ABSTRAK

Lulu Khulwatul Jannah Asrin. 2021. Pengaruh Kombinasi Aplikasi Bakteri *Azotobacter* dan Berbagai Jenis Pupuk Organik Terhadap Pertumbuhan dan Hasil Tanaman Mentimun (*Cucumis Sativus* L) Varietas Mercy F1. Di bawah bimbingan Cecep Hidayat dan Esty Puri Utami

Mentimun merupakan komoditas sayuran buah dengan nilai ekonomi cukup tinggi dan prospek yang cukup besar, namun produktivitas mentimun masih rendah dibandingkan dengan potensi hasilnya. Hal ini dapat diatasi dengan pemenuhan nutrisi yang diperlukan tanaman yaitu pada proses pemupukan. Ketersediaan bahan organik di dalam tanah seperti pupuk kompos, vermikompos, dan pupuk kandang ayam dapat meningkatkan aktivitas mikroorganisme tanah yaitu *Azotobacter* sp. sehingga unsur hara siap diserap tanaman dan dapat meningkatkan pertumbuhan dan hasil tanaman mentimun. Tujuan penelitian ini untuk mengetahui pengaruh serta dosis *Azotobacter* sp. dalam meningkatkan produktivitas mentimun varietas Mercy F1. Penelitian dilaksanakan pada bulan Februari hingga April 2021. Tempat penelitian dilaksanakan di Cisaranten Wetan, Kota Bandung Provinsi Jawa Barat. Metode yang digunakan yaitu Rancangan Acak Kelompok Faktorial 2 Faktor. Faktor pertama pemberian 20 t ha^{-1} pupuk kompos (B_1), 20 t ha^{-1} vermikompos (B_2) dan 20 t ha^{-1} pupuk kandang ayam (B_3), dan faktor kedua *Azotobacter* sp. dengan dosis 5 ml tan^{-1} (A_1), 10 ml tan^{-1} (A_2), dan 15 ml tan^{-1} (A_3). Hasil penelitian menunjukan terjadi interaksi antara berbagai jenis pupuk organik dan *Azotobacter* sp. terhadap luas daun, terjadi pengaruh mandiri pada pemberian pupuk organik terhadap parameter tinggi tanaman, diameter batang, bobot kering brangkasan, berat buah per tanaman, dan indeks klorofil.

Kata kunci : Pupuk kompos, vermikompos, pupuk kandang ayam*, Azotobacter* sp.*,* Tanaman Mentimun Mercy F1

ABSTRACT

Lulu Khulwatul Jannah Asrin. 2021. Influence of Combination Application of Azotobacter Bacteria and Various Types of Organik Fertilizers on Growth and Yield of Cucumber (Cucumis Sativus L) Mercy F1 Varieties. Under the guidance of Cecep Hidayat and Esty Puri Utami

Cucumber is a fruit vegetable commodity with high economic value and good prospects. Cucumber productivity is still low compared to its potential yield. This can be overcome by fulfilling the nutrients needed by plants, namely in the fertilization process. The availability of organic matter in the soil such as compost, vermicompost, and chicken manure can increase the activity of soil microorganisms, namely *Azotobacter* sp. so that the nutrients are ready to be absorbed by plants and can increase the growth and yield of cucumber plants. The purpose of this study was to determine the effect and dose of *Azotobacter* sp. in increasing the productivity of cucumber varieties Mercy F1. The research was carried out from February to April 2021. The research location was in Cisaranten Wetan, Bandung City, West Java Province. The method used is a 2-factor factorial randomized block design. The first factor was giving 20 t ha-1 of compost (B1), 20 t ha-1 of vermicompost (B2) and 20 t ha-1 of chicken manure (B3), and the second factor was *Azotobacter* sp. with a dose of 5 ml tan-1 (A1), 10 ml tan-1 (A2), and 15 ml tan-1 (A3). The results showed that there was an interaction between various types of organic fertilizers and *Azotobacter* sp. on leaf area, there was an independent effect on the application of organic fertilizer to the parameters of plant height, stem diameter, dry weight of stover, fruit weight per plant, and chlorophyll index.

Keywords : Compost fertilizer, vermicompost, chicken manure, *Azotobacter* sp*.,* Cucumber Plant Mercy F1