MICROSCOPIC FUNGI IN RECLAIMED SOILS IN THE ROLLING HILLS WIND PLANT, GLENROCK, WY[1]

Alena Nováková, Jan Frouz[2], Vít Hubka

Abstract: Microscopic saprotrophic fungi were studied in soils with different reclamation type and age in the area of the Rolling Hills Wind Plant. Former Dave Johnson Coal Mine, located to the north of Glenrock, WY, closed in 2002 is currently in the process of being reclaimed. Soil samples were collected in September 2010 from 4 sites (three of them are with various reclamation types and one belongs to natural succession area – all dominated by sagebrush grassland). Several isolation technique were used for microfungi isolation – classical soil dilution plate method, soil washing technique, and isolation of thermotolerant, keratinophilic, celullolytic, and coprophilous microfungi. Microfungal determination carried out using the macro- and micro-morphological characteristics and using molecular methods (ITS sequences etc.), too. Differences in microfungal diversity were found among studied sites and also among using isolation techniques. A lot of isolated microfungi belong to the genus *Aspergillus* section Fumigati, e.g. *A. lentulus*, *A. viridinutans*, *A. viridinutans/Neosartorya aureola*, and *N. udagawae*. There are the first records from soils in USA for the most part of these thermotolerant human pathogens.

Additional Key Words: thermotolerant, keratinophilic, coprophilous fungi, sagebrush grassland

---

[1] Paper was presented at the 2012 National Meeting of the American Society of Mining and Reclamation, Tupelo, MS ***Sustainable Reclamation*** June 8 – 15, 2012. R.I. Barnhisel (Ed.) Published by ASMR, 3134 Montavesta Rd., Lexington, KY 40502

[2] Jan Frouz, Associate Professor, Institute of Soil Biology, Biology Centre AS CR, 370 05 Ceske Budejovice and Institute for Environmental Studies, Faculty of Sciences, Charles University in Prague, Benatska 2, 128 01 Praha 2, Czech Republic, Alena Novakova, Institute of Soil Biology, Biology Centre AS CR, v.v.i., 370 05 Ceske Budejovice, Czech Republic, and Vít Hubka, Department of Botany, Charles University in Prague, Benatska 2, 128 01 Praha 2, Czech Republic.