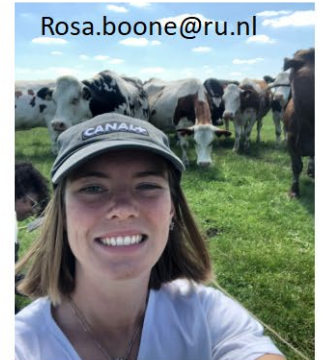
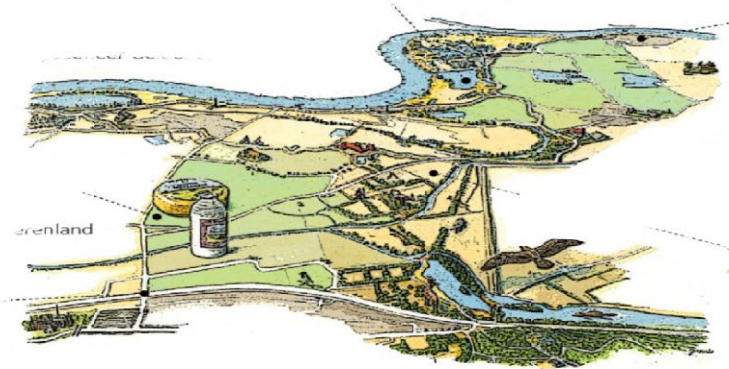




Measuring the effects of increased biodiversity on soil functionality, using smart soil-sensing technology



Are you looking for a research topic that is relevant to the current agricultural transition? And do you want to gain practical field and labexperience?

Level: BSc or MSc internship

Start: September 2022 (start of the field work, preparation of project can start earlier in Nijmegen)

Duration: 12 to 36 ec

Location: Ooijpolder, Nijmegen

Project form: Field work, labwork, data collection and analysis

Supervision: Bjorn Robroek and Rosa Boone

Contact: rosa.boone@ru.nl

Background

With a growing population soil health is increasingly important. Soil organisms play a key role in soil processes, hence soil health. Indeed, soil biodiversity is crucial to soil health, yet past land use intensification – including fertilizer and pesticide use – has significantly aggravated soil biotic diversity and functioning. **To halt the decline in soil biodiversity and to feed our growing population, we need to change the way we run our agricultural practices.** In the Ooijpolder Nijmegen, I am researching grasslands and arable fields, differing in management intensities, to understand the role between soil biodiversity and soil functioning. How does a farmer improve its soil functioning when he adapts more nature-inclusive measures? And how can we monitor this? The aim of this research is to dive deeper into soil functionalities and to also develop a new technology that can sense soil health.

To get a better understanding, I am planning a fieldwork campaign from the end of September until half October to sample soil and corresponding parameters in the Ooijpolder. I am looking for enthusiastic students that want to acquire both experience in the field as well as in the lab.

The work will involve:

- Soil sampling in the field
- Communicating with farmers in the field
- Visiting conventional, extensive and semi-natural grasslands and arable fields
- Soil processing in the lab (sieving, drying)
- Soil chemical, biological and physical analyses.

Students are welcome to come up with their own ideas for an internship topic. Groups of students are also welcome to share the workload.

Interested or do you have any questions? Do not hesitate to contact me:

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