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Topics 03. Land Degradation

SOIL EROSION ON NEW CITRUS PLANTATIONS IN EASTERN SPAIN TRIGGER DESERTIFICATION PROCESSES

Citrus plantations in Spain were located on lowland areas such as alluvial plains and terraces in order to allow irrigation by flooding. Citrus production is a two centuries old farming in Eastern Spain and due to the location in the lowest basin position sedimentation was widespread. Since the 80's, an increase in citrus plantations on slope were found due to the use of drip-irrigation systems that now are being used in more than 50 % of the citrus plantations. The traditional tillage management to avoid weeds and the use of herbicides is used also in the slope plantations which results in high erosion rates. Measurements done by means of plots (300 m²) under natural rainfall, and on small plots under simulated rainfall (0.25 to 24 m²) show that soil erosion is extremely high on the new plantations. A survey was done to determine the soil erosion on citrus plantations after the extreme rainfall events of October 2007 and 2008. The results confirm the high erosion rates. Soil fertility is also damaged by the soil losses, and the damage caused by large rainfall events trigger Land Degradation processes.

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