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ABSTRACT FORM



XIX EUCARPIA Meeting of the Tomato Working Group May 2-4, 2018

Centro Congressi Partenope
University of Naples Federico II

Via Partenope 36, Naples, Italy

Genotype by environment interaction in tomato grown under several abiotic stresses and the genetic basis of plasticity

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Abiotic stresses and cultural conditions can lead to different performances of a given genotype when exposed to different environments. The ability of a genotype to change its phenotype is called phenotypic plasticity and has received great interest these last decades. Plant geneticists are aware of the importance of measuring phenotypic plasticity and assessing its genetic basis for breeding purposes. In order to analyse the impact of several stress conditions at the genetic level, we grew a multi-parental tomato population in 12 distinct environments. The environments that were located in Israel, France and Morocco comprised optimal cultural conditions and water deficit, salinity and heat stress conditions. Quantitative trait loci (QTL) mapping analysis was performed on these data in three steps: (i) main effect QTL were mapped on the trait means for each environment separately; (ii) QTL x Treatment effect were mapped on 'Treatment specific plasticity' measured as the difference between the optimal and stressed treatment; (iii) plasticity QTL were mapped based on the Finlay–Wilkinson's regression slope. Results of phenotypic analysis and QTL detection will be presented as well as some attempt at identifying candidate genes for QTL for plasticity traits.

Poster presentation

Oral presentation

	SESSION I MANAGEMENT AND USE OF GENETIC RESOURCES
	SESSION II GENOMICS AND BREEDING APPROACHES TO IMPROVE FRUIT QUALITY
x	SESSION III BREEDING STRATEGIES FOR SUSTAINABLE AGRICULTURE –ABIOTIC STRESSES
	SESSION IV BREEDING STRATEGIES FOR SUSTAINABLE AGRICULTURE –BIOTIC STRESSES
	SESSION V HOLISTIC APPROACHES TO ENHANCE PLANT AND SEED PRODUCTION

Please, send the abstract as word file to committee.eucarpia2018@gmail.com by February 15, 2018.