



Biobased plastics, the case of PLA on soil properties, plants and earthworms

Esperanza Huerta (1,2), Jorge Vega (2), and Violette Geissen (1)

(1) Wageningen University. Soil and Land Management Degradation (esperanza.huertalwanga@wur.nl), (2) El Colegio de la Frontera Sur/ GUEST WUR, Agroecologia, Campeche, Mexico (ehuertaecosur@gmail.com)

Fossil or oil-based microplastics in terrestrial environments have shown to produce negative effects on ingestion, growth rate and survival of soil invertebrates (ie. earthworms, Huerta Lwanga et al. 2016). Therefore biobased plastics can be hypothetically a solution for plastic use in agricultural lands. This study aimed to assess the effect of a biobased plastic (PLA) on soil properties, plants growth (*Triticum aestivum*), earthworms reproduction and earthworm's ecosystem services. Then PLA plastic residues were measured and quantified in the green compost, finding 1% of this material inside the compost. This compost with PLA was then applied to the soil at the same rates that the farmers use, and bifactorial experiments were installed (presence vs no presence of PLA in composts). After 3 months of experiment, the preliminary results have shown that plants seemed to have a higher length with the presence of PLA composts but lower biomass, than in the samples without PLA. Soil parameters and earthworms results will be obtained soon. Therefore no yet conclusions can be obtained but we expect to find very interesting results in these matters.

Please fill in your abstract text.