

INTISARI

Budidaya pertanian memerlukan air dalam jumlah yang cukup besar, sehingga dalam penggunaan air diharapkan efektif dan efisien. Kenyataan yang terjadi di lapangan menunjukkan bahwa efektifitas penggunaan air sangat kecil. Manajemen pengkondisian tanah (*soil conditioner*) bertujuan untuk meminimalkan kebutuhan akan irigasi dengan meningkatkan kapasitas air tersedia dan meminimalkan kehilangan air dalam tanah, salah satu cara yang paling mudah adalah dengan pemberian pupuk organik. Tujuan dari penelitian ini adalah untuk mengetahui pengaruh pemberian pupuk organik terhadap sifat hidrofisik pada tanah sawah di Dusun Pepen, Desa Trimulyo, Sleman.

Penelitian simulasi ini dilakukan dengan menggunakan bahan: tanah sawah, pupuk kandang sapi, pupuk kandang kambing, pupuk kompos, dan air secukupnya. Tanah sawah diambil dari lahan persawahan di Dusun Pepen, Desa Trimulyo, Sleman. Analisis tanah dilakukan secara penelitian laboratorium. Penelitian ini menggunakan 3 perlakuan jenis pupuk (pupuk kandang sapi, pupuk kandang kambing, dan pupuk kompos) dengan berbagai dosis pemberian (50 g, 100 g, 200 g, dan 300 g per 2,5 kg tanah) dan 1 tanpa pemberian pupuk (tanah asli). Analisis data dilakukan secara deskriptif.

Hasil analisis tanah asli menunjukkan tanah bertekstur lempung berpasir dengan kandungan bahan organiknya relatif sedang. Hasil analisa setelah perlakuan menunjukkan bahwa pemberian pupuk organik tidak berpengaruh signifikan terhadap tekstur tanah dan berpengaruh terhadap kurva pF pada tegangan yang relatif rendah. Pemberian pupuk kompos lebih optimal dalam meningkatkan kadar bahan organik dan pori air tersedia. Pemberian pupuk kandang kambing lebih optimal dalam meningkatkan kadar lengas tanah dan menekan laju perkolasi tanah. Pemberian pupuk kandang sapi lebih optimal dalam menekan laju kenaikan kapiler air dan pori drainase total. Hasil pengukuran evapotranspirasi pada tanah belum dapat menentukan pupuk organik yang lebih optimal. Secara umum, hasil penelitian ini belum dapat menentukan pupuk organik yang paling optimal, karena adanya variasi hasil tergantung parameter hidrofisik yang digunakan.

Kata kunci: tekstur tanah, kada lengas, kurva pF, pori tersedia, kehilangan air

ABSTRACT

Agricultural cultivation require water in large quantities, so in using of water irrigation is expected to effectively and efficiently. The fact had occur in the field indicated that the effectiveness using of water was very small. Management of soil conditioning is expected to minimize needing for water irrigation by increasing available water capacity and decreasing loss of water in the ground, one of the easiest method is organic fertilizer application. The purpose of this research was to determine the effect of organic fertilizer application for hydro-physic soil properties on paddy soil in Pepen Hamlet, Trimulyo Village, Sleman.

This research was conducted by using ingredients such as paddy soil, cow manure, goat manure, compost, and water. Paddy soil was taken from Pepen Hamlet, Trimulyo Village, Sleman. Soil analyzing was conducted laboratory study. This research used three treatments based on type of organic fertilizer (cow manure, goat manure, and compost) and various of doses (50 g, 100 g, 200 g, and 300 g per 2,5 kg of paddy soil) and one without organic fertilizer application (control treatment). The data were analyzed descriptively.

Result of this research showed that native soil was sandy loam texture soil with organic matter content was relatively moderate. Result of analyzing after treatments showed that organic fertilizer application didn't influence significant effect on the texture of soil, but affected the pF curve at a relatively low voltage. Compost application was more optimal to increase organic matter content and available water pore. Goat manure was more optimal to increase soil moisture and reduce soil percolation rate. Cow manure application was more optimal to reduce the rate of capillary water and total of drainage pore. Evapotranspiration measurement results on the ground had not been able to determine a more optimal of organic fertilizer. In general, the results of this research had not been able to determine the most optimal organic fertilizer, because of had occur the variation results depend of the hydro-physic parameter was used.

Keywords: *soil texture, soil moisture, pF curve, available pore, water loss*