

DETERMINATION OF HEAVY METALS IN SEVERAL SPECIES OF WILD MUSHROOMS AND THEIR INFLUENCE ON PEROXIDASE ACTIVITY

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Abstract

The heavy metals (Zn, Fe) content of some wild mushrooms (*Amanita caesarea*, *Rusulla virescens*, *Rusulla cyanoxantha*, *Rusulla vesca*, *Rusulla alutacea*, *Rusulla foetens*, *Lepiota procera*, *Lepiota excoriata*, *Armillaria mellea*, *Cantharellus cibarius*, *Boletus edulis*, *Pleurotus ostreatus*, *Hydnum repandum*, *Lactarius piperatus*, *Lactarius vellereus*) of four sites from Dambovită county Romania, were analyzed. Elements concentrations were determined by Energy Dispersive X-ray Fluorescence spectrometry (EDXRF). In fruiting body of these mushrooms, the highest mean concentration of macroelements was found for Zn and Fe. *Hydnum repandum* species accumulated zinc at a level three times higher than average concentration of species of fungi studied, 248 mg/kg and *Cantharellus cibarius* species concentrate the metal values of two times higher than average concentration. *Rusulla cyanoxantha* species concentration values of iron is four times higher, respectively *Cantharellus cibarius*, *Lactarius piperatus* species have values three times higher than average concentration of this metal. We can say that these three species of this metal are good bioaccumulation, developing normally, even at high concentrations of iron.

Peroxidase activity of fungi was determined in order to find correlations between the size of oxidoreductase activity and concentration of heavy metals. Enzymatic activity was enhanced by higher concentrations of metals accumulated in most species studied macromycetes.

Key words: wild mushroom, EDXRF, heavy metal, peroxidase

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