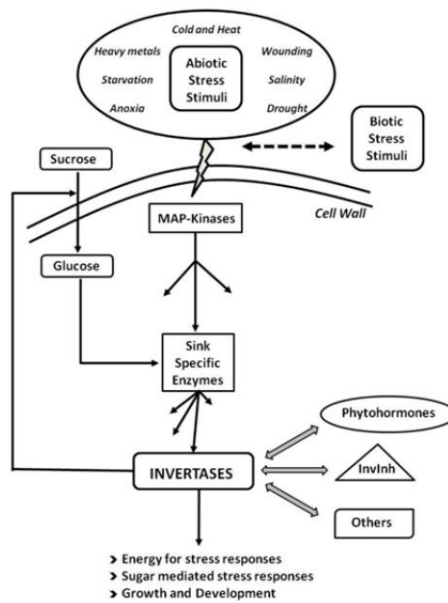


Genotype - environment interaction

Due to global climate change the understanding of the mechanisms involved in the impact of the abiotic environment on genotypic variation will be of prominent importance to secure and increase crop yield. To increase the genetic potential to enhance abiotic stress cross-tolerance, forward and reverse genetics will be combined with eco-tilling and advanced breeding and screening technologies, with special focus to identify hidden, recessive tolerance mechanism.



Model for the regulation of sink metabolism/stress responses by abiotic stress-related stimuli.



EV **AtPLAT1-t9**

Overexpression of the Arabidopsis gene At PLAT1 in tobacco results in drought resistant plants compared to the controls (EV).

Key reference:

Proels and Roitsch (2009) Regulation of source/sink relations by extracellular invertase Lin6 of tomato: a pivotal enzyme for integration of metabolic, hormonal, and stress signals is regulated by diurnal rhythm. *J. Expt. Bot* 60: 1555-1567

Review:

Albacete et al. (2011) Trick and Treat: Function and regulation of plant invertases in the abiotic stress response. *Phyton - Annales Rei Botanicae* 50: 181-204