



Distribution of some organic components in two forest soils profiles with evidence of soil organic matter leaching.

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Soil stores organic carbon more often than we can find in living vegetation and atmosphere together. This reservoir is not inert, but it is constantly in a dynamic phase of inputs and losses. Soil organic carbon mainly depends on land cover, environment conditions and soil properties. After soil deposition, the organic residues of different origin and nature, the Soil Organic Matter (SOM) can be seen involved in two different processes during the pedogenesis: mineralization and humification.

The transport process along profile happens under certain conditions such as deposition of high organic residues amount on the top soil, high porosity of the soil caused by sand or skeleton particles, that determine a water strong infiltrating capacity, also, extreme temperatures can slow or stop the mineralization and/or humification process in one intermediate step of the degradation process releasing organic metabolites with high or medium solubility and high loads of water percolating in relation to intense rainfall.

The transport process along soil profile can take many forms that can end in the formation of Bh horizons (h means accumulation of SOM in depth).

The forest cover nature influence to the quantity and quality of the organic materials deposited with marked differences between coniferous and deciduous especially in relation to resistance to degradation.

Two soils in the Campania region, located in Lago Laceno (Avellino - Italy) with different forest cover (*Pinus* sp. and *Fagus* sp.) and that meets the requirements of the place and pedological formation suitable for the formation and accumulation of SOM in depth (Bh horizon) were studied. The different soil C fractions were determined and were assessed (Ciavatta C. et al. 1990; Dell'Abate M.T. et al. 2002) for each soil profile the Total Extractable Lipids (TEL). Furthermore, the lignin were considered as a major component of soil organic matter (SOM), influencing its pool-size and its turnover, due to the high soil input and the abundance of aromatic structures suggesting chemical recalcitrance, also, cellulose that lignin contents were also assayed.

References

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