

"Setting up the heat tolerance and fruit quality experiments for HARNESSTOM"

Successful set up and transplantation for the heat tolerance and fruit quality experiments took place at the FCCV facilities in Paiporta (Valencia) during March and April. The experiments for the current season include:

1. **Fruit Quality.** Recombinant families will be analyzed to fine-map QTLs involved in organoleptic traits such as volatile composition and sugar content to identify candidate genes underlying those traits. Interactions between QTLs affecting different volatile composition and sugar content will be also studied to generate breeding lines with different combinations of these organoleptic traits. The experiments are being carried out in a glasshouse. Figure A depicts the plants 4 weeks after transplanting, all of them look very healthy, and the experiment is running smoothly.
2. **Heat tolerance.** Fine mapping of a QTL increasing the fruit set at high temperature will be implemented in a glasshouse with temperature control. Additionally, QTLs from different sources that enhance tolerance to various abiotic stresses will be combined to develop multiple-stress tolerant breeding lines. The effects of selected QTLs in elite genetic backgrounds will be verified. Furthermore, fine mapping of tolerance to Blossom End Rot, assessment of rootstock effects on Blossom End Rot incidence, and verification of tolerant QTL effects in elite genetic backgrounds will be carried out in another glasshouse. Figures B-F depict the transplant at the end of April in the two glasshouses for the heat tolerance experiments. Ready to start to heat them.

In summary, we have established the experiments for heat tolerance and fruit quality, and everything is progressing well.

