



Reconstruction of soil erosion rates and land management in olive orchards in SE-Spain over the past 250 years.

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Soil erosion in olive orchards is recognized as one of the key environmental problems of Mediterranean agriculture. Yet there is a lack of accurate figures on average soil erosion rates in this land use, especially over longer time periods.

This study aims at reconstructing historical soil erosion rates in olive orchards since 1752, and relating these to changes in management practices, as documented from historical sources. In three study areas in SE-Spain, the height of the tree mounds and the age of the orchard were measured. Calculated average soil erosion rates were between 28 and 60 Mg ha⁻¹ yr⁻¹. Historical documents allowed identifying four periods with distinct land management practices. The information extracted from the historical documents was then used to calibrate a soil erosion model in order to reproduce the temporal patterns in soil erosion rates.