

Pengaruh Pupuk Kotoran Sapi dan Oligokitosan terhadap Pertumbuhan dan Hasil Tanaman Cabai Merah (*Capsicum annum* L.) pada Tanah Vertisol

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ABSTRAK

Budidaya tanaman cabai di tanah vertisol menghadapi kendala berupa rentan terhadap penyakit keriting, pupuk kimia NPK dan kemampuan menyerap air yang rendah, hal ini dapat diatasi dengan pemberian bahan organik. Penelitian ini bertujuan untuk mengetahui pengaruh pupuk kotoran sapi dan oligokitosan terhadap pertumbuhan dan hasil tanaman cabai merah ditanah vertisol. Penelitian dilaksanakan di Kebun Percobaan Fakultas Pertanian UPN “Veteran” Yogyakarta, Wedomartani, Ngemplak, Sleman, Yogyakarta pada bulan Juni sampai bulan Agustus 2019. Metode yang digunakan adalah percobaan lapangan di dalam polybag dengan menggunakan Rancangan Acak Lengkap (RAL) yang terdiri atas dua faktor, diulang 3 kali dan setiap unit percobaan terdapat 6 tanaman. Faktor pertama tanah vertisol : pupuk kotoran sapi (v/v) masing-masing K1 (1:1), K2 (1:2), dan K3 (1:3). Faktor kedua konsentrasi oligokitosan M1(1000 ppm), M2 (2000 ppm), dan M3 (3000 ppm). Data pengamatan di analisis menggunakan uji *Analysis of Varians* (ANOVA) pada jenjang nyata 5% dan kontras orthogonal, dan yang terdapat beda nyata dilanjutkan dengan *Duncan Multiple Range Test* (DMRT) pada taraf 5%. Hasil penelitian ini menunjukkan bahwa perlakuan oligokitosan memberikan pengaruh nyata terhadap parameter jumlah buah panen 1 dan panjang buah panen 1. Perlakuan pupuk kotoran sapi memberikan hasil yang sama baik terhadap parameter jumlah daun (helai), jumlah cabang, diameter batang (mm), tinggi tanaman (cm), diameter buah (mm), volume akar (ml), jumlah buah, bobot buah (gram), panjang buah (cm) dan terdapat beda nyata antara perlakuan dan kontrol pada parameter jumlah daun umur 2 mst, jumlah buah panen ke 5, dan bobot buah panen ke 5.

Kata Kunci : Cabai Merah, Pupuk Kotoran Sapi, Oligokitosan.

The Effect of Cow Manure and *Oligocytosan* Fertilizer on the Growth and Yield of Red Chili (*Capsicum annum L.*) on *Vertisol* Land

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ABSTRACT

The cultivation of chilli plants in *vertisol* soils gets obstacles in the form of susceptibility to curly diseases, NPK chemical fertilizers, and a low ability to absorb water. They can be overcome by providing organic material. This research aims to determine the effect of cow manure and *oligocytosan* fertilizer on the growth and yield of red chilli on the *vertisol* land. The research was conducted in the Experimental Field of the Agriculture Faculty UPN "Veteran" Yogyakarta, Wedomartani, Ngemplak, Sleman, Yogyakarta in June to August 2019. The method used is a field experiment in a polybag using a Completely Randomized Design (CRD) consisting of two factors, being repeated 3 times and each experiment unit contains 6 plants. The first factor of *vertisol* soil is cow manure (v / v) which is K1 (1: 1), K2 (1: 2), and K3 (1: 3). The second factor is the concentration of *oligocytosan* M1 (1000 ppm), M2 (2000 ppm), and M3 (3000 ppm). The observation data is analysed using the Analysis of Variance (ANOVA) test at 5% significance level and orthogonal contrast, and those that are significantly different are continued being test using the *Duncan* Multiple Range Test (DMRT) at 5% level. The results of this research indicate that the *oligocytosan* treatment gives a real influence on the parameters of the number of fruit harvest 1 and the length of fruit harvest 1. The treatment of cow manure gives the same results to the parameters of the number of leaves (strands), number of branches, stem diameter (mm), plant height (cm), diameter of fruit (mm), root volume (ml), number of fruit, weight of fruit (gram), length of fruit (cm) and there are significant differences between the treatments and controls in the parameters of the number of leaves aged 2 mst, the number of fruit harvested to 5, and the weight of the 5th fruit harvest.

Keywords : Red Chili, Cow Manure Fertilizer, *Oligocytosan*.