Meetings International
SciTechnol

Expert Opin Environ Biol 2018, Volume: 7
DOI: 10.4172/2325-9655-C5-033

World Congress on
BIOPOLYMERS AND BIOPLASTICS
&
World Congress and Expo on
RECYCLING

August 29 -30, 2018
Berlin, Germany

Sustainable management of olive tree pruning residues and olive mill byproducts

Kavvadias V
Institute of Soil and Water resources, Greece

Olive trees constitute a major source of agricultural residues. The present study investigates the effect of sustainable organic matter input practices (recycling of shredded pruning residue, returning of olive mill wastes to the field via compost) on soil properties in irrigated and rain fed olive groves. The study took place at 120 olive groves in the regions of Peza and Merambelo located in the island of Crete and in the region of Chora, South West Peloponnese, Greece, during a five year period (2012-2017). Reduced tillage or no tillage practices were also applied. The results showed that the recycling of tree residues and olive mill wastes contribute to the improvement of soil organic matter. On the other hand, a decrease was observed in most of the soil chemical and microbial properties. Identified causes for the decrease of the efficiency of soil to use microbial carbon, which consequently affected the decomposition of organic materials, were the relatively low amount of organic materials applied to soil and the insufficient inorganic nutrients of pruning residues. With the exception of available nitrogen and microbial properties, soil properties in irrigated fields were favored compared to rain-fed soil parcels, due a more propitious environment for soil processes. Concluding, the sustainable management of olive trees can play an important role in the conservation of soil nutrients, under semi-arid conditions in the Mediterranean basin.

vkavvadias.kal@nagref.gr