ABSTRACT

DYNAMICS OF SURFACE WATER AND EVALUATION OF CARBON STORED IN LABORATORIUM LAPANG TERPADU FACULTY OF AGRICULTURE UNIVERSITY LAMPUNG

By

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Area of Laboratorium Lapang Terpadu Faculty of Agriculture University of Lampung approximately 6.784 ha and is used to perform a variety of research related to agricultural science. Conditions dominant slope sloping to undulating, the type and amount of vegetation that vary in each slope, and rainfall is high, then the estimated erosion potential is large enough so that it is feared will be a decrease in soil fertility and reduced topsoil (top soil) if not managed properly. The purpose of this study was to determine the effect of slope and vegetation on the surface of the water dynamics and determine the effect of the slope and vegetation carbon stored in the soil in the laboratorium lapang terpadu, Faculty of Agriculture, University of Lampung.

This research was conducted in June thru July 2014 in the Laboratorium Lapang Terpadu Faculty of Agriculture University of Lampung. The secondary data of C-organic in 2012 and the map slope class Laboratorium Lapang Terpadu Faculty of Agriculture University of Lampung and primary data in the form of precipitation, infiltration, water flow rate, and C-organic. The data have been obtained were processed to determine the dynamics of surface water and evaluate of C-organic content changes in soil from 2012 through 2014.

The results of this study indicate that during the study occurred three times the rain is on June 23, June 25 and July 11, 2014 at 2.92, 2.11, and 4:22 mm. Infiltration in slope class 0 – 3 %, 3 – 8 %, 8 – 15 %, 15 – 30 %, and 30 – 45 % respectively were 25, 21.4, 29.4, 18.4, and 31 cm / hour. From these data it can be concluded that there is no run-off during the study. Increasing of flow on July 11, 2014, but the increased flow of water is not due to the flow of the study site, but because the flow in from outside the research boundary that goes directly into water chanel. C-organic in 2014 at a depth of 0 – 20 cm each in each grade slope is 1.13, 0.86, 1.12,

0.93, and 0.98%. whereas at a depth of 20-40 cm is 1.01, 0.71, 0.68, 0.58, and 0.67%. The content of C-organic at a depth of 0 – 20 cm has decreased in every slope respectively by 25.17, 56.12, 36.00, 48.04, and 42.35% of the amount of C-organic in 2012. the average score of the decline occurring C-organic is equal to 42.365% of the C-organic average in 2012.

Keywords: infiltratoin, discharge, run off, C-organic, surface water dynamic