



Contribution of tillage erosion to the total soil loss. The effect of plot scale and mean annual rainfall.

Artemi Cerdà(1) and Merche B. Bodí(1,2)

(1) Departament de Geografia. Universitat de València. Blasco Ibáñez, 28, 46010- València. artemio.cerda@uv.es

(2) GEA (Grupo de Edafología Ambiental). Departamento de Agroquímica y Medio Ambiente, Universidad Miguel Hernández, Avenida de la Universidad s/n, 03202- Spain

The El Teularet - Sierra de Enguera soil erosion experimental station is located in Eastern Spain. 13 (x 5 subplots) plots were built during 2003 and measurements are carried out on 1 x 1, 1 x 2, 1 x 4, 2 x 16 and 3 x 16 m plots. Plots reproduce the land management on Mediterranean rainfed orchards: contact herbicides, residual herbicide, systemic herbicide, traditional tillage, tillage with catch crops, catch crop with no-tillage, control plot, legumes with no tillage, chipped branches mulch, straw much, geotextile, scrubland and 30-years abandoned orchard. Collectors are checked every 15 days or/and after any rainfall event. We analyzed the 2004 (715,8 mm) and 2005 (247,8 mm) dataset. The results demonstrate that in extremely dry years the contribution of the tillage erosion on the ploughed soils is 100 % of the removed sediments. On wet years like 2004 the tillage erosion is still a relevant factor as 50 % of the soil eroded happened during the 3 ploughing events of this year. The effect of size of the plot is also a key factor as for the small plots the soil loss is higher.