

## ABSTRAK

**Siti Nurhalimah. 2024. Peran Mikroba Dan Bahan Organik Terhadap P Tersedia Tanah, Pertumbuhan Serta Hasil Tanaman Terung (*Solanum Melongena L.*). Di bawah bimbingan Yati Setiati Rachmawati dan Cecep Hidayat.**

Penurunan produksi terung diakibatkan oleh kondisi tanah masam ( $\text{pH} < 5,5$ ) yang menjadi faktor pembatas bagi pertumbuhan tanaman karena keberadaan unsur hara yang dapat diserap sangat terbatas seperti unsur hara P. Upaya yang dilakukan dalam meningkatkan pertumbuhan dan hasil tanaman terung yaitu dengan pemberian mikroba BPF dan FMA yang dapat menyediakan dan menyerap unsur hara P, dan bahan organik sebagai sumber energi bagi mikroba. Tujuan penelitian ini yaitu untuk mengetahui interaksi serta perlakuan terbaik antara mikroba dan bahan organik terhadap P-Tersedia tanah, pertumbuhan serta hasil tanaman terung. Metode Penelitian yaitu Rancangan Acak Kelompok faktorial dengan 2 faktor dan 3 ulangan. Faktor pertama yaitu ragam mikroba (m) terdiri dari : kontrol (m0), inokulum FMA 20 g polibag<sup>-1</sup> (m1), isolat BPF 20 ml polibag<sup>-1</sup> (m2), dan inokulum FMA 20 g polibag<sup>-1</sup> + isolat BPF 20 ml polibag<sup>-1</sup> (m3). Faktor kedua yaitu ragam pupuk kandang (b) terdiri dari : kontrol (b0), pupuk kandang ayam 3 t ha<sup>-1</sup> (b1), pupuk kandang domba 3 t ha<sup>-1</sup> (b2). Terjadi interaksi antara mikroba dan bahan organik terhadap Nisbah Pupus Akar, jumlah buah dan diameter buah. Secara mandiri mikroba berpengaruh terhadap derajat infeksi akar, dan bahan organik berpengaruh terhadap P-Tersedia tanah, tinggi tanaman, dan luas daun. Bahan organik pupuk kandang ayam 3 t ha<sup>-1</sup> merupakan perlakuan terbaik terhadap P-Tersedia tanah, pertumbuhan serta hasil tanaman terung (*Solanum Melongena L.*) varietas Yuvita F1.

Kata kunci : Bahan Organik, Mikroba, P-Tersedia, Terung Ungu

## ABSTRACT

**Siti Nurhalimah. 2024. The Role of Microbes and Organic Materials on Available Soil P, Growth and Yield of Eggplant Plants (*Solanum melongena* L.). Supervised by of Yati Setiati Rachmawati and Cecep Hidayat.**

The decline in eggplant production was caused by acidic soil conditions ( $\text{pH} < 5.5$ ) which became a limiting factor for plant growth because the presence of nutrients that could be absorbed was very limited, such as the nutrient P. Efforts made to increase the growth and yield of eggplant plants were by providing microbes. BPF and AMF can provide and absorb P nutrients, and organic materials as an energy source for microbes. The aim of this research is to determine the best interaction and treatment between microbes and organic materials on soil P-availability, growth and yield of eggplant plants. The research method was a factorial randomized block design with 2 factors and 3 replications. The first factor is the variety of microbes (m) consisting of: control (m0), FMA inoculum 20 g polybag<sup>-1</sup> (m1), BPF isolate 20 ml polybag<sup>-1</sup> (m2), and FMA inoculum 20 g polybag<sup>-1</sup> + BPF isolate 20 ml polybag<sup>-1</sup> (m3). The second factor is the variety of manure (b) consisting of: control (b0), chicken manure 3 t ha<sup>-1</sup> (b1), sheep manure 3 t ha<sup>-1</sup> (b2). There was an interaction between microbes and organic materials on the root pudding ratio, number of fruit and fruit diameter. Independently, microbes influence the degree of root infection, and organic matter influences soil P-availability, plant height and leaf area. Organic chicken manure 3 t ha<sup>-1</sup> has the best influence on soil P-availability, growth and yield of eggplant (*Solanum Melongena* L.) variety Yuvita F1.

Keywords: Organic Materials, Microbes, P-Availabel, Purple Eggplant.

