

THE EFFECT OF LANDSCAPE POSITION ON ORGANIC CARBON MINERALIZATION ON LAND USE CHANGE ON LORDEGAN COUNTY – IN CHAHARMAHAL AND BAKHTIARI PROVINCE.

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INTRODUCTION

Forest degradation is important factor to greenhouse gas emissions in the world and as a consequence of deforestation is an imbalance of C ration in atmosphere to soil, water- and windy erosion. It causes to increase of organic matter degradation, aerobic respiration in soil, humus mineralization and emission of organic carbon to atmosphere in the face of CO₂.

Liator et al. (2002) mentioned that slope is the most important factor on amount of plant community and soil erosion rate because of, if the OC percentage is high, we can see high population density of plants with the lowest rate of erosion.

MATERIALS AND METHODS

The study area, in west Lordegan hillslope of Chaharmahal and Bakhtiari province, is a vegetable plantation base of Oak forest (*Quercus brantii*) that some areas chanced to rainfed under barely and wheat cultivation from 50 years ago at five different slope positions in order: summit, shoulder, backslope, footslope and toeslope. Lordegan has semi humid and moderate. Then ten soil profiles were surveyed and some samples were tacked from 0- 30 cm depth. These samples have 3 replications for microbial respiration determination the soil moisture and temperature regimes are xeric and mesic, respectively. The locality is 1793 m above sea level, at which the annual mean temperature and precipitation are 15.5 °C and 1506 mm, respectively. The microbial respiration determinate by Raiesi (2004) method.

RESULTS AND DISCUSSION

The total accumulative soil respiration in forest landuse had a significant difference at toeslope than other positions. The amount of soil respiration was increased to downwards because of accumulation of organic matter.

Keywords: slope positions, rainfed landuse, forest landuse, soil respiration

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