World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:8, No:12, 2014

The Effect of Raindrop Kinetic Energy on Soil Erodibility

Authors : A. Moussouni, L. Mouzai, M. Bouhadef

Abstract : Soil erosion is a very complex phenomenon, resulting from detachment and transport of soil particles by erosion agents. The kinetic energy of raindrop is the energy available for detachment and transport by splashing rain. The soil erodibility is defined as the ability of soil to resist to erosion. For this purpose, an experimental study was conducted in the laboratory using rainfall simulator to study the effect of the kinetic energy of rain (Ec) on the soil erodibility (K). The soil used was a sandy agricultural soil of 62.08% coarse sand, 19.14% fine sand, 6.39% fine silt, 5.18% coarse silt and 7.21% clay. The obtained results show that the kinetic energy of raindrops evolves as a power law with soil erodibility.

Keywords : erosion, runoff, raindrop kinetic energy, soil erodibility, rainfall intensity, raindrop fall velocity
Conference Title : ICEBESE 2014 : International Conference on Environmental, Biological, Ecological Sciences and Engineering
Conference Location : Paris, France
Conference Dates : December 30-31, 2014