

INTISARI

Penelitian ini bertujuan mengetahui faktor agregasi yang berperan terhadap pembentukan stabilitas agregat tanah. Selain itu, juga pengaruh penggunaan lahan dan ketinggian terhadap stabilitas agregat tanah. Perlakuan dilakukan dengan menganalisis nilai faktor agregasi dan nilai indeks stabilitas agregat pada masing – masing lokasi sampel. Hasil menunjukkan bahwa indeks stabilitas agregat tanah dipengaruhi oleh kadar bahan organik dan persen lempung agregat. Bahan organik berperan dalam pembentukan agregat $> 2\text{mm}$. Ikatan Fe-Al kristalin berpengaruh terhadap agregat $< 2\text{mm}$ dan $< 0,3\text{ mm}$. Fe-Al amorf berpengaruh terhadap agregat berukuran lempung. Hasil analisis dengan anova faktorial menunjukkan bahwa, penggunaan lahan dan ketinggian tempat berperan pada bahan organik, sebaran agregat, agregat berukuran debu dan indeks stabilitas agregat.

Kata kunci: indeks stabilitas agregat, penggunaan lahan, ketinggian tempat, faktor agregasi.

ABSTRACT

Aggregate stability index is one of parameter to measure soil quality. Effects of landuse on soil aggregate stability index had been investigated for decades, in spite of combination effect between altitude and landuse barely to be found. Furthermore, aggregation factors such as, organic matter, soil texture and Fe-Al bonding have influences in great quantities on soil aggregate stability. The purpose of this research was to obtain aggregation factors which have effect on forming of soil aggregate stability. In the other hand, effect of landuse and altitude on aggregation distribution. A number of soil samples were collected in each location based on landuse and altitude, then had been analyzed thoroughly. Organic matter affected of forming of soil macroaggregate ($> 2\text{mm}$) and soil aggregate stability. Fe-Al crystallin affected of macroaggregate ($> 2\text{mm}$) and microaggregate ($< 2\text{mm}$ & $< 0,3\text{ mm}$). Fe-Al amorphous affected on clay size aggregate. The results analyzed by anova factorial and DMRT test showed that landuse and altitude affected on organic matter, aggregate distribution, aggregated clay, aggregated silt and aggregate stability index.

Key words: Soil aggregate stability, landuse, altitude, aggregation factors