



Cropping systems and control of soil erosion in a Mediterranean environment

Salvatore Cosentino, Venera Copani, Giorgio Testa, and Giovanni Scalici
Università degli Studi di Catania - DISPA, Catania - Italy

The research has been carried out over the years 1996-2010 in an area of the internal hill of Sicily region (Enna, c.da Geracello, 550 m a. s. l. 37° 23' N. Lat, 14° 21' E. Long) in the center of Mediterranean Sea, mainly devoted to durum wheat cultivation, using the experimental plots, established in 1996 on a slope of 26-28%, equipped to determine surface runoff and soil losses. The establishment consists of twelve plots, having 40 m length and 8 m width. In order to study the effect of different field crop systems in controlling soil erosion in slopes subjected to water erosion, the following systems were studied: permanent crops, tilled annual crops, no-tilled annual crops, set-aside. The used crops were: durum wheat, faba bean, rapeseed, subterranean clover, Italian ryegrass, alfalfa, sweetvetch, moon trefoil, barley, sweet sorghum, sunflower. The results pointed out that the cropping systems with perennial crops allowed to keep low the soil loss, while annual crop rotation determined a high amount of soil loss. Sod seeding showed promising results also for annual crop rotations.