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A Study on the Determination of Erodibilities of the Sloping Agricultural Soils in the City of Bursa and Vicinity Against Water Erosion in Laboratory

Conditions

Zeynal TÜMSAVAS Uludağ Üniversitesi, Ziraat Fakültesi, Toprak Bölümü, Bursa-TÜRKİYE A. Vahap KATKAT Uludağ Üniversitesi, Ziraat Fakültesi, Toprak Bölümü, Bursa-TÜRKİYE Abstract: The aim of this research was to determine the relationships between runoff, soil loss and soil properties and the erodibilities of soils. For this purpose, soil samples were taken in the city of Bursa and vicinity from sloping agricultural lands belonging to the major soil groups: Red Brown Medditernean, Brown Forest, Noncalcareous Brown Forest and Rendzina. This study was carried out in laboratory conditions. Soil samples were used after sieving with 8 mm sieves, and taken from tillage depth from 68 different places in the research area. The samples were put into plots sized 50 x 100 x 15 cm. Simulated rainfall was applied at about 65 -70 mm/h intensity for one hour on plots with 9% slope by the Rainfall Simulator. Thus, runoff and soil losses were obtained from these plots after testing under simulated rainfall conditions. At the end of this research, double and multiple regression equations were determined between runoff and soil losses with soil properties for each major soil group. Thus, runoff and soil losses are calculated by applying the results of soil analysis to the equation. When considering the soil losses in each major soil group, the resistivity of the major soil groups to erosion were determined in the following order: Noncalcareous Brown Forest > Brown Forest > Red Brown Medditernean > Rendzina.

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