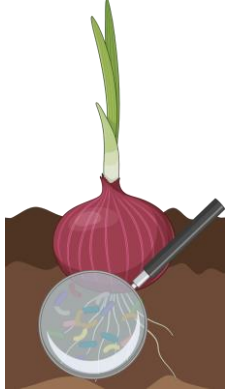


Effect of the soil microbiome on nutritional values of onions

Institute of Biology Leiden, Above-Belowground Interactions Group



In this project we study the relationship between soil microbiome communities and the nutritional values in onions. The importance of healthy soils, rich and diverse in terms of beneficial microbes, has received a lot of attention. However, the effect of the microbiome on the nutritional values of the crop remains largely unknown.

Currently we are evaluating onion bulbs and soil samples from multiple fields to assess the range of nutritional values, soil properties and the microbiome diversity across the Netherlands



Onion bulbs are analyzed biochemically using advanced techniques, such as NMR (nuclear magnetic resonance) and liquid chromatography.



Soil microbiomes are analyzed through DNA sequencing and bioinformatics

MSc Thesis project available to study the effect of microbiome diversity on nutritional values under controlled conditions

Project includes:

- Large climate room experiment using multiple soils with contrasting microbiomes and 2 nutrient levels
- Measurements on the plant level during growth period
- Biochemical analysis of onion bulbs in the laboratory after harvesting the experiment



Interested in a MSc Thesis project starting **early 2025** on this topic?

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