***Cladonia substellata* ETHER EXTRACT ASSOCIATED TO ORGANIC MATTER CAN REDUCE SALINITY OF SOILS**

Andrezza Karla de Oliveira Silva1, Deyvson Natanael dos Santos Lima1, Rocío Santiago3, Elvis Joacir de França3; Eugênia C. Pereira1,2,

Depto. de Ciências Geográficas, Programa de Pós-Graduação em Geografia1, Programa de Pós-Graduação em Biologia Vegetal2, Universidade Federal de Pernambuco, Recife, Pernambuco, Brasil. Centro Regional de Ciências Nucleares do Nordeste3

andrezzakarlaufpe@gmail.com; deyvson.natanael@gmail.com; rociosantiagotejero@gmail.com; ejfranca@cnen.gov.br; verticillaris@gmail.com

Due to environmental degrading process generated by desertification in areas of Brazilian semi-arid, studies for recovering their natural resources are mandatory. Among environmental problems, the salinization is one of the most impactful, due to be an agricultural region. The aim of this study was to evaluate the capacity of *Cladonia substellata* Vainio as bioremediator of salinized Fluvic Neosol, in association with organic matter produced in laboratory. For simulating dry and humid seasons, experiments using columns packed with soils, were carried out in five treatments: powdered lichen extract (1); lichen thallus (2) submitted to salinized dried soil (dry season), as well as powdered extract added to moistened soil each time interval (3), or diluted in DMSO and deionized water (4); or lichen thallus (5) on periodically hydrated soil (rainy season). After six months, the soil samples were evaluated by their chemical fertility, and Energy Dispersive X-ray Fluorescence (EDXRF), and compared to field control samples from natural area. The decreasing in sodium concentration in all treatments was observed, with emphasis to the treatments (3) and (4), suggesting the water presence as adjuvant in the chelating process. By EDXRF analysis, the aluminum seems to be the only element who showed loss, in comparison to field control contents. The data corroborate the capacity of interaction of compounds occurred in *C. substellata,* mainly usnic acid, and interaction with organic matter for bioremediation of salinized soils. The treatment (2) showed the highest concentrations of Mg, V, K, Ti, Al, while the (4) presented more Fe, Ga, Pb, Zn, Sr and Ni, making the soil more fertile. In conclusion, the ether extract of *C. substellata* and its association with organic matter, in column simulating a soil profile, can reduce the concentration of exchangeable sodium of salinized soils, in humid conditions, making it almost sodic. Funding: FACEPE, CNPq.