

The opponent report on the bachelor thesis by Eliška Trsková entitled

"Occurrence of organic pollutants in constructed wetlands"

The bachelor thesis by Eliška Trsková originated at Global Change Research Centre AS CR and was supervised by Professor Jan Tříska. The aim of the bachelor thesis was to determine four selected organic compounds (N,N-diethyl-3-methylbenzamide, cotinine, coprostanol and galaxolide) in a constructed wetland. The sample treatment process was optimized; three types of extraction (aqueous two phase extraction, liquid-liquid extraction, and stir bar sorptive extraction) were tested. The optimum conditions of the GC-MS analysis were found and approved.

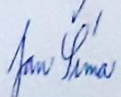
The bachelor thesis deals with the modern and progressive subject. The author used the advanced analytical instrumentation. The thesis is well written with minimum misprints. It contains the significant results which may be published in an international scientific journal. The results are presented using illustrative figures and well arranged tables. The author surely showed the high level of erudition and diligence.

I have several comments and questions to the bachelor thesis:

1. Page 7, Chapter 2.4 "Plant's physiology": All discussed important processes should be documented by more up-to-date references.
2. The detailed information on the Slavošovice constructed wetland could be mentioned (e.g., the dimensions of the wetland beds, number of person equivalents, pretreatment).
3. The efficiency of the contaminant removal in constructed wetlands is strongly dependent on treated water retention time. It is connected with inflow rates, evapotranspiration, rain precipitation, and other parameters. It would be useful to measure the water inflow rates at least. Similarly, the water temperature could be measured (the microbial activity).
4. The samples were taken only twice (in the vegetative period). It would be interesting to compare the results obtained for samples taken in the vegetative and non-vegetative period. The seasonal monitoring would be the most suitable experimental design.
5. The samples were filtrated using 0.45 μm membrane filters. Thus, the fraction of analytes adsorbed to fine solid particles could be lost. It should be verified and discussed.

Finally, I can summarize that the thesis by Eliška Trsková fulfils all requirements posed on the bachelor thesis. Therefore, I recommend it for the defense and I propose the classification as excellent.

In České Budějovice May 16, 2013


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