Geophysical Research Abstracts
Vol. 16, EGU2014-12491-1, 2014
EGU General Assembly 2014

Effects of biochar prepared from organic waste on soil properties

Gabriel Gascó (1), Paola Cely (1), Ana María Tarquis (2), Jorge Paz-Ferreiro (1), Antonio Saa-Requejo (1), and Ana María Méndez (1)

(1) Departamento de Edafología, ETSI Agrónomos, Universidad Politécnica de Madrid, Madrid, Spain (gabriel.gasco@upm.es), (2) CEIGRAM, Universidad Politécnica de Madrid, Ciudad Universitaria, 28004 Madrid, Spain

Biochar is a carbon-rich solid obtained by the thermal decomposition of organic matter under a limited supply of oxygen and at relatively low temperatures. Biochar can be prepared from the pyrolysis of different organic feedstocks, such as wood and biomass crops, agricultural by-products, different types of waste or paper industry waste materials . The pyrolysis procedure of waste, i.e. sewage sludge, has mainly two advantages, firstly, it removes pathogens from waste and, secondly, biochar can reduce the leaching of heavy metals present in raw sewage sludge.

This trend of the use of waste material as feedstocks to the preparation of biochar is increasing in the last years due to industrial development and economic growth imply an increase in waste generation. The application of biochar may have positive effects on soil physical properties as water holding capacity and structure or on soil biological activity and soil quality. Also, biochar can be used to remove water pollutants and can be used in multiple ways in soil remediation due to its adsorption of pesticides or metals. Also, biochar contribute to carbon sequestration due to carbon stability of biochar materials.

The objective of this presentation is to review the positive effects of the biochar prepared from organic waste on soil properties.