

## Intisari

Penelitian ini bertujuan untuk mengetahui tahana karbon labil dan stabil tanah pada lahan monokultur dan polikultur. Penelitian ini menggunakan rancangan acak lengkap (RAL) dengan 2 faktor, yaitu dua sistem tanam yang berbeda (monokultur dan polikultur) dan dua lapisan tanah yang berbeda (0-15 cm dan 15-30 cm). Penelitian ini menunjukkan bahwa kadar C-Termineralisasi pada tanah lapisan 1 sampai 2 dengan lahan monokultur (16,31-16,73 mg) dan lahan polikultur (15,64-15,96 mg) tidak berbeda nyata. Kadar C-POM pada tanah dengan lahan monokultur (1,52%) tidak berbeda nyata dengan lahan polikultur (1,40%). Kadar C-BMT pada lahan monokultur (916,43 mg/kg) lebih tinggi daripada lahan polikultur (475,17 mg/kg). Kadar C-Larut Air pada lahan monokultur (836,78 mg/kg) tidak berbeda nyata dengan lahan polikultur (815,66 mg/kg). Kadar Humat pada tanah dengan lahan polikultur (1,84 g/kg) lebih tinggi daripada lahan monokultur (1,49 g/kg). Kadar Fulvat pada lahan monokultur (2,83 g/kg) lebih tinggi daripada lahan polikultur (2,33 g/kg). Kadar Humin pada lahan monokultur (0,971 g) tidak berbeda nyata dengan lahan polikultur (0,970 g). Lahan polikultur memiliki kadar karbon stabil lebih tinggi daripada lahan monokultur sementara lahan monokultur memiliki kadar karbon labil lebih tinggi daripada lahan polikultur.

Kata kunci : karbon labil, karbon stabil, monokultur, polikultur

### *Abstract*

The objective of this research is to understand ratio content of labile carbon and stable carbon in monoculture and multiple cropping field. This research used complete random design (CRD) with 2 factors which there were two different cropping system (monoculture and multiple cropping system) and two different layer of the soil (0-15 cm and 15-30 cm). This research showed that no significant different of C-mineralization in first layer until second layer of monoculture field (16,31-16,73 mg) and in multiple cropping field (15,64 - 15,96 mg). There were no significant different of C-POM Content in monoculture field (1,52 %) and multiple cropping field (1,40 %). Content of C-BMT in monoculture field (916,43 mg/kg) was higher than in multiple cropping (475,17 mg/kg). Content of C-Water Dissolve in monoculture (836,78 mg/kg) showed no significant different with in multiple cropping (815,66 mg/kg). Humic acid content in multiple cropping field (1.84 g/kg) was highest than in monoculture field (1.49 g/kg). Fulvic acid content in monoculture field (2,83 g/kg) was highest than in multiple cropping field (2,33 g/kg). Humin content in monoculture field (0,971 g) showed no significant different with in multiple cropping field (0,970 g). Multiple cropping field had higher stable carbon content than monoculture field while monoculture field had higher of labile carbon content than multiple cropping field.

Key words : labile carbon, stable carbon, monoculture, multiple cropping