

## INTISARI

Penggenangan pada budidaya konvensional dapat menyebabkan perubahan sifat fisik tanah berupa berat volum, porositas tanah dan stabilitas agregat tanah. Stabilitas agregat tanah dipengaruhi oleh beberapa faktor, yaitu penggunaan lahan, pengolahan tanah, tekstur tanah, dan bahan organik. Pengaruh paling signifikan disebabkan oleh faktor tekstur dan bahan organik. Tujuan dari penelitian ini mengetahui cara budidaya padi hemat air yang diterapkan petani dan pengaruhnya terhadap stabilitas agregat tanah sawah. Sampel tanah diambil pada masing-masing penggunaan budidaya di setiap kabupaten di Daerah Istimewa Yogyakarta. Sifat fisik tanah diuji dengan metode yang berbeda-beda. Berat volum diuji dengan metode bongkahan, tekstur tanah diuji dengan metode pemipetan, berat jenis diuji dengan metode tabung picnometer, dan stabilitas agregat tanah diuji dengan metode USAS (*Ultrasound Soil Agregat Stability*). Bahan organik diperoleh dari data sekunder dan cara budidaya dari hasil wawancara. Hasil uji sifat fisik tanah dan bahan organik dianalisis dengan menggunakan metode analisa deskriptif komparatif. Berdasarkan hasil percobaan diperoleh nilai stabilitas agregat tanah sawah pada budidaya padi hemat air di Kulon Progo, Gunungkidul, dan Bantul lebih tinggi dibandingkan dengan konvensional. Akan tetapi di Kabupaten Sleman menunjukkan nilai stabilitas agregat tanah sawah pada budidaya konvensional lebih tinggi dibandingkan dengan budidaya padi hemat air. Nilai stabilitas agregat tanah yang paling tinggi terdapat di Kabupaten Kulon Progo sebesar 53,05% dengan indeks agak stabil, nilai berat volum sebesar  $1,62 \text{ gr/cm}^3$ , berat jenis sebesar  $1,99 \text{ gr/cm}^3$ , dan kelas tekstur berupa lempung.

Kata kunci: Budidaya padi, stabilitas agregat tanah, sistem budidaya padi hemat air

## **ABSTRACT**

Flooding on conventional rice cultivation cause a change in soil physical properties such as bulk density, porosity, and soil aggregate stability. Soil aggregate stability was affected by some of factor, including land use, soil tillage, soil texture, and organic matter. The most significant factors are soil texture and organic matter. This study aimed to understand SRI (System of Rice Intensification) cultivation and its affected on soil aggregate stability. Soil samples were taken on SRI and conventional field in each regency in Daerah Istimewa Yogyakarta (DIY). Soil physical properties was determined by different method. Bulk density was determined by clod method, particle density by picnometer method, soil texture by pipette method, and soil aggregate stability by USAS (Ultrasound Soil Aggregate Stability). Soil physical properties was analyze by descriptive comparative method. This study resulted that soil aggregate stability on SRI in Kulon Progo, Gunungkidul, and Bantul was higher than conventional cultivation. However, SRI in Sleman showed that the soil aggregate stability on conventional cultivation was higher than SRI. The highest soil aggregate stability was found in Kulon Progo (53,05%) with mildly stable index, and the amount of soil bulk density was 1,62gr/cm<sup>3</sup>, soil particle density was 1,99 gr/cm<sup>3</sup>, and the texture was clay.

Key words: soil aggregate stability, conventional method, System Rice Intensification