GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN IN PUBLICA COMMODA SEIT 1737

InterDrop

MASTER THESIS OPPORTUNITY

How do floral resources and pollinator visits differ between faba bean intercrops and faba bean sole stands? – a landscape experiment

Intercropping, the cultivation of two or more crops on the same land, has proven to be a promising diversification practice, that can increase crop productivity while reducing inputs and promote biodiversity. However, knowledge is scarce on how attractive flowering legumes are for pollinating insects when cultivated as intercrop compared to sole crops. Also, how the cropping practice and the visiting pollinator community combined affect legume crop yields is not studied yet.

What is the thesis about?

This master thesis aims to explore how intercropping affects flower traits of faba beans (*Vicia faba* L.) at field scale. Specifically, you will answer the following questions: (1) Does the cropping practice (intercrop vs. sole crop) affect flower, nectar and pollen production of faba beans? (2) Is the availability of resources offered by the beans linked to the frequency of bee visits (recorded by another person)?
The thesis is part of the *InterDrop* project. The experiment will be conducted in different agricultural landscapes in southern Lower Saxony, Germany, in which faba beans are grown in intercrops with oat as well as in sole stands. The landscape around the study fields will be characterized within a 1 km radius in order to assess landscape heterogeneity.

What will your tasks be?

Your tasks will be the recording of different floral traits: flower counts, the extraction of nectar samples from flowers, the measurement of nectar sugar concentration, the collection of flower buds in the field and analysis of pollen samples. Moreover, you will support the mapping of the different study landscapes. Fields will usually be visited in a team of two.
After recording the field data, you will analyze the data set with the statistical software R.

What are the requirements?

We are looking for a **highly motivated MSc student**, interested in plant-pollinator interactions and sustainable crop production systems. The willingness and time to perform intensive field work during the bean`s flowering period (June) is a must, as is the ability to work independently and precisely. Good knowledge of Excel is required and basic knowledge of R is beneficial.
As the fields are located up to 70 km away from Göttingen, daily travel will be on the agenda and a driving license is beneficial. The thesis should be written in English. The fieldwork will be conducted in **June 2025**, and the desired start is **April/May 2025**.

If you are interested, please send your CV and a short motivation letter to:

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Information about the project:
https://www.uni-goettingen.de/de/home/670121.html
http://interdrop-project.com/


Photo: Theresa Brandes


Photo: Nicole Beyer