

## ABSTRAK

**Fauzy Budi Kusuma. 2023. Pemanfaatan Pupuk Hydrochar Dan Pupuk Hayati Untuk Meningkatkan Pertumbuhan Dan Hasil Tanaman Mentimun (*Cucumis Sativus L.*) Varietas Suzana F1. Di bawah bimbingan Yati Setiati Rachmawati dan Liberty Chaidir.**

Pupuk hydrochar berpotensi sebagai pembenah tanah, namun C/N rasio terlalu tinggi sehingga perlu adanya penambahan pupuk hayati. Penambahan pupuk hayati diharapkan mampu menurunkan C/N rasio pada pupuk hydrochar. Tujuan dari penelitian ini adalah untuk mengetahui interaksi antara pupuk hydrochar dengan pupuk hayati serta mengetahui dosis pupuk terbaik terhadap pertumbuhan dan hasil tanaman mentimun (*Cucumis sativus L.*) Varietas Suzana F1. Penelitian dilaksanakan pada bulan Januari hingga Juni 2023 di Lahan Penelitian Kampus II UIN Sunan Gunung Djati Bandung dengan ketinggian 681 mdpl. Penelitian juga dilakukan di Laboratorium *Soil Microbiology* dan Laboratorium *Seed Technology*, Jurusan Agroteknologi, Fakultas Sains dan Teknologi, UIN Sunan Gunung Djati Bandung. Metode yang digunakan yaitu Rancangan Acak Kelompok (RAK) Faktorial dengan 2 faktor dan 3 kali ulangan, sehingga terdapat 9 kombinasi perlakuan dan diperoleh 27 satuan percobaan. Faktor pertama yaitu Pupuk Hydrochar = 0 t ha<sup>-1</sup> (O<sub>0</sub>); 15 t ha<sup>-1</sup> (O<sub>1</sub>); 25 t ha<sup>-1</sup> (O<sub>2</sub>). Faktor kedua yaitu Pupuk Hayati = 0 L ha<sup>-1</sup> (H<sub>0</sub>); 25 L ha<sup>-1</sup> (H<sub>1</sub>); dan 37,5 L ha<sup>-1</sup> (H<sub>2</sub>). Hasil penelitian menunjukkan pemberian pupuk hydrochar dan pupuk hayati tidak memberikan interaksi ataupun pengaruh mandiri terhadap pertumbuhan dan hasil tanaman mentimun (*Cucumis sativus L.*) Varietas Suzana F1. Belum didapatkannya dosis terbaik pada pemberian masing-masing ataupun kombinasi dari pupuk hydrochar dan pupuk hayati.

Kata Kunci : Pupuk Hayati, Pupuk Hydrochar, Tanaman Mentimun

## ABSTRACT

**Fauzy Budi Kusuma. 2023. Utilization of Hydrochar Fertilizer and Biological Fertilizer to Increase the Growth and Yield of Cucumber Plants (*Cucumis Sativus L.*) Suzana F1 Variety. Under the guidance of Yati Setiati Rachmawati and Liberty Chaidir.**

Hydrochar fertilizer has the potential to be a soil improver, but the C/N ratio is too high so it is necessary to add biological fertilizer. The addition of biological fertilizer is expected to reduce the C/N ratio of hydrochar fertilizer. The purpose of this research is to determine the interaction between hydrochar fertilizer and biofertilizer and to determine the best fertilizer dose for the growth and yield of cucumber (*Cucumis sativus L.*) Suzana F1 variety. The research was carried out from January to June 2023 on Campus II research land at UIN Sunan Gunung Djati Bandung at an altitude of 681 meters above sea level. Research was also carried out at the Soil Microbiology Laboratory and Seed Technology Laboratory, Agrotechnology Department, Faculty of Science and Technology, UIN Sunan Gunung Djati Bandung. The method used was a factorial randomized block design (RBD) with 2 factors and 3 replications, so that there were 9 treatment combinations and 27 experimental units were obtained. The first factor is Hydrochar Fertilizer = 0 t ha<sup>-1</sup> (O<sub>0</sub>); 15 t ha<sup>-1</sup> (O<sub>1</sub>); 25 t ha<sup>-1</sup> (O<sub>2</sub>). The second factor is Biofertilizer = 0 L ha<sup>-1</sup> (H<sub>0</sub>); 25 L ha<sup>-1</sup> (H<sub>1</sub>); and 37.5 L ha<sup>-1</sup> (H<sub>2</sub>). The research results showed that the application of hydrochar fertilizer and biofertilizer did not have any interaction or independent influence on the growth and yield of cucumber (*Cucumis sativus L.*) Suzana F1 variety. The best dose has not yet been found for administering each individual or combination of hydrochar fertilizer and biofertilizer.

Keywords : Biofertilizer, Cucumber Plant, Hydrochar Fertilizer