

**The application research: Study of effects non-ferrous metal foundry on local forest ecosystem: effect of emission heavy metals on soil and mushrooms – summary popular science**

Heavy metals emitted from anthropological sources even in small quantities for year's activities industry plant could permanently contaminate the nearest local environment. This has a particular importance when industry plant is located in direct to buildings, field crops, forests. I would like in the research project take the independent e.g. academic analysis the possible impact local non-ferrous metal foundry on surrounding forest (excluding farm buildings, humans and animals), and including soil and mushrooms (*Basidiomycetes*) relevant in trophic chain relation humans and animals.

Research thesis will concern impact possible emission of heavy metals from nearby foundry on forest ecosystem – edible mushrooms for humans and others (eaten by animals) and soil profile.

Researches carried out under the project are intended to do fruiting body chemical elements analysis fruiting body and also soil close to foundry. The mineral composition will be determined with particular emphasis on heavy metals and bio accumulation chemical elements, which make possible to specify nutritional values for humans and toxicological risk associated with consumption

The area which will be covered in research is forest ecosystem close to non-ferrous metal foundry. Mushrooms growing in surrounding forests are potential vulnerable on heavy metals emission. There is currently no data in literature about local influence foundry on forest ecosystem and size of emission heavy metals on local ground, mushrooms and soil. Project will bring on new knowledge on researched thesis.

Planned tasks involve gather fruiting body different species of mushrooms and soil samples in many different places close to the non-ferrous metal foundry and different species of mushrooms and soil samples from potentially contaminated area to compare chemical elements, mainly heavy metals. Gathered samples will be prepared to analysis. Chemical elements in mushroom fruiting body and soil will be marked method of atomic mass spectrometry and optical atomic spectrometry with inductively coupled plasma (ICP-MS/OES). Mercury will be marked by atomic absorption method, cold vapor technique (CV-ASS)