



## **Launch of the new project 'ADAPT' to study potato's adaption mechanisms to multiple stresses**

- **Plant Biologist Markus Teige at the Faculty of Life Sciences of the University of Vienna has received a €5 million grant from the Horizon 2020 EU Program to study mechanisms how potato's adapt to multiple stresses. He coordinates a consortium of 17 European leading academic research institutions, potato breeders, a non-profit EU association, a government agency and a screening technology developer.**
- **The ADAPT project aims at identifying new breeding targets and matching potato varieties to specific challenging environmental growth conditions of the future.**

The ADAPT consortium has successfully launched the project "Accelerated Development of multiple-stress tolerAnt PoTato", which aims at developing new strategies to make potatoes fit for the challenging growth conditions of the future. The ADAPT project is coordinated by Markus Teige at the Molecular Systems Biology lab at the Department of Functional and Evolutionary Ecology, Faculty of Life Sciences. It will take place over the next four years with a total budget of 5 million Euro from the EU Horizon 2020 program (No GA 2020 862-858).

Potato is one of the most important food crops worldwide. However, a major threat to tuber yield security for this staple food crop is its vulnerability to environmental stresses; particularly to combinations of heat and drought, which are becoming increasingly prevalent due to climate change. Often these conditions are also followed by seasonal flooding, which can ruin the entire harvest within a few days. While there is some knowledge of responses to multiple stresses from model plant species such as *Arabidopsis*, similar knowledge in potato is lacking. In the ADAPT project, the complementary expertise of ten leading academic research institutions, four potato breeders, a screening technology developer, a government agency and a non-profit EU association will come together to investigate the mechanisms underlying multi-stress resilience in potato.

The ADAPT project is led by Dr. Markus Teige from the Faculty of Life Sciences of the University of Vienna, who explains that the potato comes from areas with a cool climate and is therefore particularly sensitive to heat. Moreover, as the tubers are growing in the soil, they are also extremely sensitive to flooding stress, which also increase their vulnerability to disease. *"With this project we will determine the molecular and phenotypical responses to different stress conditions, which are becoming increasingly important for potato yield under the challenging growth conditions due to climate change. Together with the breeders we will identify traits and genes that can enhance stress resilience in this very important food crop"*, Dr. Teige adds.



*Developing heat- and drought-stress tolerant potatoes*

The project's researchers will combine molecular biology, stress physiology, systems biology and analytics with engineering and molecular breeding and include end-user driven agencies for variety testing and potato trading to translate findings. *"Arising from our mechanistic understanding we aim to identify new breeding targets and matching potato varieties to specific environmental conditions. Knowledge from our research will directly reach the most relevant stakeholders and end-users feeding into breeding programmes and guiding technology development for improved crop management strategies",* Dr. Teige concludes.

The ADAPT project kick-off meeting was held online in July 2020 bringing together representatives of the project partners and the European Commission.

Visit the official project's website ([adapt.univie.ac.at](http://adapt.univie.ac.at)) and Twitter account ([@eu Adapt](https://twitter.com/eu_adapt)) for more information and updates.

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