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STATEMENT OF THE BACHELOR THESIS SUPERVISOR

Author of the thesis: **Nikola Hejnová**

Thesis title: **The Effect of Temperature on Nitrogen Mineralization in Spruce Forest Soils**

Nikola came to our group at her eleventh hour. Therefore, she was involved to our running experiment and made a simple assay within. The goal was to see a temperature dependency of gross nitrogen mineralization in soils from a small catchment in Sweden that have been fertilizing with ammonium nitrate for 20 years. Nikola prepared short-term soil incubations in four different temperatures. Then she used a pool dilution approach and labelled soil with stable isotope ^{15}N . In other words, it was machinery of several consecutive steps from soils to soil extracts including diffusion technique to separate mineral nitrogen before samples could be determined for isotopic composition on IR-MS.

From the first time when Nikola joined me in the lab, she showed strong motivation and quickly went through the methodology. Soon after, she was able to work on her own with accuracy and I could rely on the data she produced. Her honest approach allowed her to finish work in time.

I was satisfied also with her work on the thesis. Although we chose only mineralization from the broad nitrogen cycle, the interpretation of the results required that Nikola had to become familiar also with other processes and had to think about mechanisms that could influence nitrogen transformation with a specificity of nitrogen-saturated soils. From the beginning, she was actively finding literature and during data evaluation, she went ahead systematically. She also learned essential statistical tools, which were quite new for her. Unfortunately, writing the literature review and time consuming data evaluation caused that only little time remained for the discussion part. That is why it is not so elaborated.

Nevertheless, if I compare her effort and final thesis with common students in three-years lasting bachelor programs, Nikola is, with the amount of work and her attitude, surely above average. The results obtained from such controlled laboratory conditions represent important basis for predictions of ecosystem nitrogen losses. Temperature dependencies of gross nitrogen processes in soil are still rather sporadic in the scientific literature and therefore it is highly probable that we will use the data for publishing after we will evaluate complete experimental data set.

In conclusion, it is my pleasure to recommend Nikola's thesis to defence.

In České Budějovice date 16.6.2017

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