

**PROJECT TITLE**

Effect of soil water content on seedling emergence in small grain cereals

**CONSORTIUM**

P 1	Julio Isidro Sánchez		
P 2	Fiona Doohan		

# SUMMARY OF THE REPORT

Please provide a summary of the Transnational Access Project.

Successful seedling emergence is a critical stage for all rotational crop production. Climate change scenarios predict increasing likelihood of both waterlogging and drought necessitating increased understanding of their effect on seedling emergence and survival. This project evaluated the genetic basis of seedling emergence phenotypes at a range of controlled soil water levels, using previously genotyped association mapping populations of oats that represent elite oat cultivars currently grown in Western Europe and North America, along with heritage cultivars and landraces that underpin current breeding programs.

This project identified germplasm tolerant to specific soil water conditions and revealed genotypes resilient to a range of conditions. The phenotypic results have been used to identify genomic regions associated with variation in successful seedling emergence.