

PROJECT TITLE

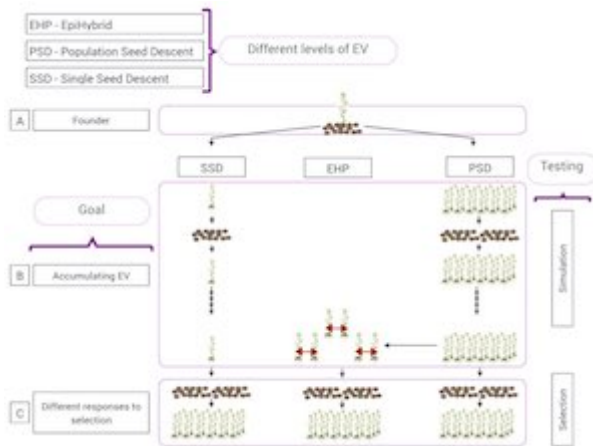
Studying the Epigenetic Landscape of Different Populations of Arabidopsis thaliana through their phenotypic variations

CONSORTIUM

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SUMMARY OF THE REPORT

This phenotyping experiment was designed to investigate the effect of Epigenetic Variation (EV) on phenotypic diversity using several genotypes (accessions) of *Arabidopsis thaliana*. In order to study such effects, on the one hand, we generated populations with different levels of standing EV using distinct propagation histories. And on the other hand, all individuals of single population were initially grown from the same plant to ensure genetic homogeneity. This method of propagation allows us to interpret the observed phenotypic variation in a constant environment as a result of different levels of standing EV; and with further investigations we aim at confirm this at the molecular level.



, summarizes the populations' propagation history.

We expect lower levels of EV in populations where individuals were continually derived from a single parent (Single Seed Descent, SSD) than in populations where individuals were derived from many parents (after the initial single-parent stage; Population Seed Descent, PSD). Additionally, for the Epi-Hybrid Population (EHP), individuals were obtained from crosses between genetically identical PSD individuals; they are thus expected to have the highest level of EV due to the possible additive behavior of parental EV. Moreover, the EHP will also allow us to investigate potential heterosis effects that have a purely epigenetic basis.