



How two single events control the erosion process on citrus orchards in the Montesa soil erosion research station

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Single events control the soil erosion processes on Mediterranean type ecosystems. They contribute with the largest soil and water losses. A five year research carried out on the soil erosion experimental station of Montesa, eastern Spain demonstrates that the soil erosion by water is mainly concentrated on high intensity (> 100 mm day⁻¹) thunderstorms. Six plots (300 m²) were built in 2003 to collect runoff and sediments after each rainfall event. The measurements show that 91.34 % of the total soil loss and the 76.32 % of the runoff collected from 2004 to 2008 was collected during two rainfall events that surpassed 160 mm day⁻¹. The six plots were under organic farming strategies and then the soil losses were always lower than 1 Mg ha⁻¹ year⁻¹. Under dense vegetation cover found on organic farming orchards the soil erosion process is concentrated on short periods of time. In fact, two days of rainfall contributed with 9-times more runoff and soil losses than the 345 days of rainfall during the 5 year times of the study.