ABSTRAK

Stabilitas agregat merupakan indikator penting kualitas fisik tanah yang dapat mempengaruhi perkembangan akar tanaman. Pengolahan tanah di Dusun Nawungan I dilakukan secara intensif dikarenakan pemanfaatan lahan kering yang mayoritas digunakan sebagai lahan pertanian. Pengolahan tanah secara intensif akan mempengaruhi stabilitas agregat tanah. Pertanian di lokasi penelitian dilakukan dengan menggunakan sistem tanam lahan dengan tanaman sejenis dan lahan dengan tanaman beragam. Lahan dengan tanaman sejenis dan lahan dengan tanaman beragam akan berpengaruh terhadap kandungan bahan organik tanah yang akan mempengaruhi stabilitas agregat tanah. Penelitian ini bertujuan untuk menganilis karakteristik stabilitas agregat serta hubungan sifat fisika dan kimia tanah terhadap stabilitas agregat tanah di lokasi penelitian. Sampel menggunakan 10 ulangan pada pola tanam lahan dengan tanaman beragam dan lahan dengan tanaman sejenis dengan 2 kedalaman (0-20cm dan 20-40cm). Total sampel yang dianalisis berjumlah 40 sampel tanah. Data yang diperoleh diolah dengan ANOVA untuk rancangan RCBD dan uji lanjut LSD Fisher untuk mengetahui pengaruh pola tanam dan kedalaman tanah terhadap stabilitas agregat tanah. Data Stabilitas agregat menunjukkan hasil yang tidak berbeda nyata terhadap pola tanam dan kedalaman tanah. Kandungan C-organik dalam tanah berperan terhadap peningkatan stabilitas aregat tanah. Berat volume tanah dipengaruhi oleh tekstur tanah yang memiliki hubungan berbanding terbalik dengan stabilitas agregat tanah. Semakin tinggi berat volume tanah maka semakin rendah stabilitas agregatnya. Faktor yang berpengaruh terhadap stabilitas agregat tanah pada pola tanam lahan dengan tanaman beragam dan lahan dengan tanaman sejenis yaitu tekstur tanah, bahan organik dan pengolahan tanah.

Kata kunci: Stabilitas Agregat tanah, lahan dengan tanaman beragam dan lahan dengan tanaman sejenis, pengolahan tanah, bahan organik, tekstur tanah

ABSTRACT

Aggregate stability is an important indicator of soil physical quality that can influence plant root development. Land cultivation in Nawungan I Hamlet is carried out intensively due to the use of dry land, the majority of which is used as agricultural land. Intensive tillage will affect the stability of soil aggregates. Agriculture at the research location is carried out using a system of planting land with similar plants and land with diverse plants. Land with similar plants and land with diverse plants will affect the organic matter content of the soil which will affect the stability of soil aggregates. This research aims to analyze the characteristics of aggregate stability and the relationship between the physical and chemical properties of soil on the stability of soil aggregates at the research location. The sample used 10 replications in the planting pattern of land with various plants and land with similar plants at 2 depths (0-20cm and 20-40cm). The total samples analyzed were 40 soil samples. The data obtained were processed using ANOVA for the RCBD design and Fisher's LSD further test to determine the effect of planting patterns and soil depth on soil aggregate stability. Aggregate stability data shows results that are not significantly different from planting patterns and soil depth. The C-organic content in the soil plays a role in increasing the stability of soil aggregates. Soil volume weight is influenced by soil texture which has an inverse relationship with soil aggregate stability. The higher the soil volume, the lower the aggregate stability. Factors that influence the stability of soil aggregates in cropping patterns of land with diverse plants and land with similar plants are soil texture, organic matter and soil processing.

Key words: Stability of soil aggregates, land with diverse plants and land with similar plants, soil processing, organic matter, soil texture