RECARE
Preventing and Remediating degradation of soils in Europe through Land Care

RECARE MSc / PhD Research Information

Research Title

PORTABLE RAINFALL SIMULATORS AND THEIR USE FOR RUNOFF ASSAYS ON THE TERRAIN OF A SLOPE

Abstract

Since the beginning of agricultural production, the world´s population has been increasing; it is expected that in 2100, it may stabilize at 10-12 bilion. The growing pressure on natural resources due to the growth of the human population confirms the importance of a sustainable development strategy. Its basic features include protection of land resources. The growth in the human population leads to a further expansion of erosion. Soil degradation has reached an alarming intensity now and has become one of the most serious environmental problems. Soil erosion is caused and influenced by the action and interaction of various factors, depending on their origin, course and intensity. The problem of soil erosion is mainly related to large areas and relatively long slopes; therefore, an approach dealing with small rainfall areas is necessary and appropriate. One possibility for soil erosion research is to observe erosion processes using a rainfall simulator, which produces artificial rain with optional intensities and durations of the rain. The research analyzes the rainfall - runoff process in terms of its ability to cause the erosion of a slope with the help of experiments carried out using the Eijkelkamp rainfall simulator. Research with the help of the rainfall simulator will be carried out at a pothole at Turá Lúka in Myjava.

Objectives of the research

Assessment of runoff generation on the terrain of a slope, making measurements with the Eijkelkamp rainfall simulator with different optional intensities and durations of rain on the agricultural use of the slope in different seasons near the village of Turá Lúka in Myjava.

RECARE study site

Myjava catchment, Slovakia

Partners in this research

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