

Summary of Transnational Access Report to Phenopsis

1. General Information

Project Acronym (ID):	MoDroS
Project Title	Exploiting natural variation in <i>Arabidopsis thaliana</i> in response to moderate drought stress. A genome wide association study.
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2. Duration of access

Begin of the project	End of the project
September 2012	December 2012

3. Project summary (max. 250 words)

The responses of plants to drought are diverse. A common strategy of plants is the optimization of the water use efficiency to prevent death. This leads to a reduction in growth. Also fastening or stagnation of the life cycle are observed regularly in response to drought. For all these strategies hereditary variation is present in nature. In genome wide association studies (GWAS) phenotypic differences observed between ecotypes (accessions) are coupled to genetic differences. This project aims to identify novel genes that play a key role in the regulation of growth under water limited conditions in nature.

4. Main achievements (max. 250 words)

From 324 natural accessions we have obtained the following traits under control and moderate drought conditions in 3 replicates:

- Growth curves (0 until 29 days)
- Water content (at 24 days)
- Fresh Weight (29 days)
- Frozen rosette material (expression and metabolite analysis)

Genome wide association studies will be done on all these traits. At the moment the analysis for the fresh weight and the water content is done. We did find weak and strong associated regions in the genome.