

ABSTRACT

THE EFFECT OF URINE ADDITION AND GOAT MANURE GRINDING ON THE QUALITY OF COMPOST FERTILIZER FROM ROBUSTA COFFEE HUSK (*Coffea canephora*)

By

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This study aimed to analyze the effect of goat manure grinding and goat urine addition on the quality of compost made from robusta coffee husk (*Coffea canephora*). A Completely Randomized Design (CRD) was used with four treatments (A1 = coffee husk + unground goat manure, A2 = unground + urine, A3 = ground, A4 = ground + urine) and three replications. Observed parameters included moisture, temperature, pH, humidity, bulk density, nutrient content (N, P, K, C/N), and compost color. The results showed that treatment A4 produced the best compost quality with N 2.43%, P 0.78%, K 1.62%, C/N 17.03, neutral pH (6.8–7.2), ideal moisture (59–60%), and stable temperature (27–29°C). The color change from light brown to dark brown-black indicated compost maturity, while the increase in bulk density reflected a more compact and stable structure. The combination of ground materials and goat urine addition accelerated decomposition and improved both physical and chemical compost quality.

Keywords: coffee husk, goat manure, goat urine, grinding, compost quality.

ABSTRAK

PENGARUH PENAMBAHAN URINE DAN PENGHALUSAN KOTORAN KAMBING TERHADAP KUALITAS PUPUK KOMPOS LIMBAH KULIT KOPI ROBUSTA (*coffea canephora*)

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Penelitian ini bertujuan untuk menganalisis pengaruh penghalusan kotoran kambing dan penambahan urine kambing terhadap kualitas pupuk kompos berbahan limbah kulit kopi robusta (*Coffea canephora*). Metode yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan empat perlakuan (A1 = kulit kopi + kotoran kambing tidak dihaluskan, A2 = tidak dihaluskan + urine, A3 = dihaluskan, A4 = dihaluskan + urine) dan tiga ulangan. Parameter yang diamati meliputi kadar air, suhu, pH, kelembaban, kerapatan butiran, kadar hara (N, P, K, C/N), dan warna kompos. Hasil penelitian menunjukkan bahwa perlakuan A4 menghasilkan kompos terbaik dengan kadar N 2,43%, P 0,78%, K 1,62%, rasio C/N 17,03, pH netral (6,8–7,2), kadar air ideal (59–60%), serta suhu stabil (27–29°C). Perubahan warna dari coklat muda menjadi coklat tua kehitaman menandakan kematangan kompos, sedangkan peningkatan kerapatan butiran menunjukkan struktur kompos yang lebih padat dan stabil. Kombinasi penghalusan bahan dan penambahan urine kambing terbukti mempercepat proses dekomposisi dan meningkatkan kualitas fisik maupun kimia kompos yang dihasilkan.

Kata kunci: limbah kulit kopi, kotoran kambing, urine kambing, penghalusan, kualitas kompos.