



Prof. Dr. Jens Léon

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Master thesis at Plant Breeding Department:

Exploring allelic variation of flowering time genes in spring barley multi-parent advanced generation intercross (MAGIC) population

The transition from vegetative to reproductive stage in plants is one of the key stages of plant development which has been studied intensively in the recent years and several genes have been identified in the pathways leading to flowering particularly in the model plants. Barley, a model plant, is one of the important agriculture crops. It is well known that a network of genes and their interactions are involved in controlling complex traits such as flowering time.

The first spring barley MAGIC population from an eight-way cross was established in our department which provides greater resolution for studying complex traits such as flowering time. This population was genotyped with the Illumina 9K iSelect SNP chip and more than 5000 polymorphic marker were established among them. Flowering time were determined for two consecutive years under semi-controlled conditions and one year in field experiment. The results revealed that the network of genes that were involved in these two experiments only partly overlap.

One of our goals is to take a closer look into the known candidate genes that are part of flowering pathway of barley.

A possible master thesis could be the analysis of these genes by exploring allelic variation among the parental resources.

Interested students should have a great interest in molecular and agricultural biological work in the laboratory.

Advisors: MSc Biotechnology and molecular genetics Nazanin Pesaran Afsharyan, Dr. Agim Ballvora

If you have some questions regarding master thesis, call me, come to my office or write me an email:

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