

Measuring the Amount of Eroded Soil and Surface Runoff Water in the Field

Authors : Abdulfatah Faraj Aboufayed

Abstract : Water erosion is the most important problems of the soil in the Jebel Nefusa area located in north west of Libya, therefore erosion station had been established in the Faculty of Veterinary and rainfed agriculture research Station, University of the Jepel Algerbee in Zentan. The length of the station is 72.6 feet, 6 feet width, and the percentage of it's slope is 3%. The station was established to measure the mount of soil eroded and amount of surface water produced during the seasons 95/96 and 96/97 from each rain storms. The Monitoring shows that there was a difference between the two seasons in the number of rainstorms which made differences in the amount of surface runoff water and the amount of soil eroded between the two seasons. Although the slope is low (3%), the soil texture is sandy and the land ploughed twice during each season surface runoff and soil eroded occurred. The average amount of eroded soil was 3792 grams (gr) per season and the average amount of surface runoff water was 410 litter (L) per season. The amount of surface runoff water would be much greater from Jebel Nefusa upland with steep slopes and collecting of them will save a valuable amount of water which lost as a runoff while this area is in desperate of this water. The regression analysis of variance show strong correlation between rainfall depth and the other two depended variable (the amount of surface runoff water and the amount of eroded soil). It shows also strong correlation between amount of surface runoff water and amount of eroded soil.

Keywords : rain, surface runoff water, soil, water erosion, soil erosion

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