

Factsheet



TomGEM

Acronym TomGEM

Full title A holistic multi-actor approach towards the design of new tomato varieties and management practices to improve yield and quality in the face of climate change

Programme H2020-SFS-2015-2

Contract number 679796

Abstract The world demographic growth and global climate change are major challenges for human society, hence the need to design new strategies for maintaining high crop yield in unprecedented environmental conditions. The objective of TomGEM is to design new strategies aiming to maintain high yields of fruit and vegetables at harsh temperature conditions, using tomato as a reference fleshy fruit crop. As yield is a complex trait depending on successful completion of different steps of reproductive organ development, including flower differentiation and efficient flower fertilization, TomGEM will use trans-disciplinary approaches to investigate the impact of high temperature on these developmental processes. The core of the project deals with mining and phenotyping a vast range of genetic resources to identify cultivars/genotypes displaying yield stability and to uncover loci/genes controlling flower initiation, pollen fertility and fruit set. Moreover, since high yield and elevated temperatures can be detrimental to quality traits, TomGEM will also tackle the fruit quality issue. The goal is to provide new targets and novel strategies to foster breeding of new tomato cultivars with improved yield. The main strength of TomGEM resides in the use of unique and unexplored genetic resources available to members of the consortium. It gathers expert academic researchers and private actors committed to implement a multi-actor approach based on demand driven innovation. Tomato producers and breeders are strongly involved from design to implementation of the project and until the dissemination of results. TomGEM will provide new targets and novel strategies to foster the breeding of new tomato cultivars with improved yield under suboptimal temperature conditions. TomGEM will translate scientific insights into practical strategies for better handling of interactions between genotype, environment and management to offer holistic solutions to the challenge of increasing food quality and productivity.

Duration 48 months (01/03/2016 – 29/02/2020)

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Project website www.tomgem.eu