



Evolution of several soil properties following amendment with olive mill wastewater

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ABSTRACT

Olive mill wastewater (OMW) is the main waste product of the olive oil industry and is characterized by high salinity and high organic matter content. Until today, in several olive oil-producing countries, untreated OMW is pumped into agricultural land with potential adverse effects on soil properties. The main objective of this study was to investigate the effects of OMW application on soil physicochemical properties. Three OMW levels (50, 100 and 200 m³ ha⁻¹ year⁻¹) were applied over eight successive years. Electrical conductivity, pH, total phosphorus and total nitrogen were studied at different soil depths. Results showed that OMW infiltration caused a modification of soil physicochemical characteristics. The most important effects on soil composition included a significant increase in P and N availability, which enhanced soil fertility in the OMW-treated soil.

Keywords: Agricultural reuse; Olive mill wastewater; Soil characteristics

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