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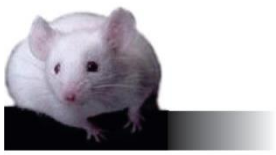

Biodynamics

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Modalidad: Poster

ASSESSMENT OF ARBUSCULAR MYCORRHIZAL FUNGI ABUNDANCE IN THE RHIZOSPHERE OF NATIVE PLANT GROWING IN HEAVY METAL CONTAMINATED SOILS.

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Arbuscular mycorrhizal fungi (AMF) have the ability to tolerate a wide range of heavy metal (HM) concentrations. AMF can develop different mechanisms to persist in these environments, but high contents of HM could lead to modify spore density. The objective of this work was to evaluate the abundance of AMF spores in the rhizosphere of *Solanum argentinum* and *Zinnia peruviana* growing in soils contaminated with lead (Pb). The study area is located in Bouwer, Córdoba city where a recycling plant of lead batteries leaves high levels of lead in soil. Four sites with different Pb content in the soil were selected (site I: 365 μg g-1, site II: 965 μg g-1, site III: 89 μg g-1, site IV: 544 μg g-1). In each site, 5 individuals of *S. argentinum* and *Z. peruviana* were extracted together with the rhizospheric soil. The last species was only present in sites II and III. Through the decantation technique, wet sieving and sucrose gradient, the AMF spores were extracted, and followed by counting in a stereo microscope the density of spores was calculated (number of spore/100 g of dry soil). In addition, soil moisture, pH, electrical conductivity, content of Cl and N were determined. Although all sites presents high Pb concentrations, the AMF spore density was higher (760.96 ± 67.04 spore/100 g of soil) than the density recorded in other soils with lower Pb content. The AMF spore density differed significantly according to the sites and the host plants. This could be due to the different habits of the species analyzed (*S. argentinum* is a perennial shrub and *Z. peruviana* is an annual herb) that would determine differences in the AMF community. Respecting to the soil variables, the density of AMF spores was only related with soil moisture, factor know as determinant in the development of these fungal structures. HM are persistent elements in the soil that modify its physico-chemical and biological properties. Phytoremediation is a technology based on the reduction of toxic elements through the use of plants and their associated microorganisms. In this sense, considering the AMF density values in these contaminated soils, it could be inferred that these organisms can be used as a biological source in phytoremediation practices. This preliminary study contributes to the registry of the AMF in the rhizospheric soil of native plants growing in environments contaminated with Pb.