

Abstract

Study on both of lateral and vertical movement processes of dissolved organic carbon (DOC) on-farm trail of cassava planted area. Objective of this study is to dissolved organic carbon (DOC) movement which are both of lateral and vertical on undulating terrain of cassava planted area. Soil samples were collected on the field before would broadcast organic fertilizer (fresh humming bird leaves; *Sesbania grandiflora* and fresh rain tree leaves; *Samanea saman*) and then they would be collected every two months. Soil sampling were collected on cassava area where were divided 3 zones (upper, middle and lower). Soil samples were collected by soil auger at 0-10 cm interval from 0-100 cm soil depth at 3 points (replications) of each zone. Results of this study showed that DOC content in 3 zones is firstly low at all soil depths which DOC of soil surface have more due to soil organic carbon decomposition is becoming. And then, DOC content have more at soil surface (0-30 cm) of upper zone while they still are less content at this of medium and lower zones however they are increased. At the last stage, it was found that DOC content are increased at all zones and all soil depths when are compared with at the first stage due to soil organic carbon decomposition and sloping area. Moreover, it found that cassava yield have more than last year from 9.4 to 12.1 tons/rai after the organic fertilizer application.

Key words: organic matter, dissolved organic carbon, movement, undulating terrain, cassava