

Health Risk Assessment of Mercury Contaminated Forest Mushrooms from the Czech and Slovak Republics

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Abstract - Mercury and its compounds belong to the most toxic substances in the environment and their exposure represents a significant worldwide health issue. Due to the extensive historical mining and metallurgical activities in the Czech and Slovak Republics, several localities with high metal contamination are located here. For monitoring of mercury contamination in edible mushroom species, two very contaminated localities (“Brdy” in the Czech Republic and “Spišská nová ves” in Slovakia) and eight non-polluted localities were chosen. The highest contents of mercury were found in wild-grown *Agaricus bisporus* ($7.68 \pm 0.43 \text{ mg.kg}^{-1} \text{ DW}$) and *Russula integra* ($9.52 \pm 0.46 \text{ mg kg}^{-1} \text{ DW}$). The highest hazard indexes were calculated for these samples, too. The highest bioconcentration factor was calculated for *Boletus reticulatus*.

Keywords: Mercury, mushrooms, soil, atomic absorption spectrometry.