorganik menjadi perlakuan yang terbaik dalam menghasilkan bibit kakao.

Kata kunci: bibit kakao, kompos aerob, pupuk anoranik

ABSTRACT

GROWTH RESPONSE OF HALF-SIB COCOA (THEOBROMA CACAO L.) CLONE MCC 02 SEEDLINGS TO THE APPLICATION OF AEROBIC COMPOST AND INORGANIC FERTILIZERS IN THE NURSERY

By

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Cocoa production in Indonesia has continued to decline annually, one of the main causes being suboptimal productivity levels. Efforts to increase production can be achieved through the use of high-quality and certified planting materials to produce superior seedlings with maximum yield potential. High-quality seedlings require a suitable growing medium capable of supplying essential nutrients through fertilizer application to support optimal growth. This study utilized aerobic compost and inorganic fertilizers (urea and NPK). The objective of this research was to determine whether the response of cocoa seedlings to aerobic compost application is influenced by inorganic fertilizer application and to identify the best fertilizer combination for optimal seedling growth. The experiment was conducted in the greenhouse of the Faculty of Agriculture, University of Lampung, from June to October 2025, using a 2×3 factorial Randomized Complete Block Design (RCBD) with two factors: aerobic compost (K0 = no compost, K1 = compost application) and inorganic fertilizer (P0 = 0% of the recommended dose, P1 = 50% of the recommended dose, and P2 = 100% of the recommended dose). The results showed that most growth responses of cocoa seedlings to aerobic compost application were significantly influenced by inorganic fertilizer application, particularly in leaf number, leaf greenness, stem diameter, shoot fresh weight, and shoot dry weight. The combination of aerobic compost without inorganic fertilizer was found to be the best treatment for producing optimal cocoa seedlings.

Keyword: cocoa seedlings, aerobic compost, inorganic fertilizer