

ABSTRAK

DINAMIKA POPULASI DAN BIOMASSA CACING TANAH SETELAH PEMBERIAN PUPUK COMPOUND DENGAN BERBAGAI TEKNIK DAN DOSIS APLIKASI PADA PERTANAMAN NANAS DI TANAH ULTISOL LAMPUNG TENGAH

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Budidaya tanaman nanas di PT Great Giant Pineapple dilakukan pada tanah Ultisol yang memiliki kesuburan tanah yang rendah. Penggunaan pupuk anorganik dilakukan untuk meningkatkan produksi tanaman nanas, namun penggunaan pupuk anorganik secara berlebihan dapat menurunkan kualitas tanah. Untuk mengurangi dampak negatif pupuk anorganik, maka dilakukan kombinasi pupuk anorganik dan pupuk organik dalam bentuk pupuk *compound* yang diaplikasikan dengan teknik dan dosis yang tepat. Salah satu organisme tanah yang dapat dijadikan indikator kesuburan tanah yaitu cacing tanah. Tujuan penelitian ini yaitu untuk mempelajari pengaruh teknik dan dosis aplikasi pupuk *compound* terhadap populasi dan biomassa cacing tanah. Penelitian dirancang dalam Rancangan Split-Plot dengan 2 faktor dan 4 ulangan. Petak utama adalah teknik aplikasi pupuk *compound* (A) yaitu: A₁= *broadcast* pada 21 hari sebelum tanam, A₂= larikan pada 1 hari sebelum tanam, dan A₃= tugal pada saat tanam. Anak petak adalah dosis pupuk *compound* (B) yaitu B₁= 1,5 Mg ha⁻¹, B₂= 3 Mg ha⁻¹, dan B₃= 4,5 Mg ha⁻¹. Pengamatan dilakukan sebanyak 4 kali pengamatan yaitu 13, 14, 15, dan 16 BST (bulan setelah tanam) dengan menggunakan metode *handsorting*. Hasil penelitian menunjukkan bahwa aplikasi pupuk *compound* dengan teknik tugal yang dilakukan saat tanam memberikan populasi dan biomassa cacing tanah paling tinggi dibandingkan perlakuan lainnya pada pengamatan 14 BST. Perlakuan dosis serta interaksi antara teknik dan dosis tidak berpengaruh terhadap populasi dan biomassa cacing tanah. Identifikasi cacing tanah menunjukkan bahwa cacing tanah yang ditemukan yaitu dari famili Megascolicidae genus *Pheretima*.

Kata kunci : Cacing tanah, Pupuk anorganik, Pupuk organik, *Pheretima*.

ABSTRACT

DYNAMICS POPULATION AND BIOMASS OF EARTHWORM AFTER APPLICATION OF COMPOUND FERTILIZER WITH VARIOUS TECHNIQUE AND DOSAGE ON PINEAPPLE CULTIVATION IN ULTISOLS, CENTRAL LAMPUNG

By

EGA RESTAPIKA NATALIA

Pineapple cultivation at PT Great Giant Pineapple is carried out on Ultisols that have low soil fertility. Application of inorganic fertilizer could be increases the production of pineapple, however application inorganic fertilizer could have negative effect on soil. To reduce the negative impact of inorganic fertilizers, combination of inorganic and organic fertilizers is carried out in the form of compound fertilizers which are applied with the right technique and dose. Earthworm is one of the soil organisms that can be used as an indicator of soil fertility. This research aim to learned about the benefits of compound fertilizer application with various techniques and dosages to increase earthworm population and biomass. This research used a Split-Plot Design with two factors and four replications. The main plot are the technique of applying compound fertilizer (A), with levels: A₁= broadcast at 21 days before planting, A₂= in row 1 day before planting, and A₃= in planting hole at the time of planting. Sub-plots are the dose of compound fertilizer (B), with levels B₁= 1,5 Mg ha⁻¹, B₂= 3 Mg ha⁻¹, and B₃= 4,5 Mg ha⁻¹. Observation were made 4 times that is 13, 14, 15, and 16 MAP (months after planting) with handsorting methods. The results showed that the application of compound fertilizer with planting hole technique at planting gave the highest earthworm population and biomass compared to other treatments at 14 MAP observations. Doses and interaction between techniques and doses had no effect on the population and biomass of earthworms. The identification of earthworms showed that the earthworms have been found were from the family of Megascolicidae and genus *Pheretima*.

Keywords : Earthworm, Inorganic fertilizer, Organic fertilizer, *Pheretima*.