

Half-time seminar:

Ash treatment effects on the exudates from mycorrhizal fungi explored by liquid chromatography-mass spectrometry

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Abstract

Forest industry has always had an enormous impact in our society, and today the increasing demand for sustainable energy is putting the forest at the top of the list regarding raw materials. This has implied a higher exploitation of this resource worldwide. If forestry practices are not performed in a sustainable way, detrimental effects may arise. A well-known example is the acidifying effect of whole tree harvesting. One of the countermeasures that have been adopted to minimize this problem is the return of wood ash to the forest. But what are the long term effects due to such ash applications in the forest eco-systems? One of the key factors in this picture is the role that mycorrhizal fungi play in the water and nutrient supply for the growing trees, and very little is known on how the metabolism of these microorganisms respond to ash treatments. In my research I have focused on the biochemistry of the soil solution and specifically on the metabolism of mycorrhizal fungi under the effect of different ash treatments. This study shows how the concentration of amino acids, low molecular mass organic acids and siderophores in the exudates of mycorrhizal fungi are influenced by the effect of ash. Liquid chromatography-electrospray ionization/mass spectrometry (LC-ESI/MS) is the analytical chemistry tool used in this study which shows that different doses of ash application has a significant influence on the composition of the exudates of mycorrhizal fungi.



When: Friday March 4th 2016 13.00-15.00

Where: Mid Sweden University campus Sundsvall O111

Welcome!