



The diversity of arthropods in intercropping systems



Intercropping is the cultivation of more than one crop type at the same time on the same land. In comparison to single crop systems, crop components cultivated within an intercropping system have usually lower yield. However, this negative aspect is compensated by several advantages of intercropping systems, e.g. higher yield stability, reduced incidences of pest and diseases, reduced soil erosion, higher soil water content and improved resource efficiency.

However, intercropping systems are also interesting from an additional point of view: Intercropping systems probably have a much higher vegetative heterogeneity than single crop systems and, consequently, also offer more ecological niches which can be used by animals.

In course of a block experiment, we conducted suction sampling of ground-dwelling arthropods in intercropping systems and single crop systems. With the help of the collected samples, we want to find out whether there is a higher diversity of ground-dwelling arthropods within intercropping systems than in single crop systems. We are also interested in the question whether more beneficial insects (e.g. pest control agents) or pest species can be found in intercropping systems than in single crop systems.

We are looking for a MSc student who wants to conduct her or his Master Thesis about these questions.

Tasks: Your main responsibility would be the sorting of our samples. In this process, you need to group caught arthropods and identify them on family level. Since sorting and identification was already partly done, your task would also be to combine your data with previous data. You need to process data with Excel and conduct statistical analysis with R.

Requirements: For your tasks, you need very good taxonomic knowledge and good data management skills with Excel. Knowledge of R is an asset. You should be willing to write in English. Finally, you should be able to work independently.

Time frame: The work on the master thesis can be conducted during the winter term 2020/2021.

If you are interested, we are happy to hear from you. Please contact:

Felix Kirsch
Functional Agrobiodiversity – DNPW
Georg-August-University Göttingen
Phone: 0551 39 33739
felix.kirsch@uni-goettingen.de

Prof. Dr. Catrin Westphal
Functional Agrobiodiversity – DNPW
Georg-August-University Göttingen
Phone: 0551 39 22257
Cwestph@gwdg.de