Agroscope

Master's thesis: Exploring functional diversity in *Phaseolus vulgaris*

Starting date: June 2025 – or in agreement
Duration: 6 Months
Working place: Agroscope Wädenswil
Language: English or German
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If you are passionate about agricultural sustainability and biodiversity, this thesis offers a unique opportunity for hands-on research in a real-world farming context.

Background

Ecosystem services encompass a wide range of benefits, such as feed and food production, maintenance of soil fertility, promotion of beneficial insects and aesthetic enjoyment. Incorporating legumes into cropping systems is often proposed as a strategy to maintain agricultural productivity while providing other ecosystem services. However, current research often focuses on certain legume species, thereby omitting **common bean** (*Phaseolus vulgaris* L.) and overlooking critical aspects such as biodiversity.

Purpose and methods

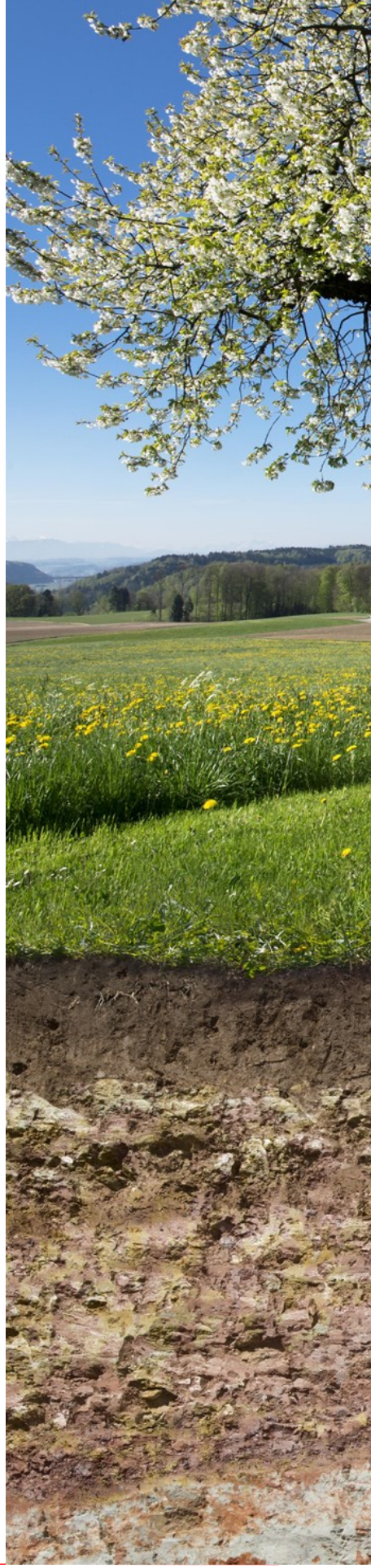
This master's thesis offers the opportunity to quantify functional diversity in Swiss common bean production. The abundance and diversity of pests, natural enemies, pollinators and decomposers will be examined in On-farm experiments with strips of 2.5 – 6m and with 4 – 5 replicates. The functional diversity of arthropods in the On-farm experiments will be compared with that in larger maize and bean fields to allow better interpretation of the results. In this master's thesis, the comparison between the On-farm experiments and the larger fields are at focus.

What you will do:

- Collecting insect specimens using **pitfall and pan traps** in the field
- Identification of specimens in the laboratory
- Perform statistical analysis (preferably with R)

Additional information

A driver's licence is desirable for fieldwork logistics.
Ideal for students interested in **agroecology, entomology**, and **biodiversity research**.
The master's thesis will be conducted within the framework of the **LEGENDARY-Project**: www.legendaryproject.eu
The thesis will be supervised by the **Biocommunication Group (ETH)** as well as the research group **Vegetable Production Extension (Agroscope)**.



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