Bachelor or Master thesis BIOVIT 2022/23

Topic (Norwegian):
Evaluering av tørketoleranse i utvalgte hvetesorter under kontrollerte betingelser i polytunell

Topic (English):
Evaluation of drought tolerance in selected wheat cultivars under controlled polytunnel conditions

Summary
Newly established polytunnels at Vollebekk enable the control of rainfall and temperature in field trials. In this master thesis topic, we will use the tunnels to conduct a drought stress experiment with 16 spring wheat cultivars that will be grown under two irrigation regimes: drought stressed and well-watered. Two tunnels will be used, one aimed at ambient growing temperature and the other with 5°C elevated temperature. Thus, it will be possible to evaluate both the effect of drought stress and temperature on the growth performance and yield of the wheat cultivars. Emphasis will be put on image-based phenotyping techniques.

More specifically, the student will be involved in: 1) assessing the growth and development of the plants during the experiments, 2) plant physiological measurements on the plants to assess how they cope with the drought stress, 3) analysis of yield components and final grain yield, 4) image capture during field season and 5) image processing.

Subject area (keywords): genetics, abiotic stress, drought, elevated temperature

Language thesis: English

Bachelor or Master thesis: Master thesis

Credits: 60 ECTS

Project/company: NOBALwheat (Baltic Research Program): Breeding toolbox for sustainable food system of the NOrdic BALtic region

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