

**PROJECT TITLE**

Characterization of salinity-tolerant Cucurbita pepo mutants

**CONSORTIUM**

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## SUMMARY OF THE REPORT

Salinity is one of the most serious abiotic stresses that limit the productivity of agricultural crops. This stress affects all major processes of plant development such as germination, growth, photosynthesis, water relations and uptake of mineral. Zucchini (*Cucurbita pepo*) is a cucurbit crop known to be sensitive to salt stress and seek for resources of natural or induced variability tolerant to salinity is interesting for breeders. Our group of the University of Almería (Spain) is looking among induced variability (an EMS collection) for salinity-tolerant mutants. An ethylene insensitive mutant of interest, previously identified in the group, has been shown to be more tolerant to salinity, during both germination and vegetative growth (Cebrián et al., 2021). Through a screening carried out on the EMS mutants collection during the germination stage, 50 putative salinity-tolerant mutants have been identified in the M2 generation, of which 16 have been confirmed in the M3, and they are currently being tested in the M4. The main objective of this project is to analyse the best mutant candidates at other stages of plant development, not only during germination stage but also at during seedling stage. At the moment, in *the transnational access experiment* we have studied the effect of salt stress in young plant development by measuring different growth parameters and plant architecture in the genetic background of the EMS mutants collection and in the ethylene insensitive mutant in order to confirm its tolerance to salinity in young plants.