

**SIFAT FISIK DAN KAPASITAS LENGAS TERSEDIA TANAH SAWAH
DENGAN *SYSTEM OF RICE INTENSIFICATION (SRI)* DI DAERAH
ISTIMEWA YOGYAKARTA**

INTISARI

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Tanah berperan sebagai penyedia kebutuhan tanaman berupa air, udara dan unsur hara. Ketersediaan air, udara dan unsur hara dalam tanah ditentukan oleh baik atau buruknya sifat fisik tanah. Sifat fisik tanah yang berpengaruh dalam usaha pertanian meliputi tekstur, struktur, berat volume tanah (BV), total ruang pori (TRP) dan stabilitas agregat. Stabilitas agregat berperan dalam mengatur peredaran air dan udara dalam tanah. Stabilitas agregat tanah dipengaruhi oleh adanya kandungan bahan organik dan kandungan lempung. Penelitian ini dilakukan untuk mengetahui stabilitas agregat dan kapasitas lengas tersedia pada tanah sawah yang menggunakan manajemen SRI dan tanah sawah konvensional. Sampel tanah diambil secara terusik (*disturbed*) dan tak terusik (*undisturbed*). Setiap pengambilan sampel dilakukan tiga kali ulangan pada 8 lokasi sawah yang terdapat di Daerah Istimewa Yogyakarta. Analisis statistik deskriptif dan regresi linier berganda digunakan untuk menguji sifat fisik tanah dan hubungan antara variabel. Dari hasil penelitian diketahui stabilitas agregat tanah lebih dipengaruhi oleh kandungan lempung dalam tanah, C-organik dan nitrogen total dapat meningkatkan kemantapan agregat pada tanah yang memiliki kandungan lempung yang tinggi. Indeks stabilitas agregat tanah sawah di Kabupaten Bantul tergolong kurang mantap, sedangkan indeks stabilitas agregat tanah di Kabupaten Gunungkidul, Kabupaten Kulon dan tergolong mantap. Potensi kapasitas lengas tersedia dipengaruhi oleh tekstur tanah, tanah dengan tekstur halus memiliki kapasitas lengas tersedia yang lebih tinggi dari pada tanah dengan tekstur kasar atau pasir.

Kata Kunci : Sifat fisik tanah, stabilitas agregat tanah, kadar lengas, tekstur tanah

PHYSICAL PROPERTIES AND AVAILABLE WATER CAPACITY ON RICE FIELDS WITH SYSTEM OF RICE INTENSIFICATION (SRI) IN SPECIAL REGION OF YOGYAKARTA

ABSTRACT

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Land serves as a provider of crop needs in the form of water, air and nutrients. The availability of water, air and nutrients in the soil is determined by the good or bad physical properties of the soil. The physical properties of the soil affecting the agricultural business include texture, structure, bulk density, total pore space (TPS) and aggregate stability. Aggregate stability plays a role in regulating the circulation of water and air in the soil. The stability of soil aggregates is influenced by the presence of organic matter content and clay content. This research was conducted to find out aggregate stability and moisture capacity available on paddy field using SRI management and conventional rice field. The soil sample is taken disturbed and undisturbed. Each sampling was conducted three replications on 8 rice field locations located in the Special Region of Yogyakarta. Descriptive statistical analysis and multiple linear regression were used to test the soil physical properties and the relationship between the variables. From the research result, soil aggregate stability is more influenced by clay content in soil, C-organic and total nitrogen can increase the stability of aggregate on soil that has high clay content. Index of soil aggregate stability in Bantul regency classified as less stable, while the index of soil aggregate stability in Gunungkidul Regency and Kulon Progo Regency classified as steady. Potential moisture capacity available is influenced by soil texture, soil with fine texture has a moisture capacity available higher than the ground with coarse or grain texture.

Keywords : soil physical properties, soil aggregate stability, soil texture,
available water capacity