

Potential Effects of Reclamation Activities in Sudbury, Ontario on the Uptake of Selenium and Other Elements by Mushrooms

Michaela E. McLean and Peter Beckett
Biology Department, Laurentian University, Sudbury, Ontario P3E 2C6
pbeckett@laurentian.ca

This study was undertaken to determine the significance of selenium levels in mushrooms and to assess the potential risks that higher concentrations may pose to animal populations relying on such mushrooms as a source of nutrients. Four sites in the Coniston area, near Sudbury, Ontario, were selected based upon the time of reclamation activities on these sites and the presence of mushroom species. *Laccaria laccata*, *Boletus sp.* and *Amanita muscaria*, were collected from four sites in the Sudbury area, dried, ground to a fine powder using liquid nitrogen and analyzed by x-ray fluorescence. Soil samples were also collected from each site where mushrooms were retrieved to determine the nature of the relationship between the soil pH and the level of selenium in the collected specimens. It has been found that there is not a significant relationship between pH and the bioaccumulation of Se or other elements. There are, however, significantly important differences between species regarding the Se and other elemental concentrations taken up into the mushroom tissue.