Geophysical Research Abstracts, Vol. 7, 00178, 2005 SRef-ID: 1607-7962/gra/EGU05-A-00178 © European Geosciences Union 2005



A review of the effect of agriculture and soil erosion in Spain

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A worldwide deleterious effect of agriculture is the acceleration of water erosion processes. Under Mediterranean environmental conditions land management is a key factor of soil erosion due to the low vegetation cover. In Spain, millenniums of ploughing, burning and soil overexploitation have resulted in land degradation and encouragement of soil erosion.

A state-of-the-art of the effect of agriculture on soil erosion in Spain is presented. Data from agriculture fields show higher erosion rates than forested land by a 2-3 order of magnitude. The Universal Soil Loss Equation, rainfall simulation experiments, open and closed plots and topographical measurements show a wide range of erosion rates, which are highly correlated to rainfall intensities and management.

The research carried out in Spain over two decades demonstrate the higher erosion rates found on the agricultural land, meanwhile the forest, scrubland and herb-covered soils show extremely low soil losses. Conservation agriculture is necessary to reduce soil losses and to reach a sustainable agriculture.