

# Dissertation thesis assessment

Title: **Development of soil nematode communities during primary and secondary succession**

Author: Mgr. Petra Benetková

Supervisor: prof. Ing. Jan Frouz, CSc

Evaluator: Ing. Markéta Hendrychová, Ph.D., Czech University of Life Sciences Prague

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Topic: Petra Benetkova explored the succession and success of nematodes to colonize new space in the terms of quantity as a total abundances and also quality throw proportion of trophic groups. These are topics that have not yet been published in detail by anyone. Due to the intention to use the natural development of the ecosystem to a greater extent to restore the disturbed environment (e.g. mining mines and their dumps), her findings are very valuable and up-to-date. The aim of this thesis is to explore the effect of soil, hay and turf transplant in various restoration projects, so results has also practical impact.

Structure/formal: In the literature search, the current scientific findings are well described, as well as the motivation for solving the presented topic. All key roles of nematoda in soil trophic web, specific characteristics and restoration methodology of degraded/destroyed site were described. The dissertation itself is written logically, it contains all the necessary chapters. In terms of formality and expertise, the dissertation is at a satisfactory level.

Papers and scientific abilities: Key questions and hypotheses were clearly defined. In the assessed theses, the student credibly demonstrates her ability to collect material in the field according to appropriate methodology, perform species determination of the model group, statistically process the data obtained, visualize, interpret them and use team synergies during writing of papers. In three articles, she proves these abilities of her first authorship.

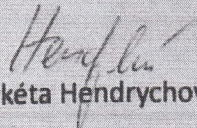
**I rate thesis made by Mgr. Benetková as very high quality and I recommend it for defense.**

I would like to ask you a few questions:

- 1) You see the nematode group in particular as a tool for accelerating pedogenesis. However, post-mining locations usually do not have a very significant production potential. What other potential should be highlighted in oligotrophic areas, or sites with blocked succession.
- 2) The goal of the restoration success can be achieved also by manipulation with physical components and chemical characteristics of the soil. Has anyone studied the nematode in relation to the application of biochar to the soil, having an effect on water retention, microbiological activity, etc...?

Thank you.

Date: 27. 4. 2023

  
Ing. Markéta Hendrychová, Ph.D.