Professur für Plant Proteins and Nutrition
TUM School of Life Sciences
Technische Universität München

We are currently offering a master's thesis or research internship

Enzymatic Activity Changes During Germination of Selected Cowpea (*Vigna unguiculata*) Varieties

Background

Cowpea (*Vigna unguiculata*) is a legume known for its high nutritional value. It contains proteins, dietary fiber, vitamins, and minerals, making it a promising plant-based food ingredient. Additionally, cowpea is adaptable to various environmental conditions, allowing cultivation in tropical and semi-arid regions. However, despite its potential, cowpea remains underutilized in Europe. The Bavarian Research Center for Agriculture (LFL Bayern) has identified cowpea as a "future crop" due to its contribution to agricultural diversity and sustainability. During germination, cowpea undergoes a series of biochemical transformations, including changes in enzyme activities. These enzymes contribute to nutrient mobilization and seed metabolism, which are essential for the development of sprouts and the improvement of nutritional properties. This study focuses on analyzing the enzymatic activity observed during germination across different cowpea varieties. The results are expected to provide valuable insights into the biochemical processes associated with germination in legumes.

Your Task

- You will conduct an independent small-scale research project focused on analyzing the changes in enzymatic activities during the germination process of various cowpea varieties.
- The project includes both experimental work and literature review to support the interpretation of biochemical changes occurring during germination.

We hope you

- Start Date: As soon as possible (preferably June 2025).
- Field of Study: Food Technology, Nutrition, Biochemistry, or related study.
- Candidates should have completed at least one practical laboratory course.
- Language Requirements: Thesis and presentation slides must be prepared in English; however, the oral defense does not necessarily need to be conducted in English.

We offer

- Publication Opportunity: You may have the chance to become a co-author of future publications, depending on your contributions.
- Facilities: Access to a student office and to laboratory and pilot-scale processing facilities.
- Comprehensive Mentorship: Friendly and detailed guidance will be provided in areas such as experiments, data analysis and presentation, thesis writing, academic reporting, and personalized advice for future research interests.

Contact:

Victor Christian Kaharso (vc.kaharso@tum.de)
TUM School of Life Sciences
Professur für Plant Proteins and Nutrition (Prof. Dr. Ute Weisz)
Weihenstephaner Berg 1, 85354 Freising
www.lse.ls.tum.de/ppn