



## **The Effect of paper mill waste and sewage sludge amendments on soil organic matter**

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In general, Mediterranean soils have low organic matter content, due to the climate characteristics of this region and inadequate land management. Traditionally, organic wastes such as manure are used as amendment in order to improve the soil quality, increasing soil fertility by the accumulation of nitrogen, phosphorus and other plant nutrients in the soil. In the last decade, other anthropogenic organic wastes such as sewage sludge or paper waste materials have been studied as soil amendments to improve physical, chemical and biological properties of soils.

The objective of the present work was to study the influence of waste from a paper mill and sewage sludge amendments on soil organic matter. For this reason, soil organic matter evolution was studied using thermogravimetric analysis (TGA), the derivative (dTG) and differential thermal analysis (DTA). Thermal analytical techniques have the advantage of using full samples without pre-treatments and have been extensively used to study the evolution of organic matter in soils, to evaluate composting process or to study the evolution of organic matter of growing media.