

PhD or PostDoc Position (m/f/d) in Agroecology/Chemical Ecology

“Distribution and toxicity of grass endophytes in Germany”

Rationale

Endophytes received little attention in agroecological studies. Endophytic fungi of the genus *Epichloë* occur in many grass species and can protect their host plant by the production of alkaloids. These **alkaloids can be toxic for insect pests but also for livestock** and enhance the hosts fitness. Such *Epichloë* – grass associations occur frequently in native grass species. However, it is unknown, if endophyte infection rates and alkaloid profiles differ between natural grasslands and sown pastures. It is also unknown, how frequently *Epichloë* infected seeds occur on the seed market and if the infected plants produce **alkaloids above the toxicity levels** for insects and livestock, including horses.

Requirements

Applicants for the PhD should have a MSc degree (or equivalent) in ecology, biology, agricultural sciences or related disciplines, for a PostDoc position a PhD and advanced skills are necessary. A strong **interest in agroecology, endophytic fungi** and intoxications of animals is required. Laboratory skills in **GC-MS, HPLC-MS or multiplex PCR** are beneficial, as well as basic knowledge of **field survey** campaigns, field experiments and statistics (preferable in R). English speaking and writing skills are expected. German skills are helpful for the fieldwork and for public relations. A **driving license** valid in Germany is compulsory, as study sites are distributed throughout Germany.

Your tasks

- Recording and sampling of grass on meadows, fallows and calcareous grasslands throughout Germany
- Sowing experiment of seed mixtures
- Analyses of grass samples with GC-MS, HPLC-MS and multiplex PCR in cooperation with partners
- Communication with horse breeders, farmers, seed companies
- Statistical analyses and scientific writing

Salary and conditions

Salaries for the **PhD** position will be according to the wages-agreement (TV-L) for part-time **65% for three years, with possible extensions of 6 months**; for a **PostDoc** position it will be **two years full time**. The University of Würzburg is an equal opportunity employer. Female scientists are particularly encouraged to apply. Disabled applicants will be preferentially considered in case of equivalent qualification. The doctoral thesis will be done as a series of English manuscripts, a PostDoc is expected to combine field work and writing of manuscripts within the two years. We offer the membership in a friendly, enthusiastic and ambitious research team with modern facilities and worldwide cooperations. The position will be placed in the student city of Würzburg in southern Germany. The PhD student can join the Graduate School of Life Sciences of the University of Würzburg with many activities (http://www.graduateschools.uni-wuerzburg.de/life_sciences). Conferences and project partners in **USA or New Zealand** can be visited as part of the project.

Applications

Please send your application preferable as a *single pdf file* per-email to j.krauss@uni-wuerzburg.de latest until **1st March 2023**. Interviews of invited candidates will be held in Würzburg or online probably 13th March 2023. Applications should include a cover letter, a short summary of research interests, CV, complete certificates (A-level, BSc, MSc), and the names (with email addresses and phone number) of two potential referees.

For further information, please contact

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Webpage: <https://www.biozentrum.uni-wuerzburg.de/zoo3/team/krauss/>.

Cooperation partners for chemical analyses will be Prof. Dr. Nicole van Dam (iDiv, Jena, HPLC-MS) <https://www.idiv.de/de/profile/121.html> and Prof. Dr. Thomas Schmitt (Würzburg, GC-MS) <https://www.biozentrum.uni-wuerzburg.de/zoo3/team/schmitt/>.