Leibniz-Institut für Gemüse- und Zierpflanzenbau Großbeeren/Erfurt e.V.

The Leibniz Institute of Vegetable and Ornamental Crops (IGZ) strives for excellence in horticultural research and related plant, environmental, and social sciences. Based in Großbeeren, close to Potsdam and Berlin, IGZ is a member of the Leibniz Association (WGL). Our mission is to provide science-based solutions that address four challenges currently threatening horticultural systems: climate change, biodiversity and pesticide reduction, healthy nutrition and food quality, and resource-efficient agricultural and food systems. Our scientific expertise covers the entire spectrum, from molecular plant physiology and biochemistry to human nutrition, food security, and horticultural production systems, thereby covering the full range from fundamental to applied research.

Bachelor's or Master's thesis on "Reduction of nitrous oxide and ammonia emissions through processing of crop residues in vegetable open-field cultivation"

City: Großbeeren; Starting date (earliest): At the earliest possible; Remuneration: -

Working field

Start: beginning of May 2026

Background:
In vegetable cultivation, high nitrous oxide (N_2O) and ammonia (NH_3) emissions occur after harvest due to crop residues, especially with late-harvested cabbage when no cover crops or winter crops can be established. These emissions are to be reduced by removing and processing the cabbage crop residues through composting, ensiling, and anaerobic digestion. The residues will be reintroduced to the field in the spring to utilize the nutrients for the following crop, beetroot, and to increase nitrogen transfer efficiency. In addition to studying nitrous oxide and ammonia emissions, the content of mineral nitrogen (nitrate and ammonium) in the soil will be monitored to assess and evaluate potential leaching losses. This study aims to evaluate the gaseous nitrogen losses and agronomic potential of these valorized products when re-applied as organic amendments in vegetable production.

Tasks:

- Measurements of gaseous nitrogen emissions in field experiments using the static chamber method
- Providing assistance in soil sample collection and laboratory
- Supporting root beet field management

This topic is especially relevant for students in agricultural sciences, horticultural sciences or similar studies.

The work is carried out at the Leibniz Institute of Vegetable and Ornamental Crops in Großbeeren.

Application

If you are interested, please contact us via mail:

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More information at https://stellenticket.de/200561/TUB/
Offer visible until 11/02/26