

Summer Research Internship Project Proposal

Project Topic	Is plant response to drought affected by nitrogen supply?		
Name	assoc. prof. Vít Gloser, Ph.D.	Field	Plant science
Department	Department of Experimental Biology, Faculty of Science	Keywords	Nitrate availability, water use, drought

Description of the Project (overview, expected outcomes, reason for research, proposed outcomes for student(s))

Drought is one of the most limiting factors of food production worldwide. Knowledge of processes behind plant response to decline of water availability and consequent regulation of plant water use is critically needed but still poor. Student will perform a cultivation experiment focused on interaction between water availability and nitrogen availability in soil and response of plants in selected traits. Student will learn how to conduct and evaluate experiments with plants in regulated conditions. Work experience will also include use of instruments for monitoring of plant and soil water status, destructive sampling of plant material and simple chemical analyses. The results of project will serve namely for identification of possible mechanism behind sensing of soil water availability by plants.

Student Requirements (prerequisites, experience, acceptable fields of study, etc.)

- basic knowledge of plant cultivation
- basic knowledge of data handling (e.g. calculations in spreadsheet, creation of simple graphs)
- basic experience in chemistry lab is advantage

Proposed responsibilities of the student(s)

- Plant cultivation
- Plant sampling and basic chemical analysis of plant material
- Measurement of selected plant functional traits
- Data handling and preparation of results/outputs

Additional important information (max. number of students, additional staff/faculty involved, etc.)

- Student will interact with supervisor as well as with some other members of staff.