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# Production of biochar out of organic urban waste to amend salt affected soils in the basin of Mexico

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Biochar is widely recognized as an efficient tool for carbon sequestration and soil fertility. The understanding of its chemical and physical properties, strongly related to the biomass and production conditions, is central to identify the most suitable application of biochar. On the other hand, salt affected soils reduce the value and productivity of extensive areas worldwide. One feasible option to recover them is to add organic amendments, which improve water holding capacity and increase sorption sites for cations as sodium. The former lake Texcoco in the basin of Mexico has been a key area for the control of surface run-off and air quality of Mexico City. However, the high concentrations of soluble salts in their soils do not allow the development of a vegetation cover that protects the soil from wind erosion, being the latter the main cause of poor air quality in the metropolitan area during the dry season. On the other hand, the population of the city produces daily 2000 t of organic urban wastes, which are currently composted. Thus, we tested if either compost or biochar made out of urban organic waste can improve the salt affected soils of former lake Texcoco to grow grass and avoid wind erosion. We examined the physico-chemical properties of biochar produced from urban organic waste under pyrolysis conditions. We also set up a field experiment to evaluate the addition of these amendments into the saline soils of Texcoco. Our preliminary analyses show biochar yield was ca. 40%, it was mainly alkaline (pH: 8-10), with a moderate salt content (electrical conductivity: 0.5-3 mS/cm). We show also results of the initial phase of the field experiment in which we monitor the electrical conductivity, pH, water content, water tension and soil GHG fluxes on small plots amended with either biochar or compost in three different doses.