

Workshop

Tendenze e strategie per l'innovazione in orticoltura biologica

Breeding e genomica per l'innovazione varietale del pomodoro in biologico

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BRESOV

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Breeding for Resilient, Efficient and Sustainable Organic Vegetable production

SHAPING THE FUTURE OF ORGANIC BREEDING & FARMING



Budget
€ 6 Mio



Duration
60 months

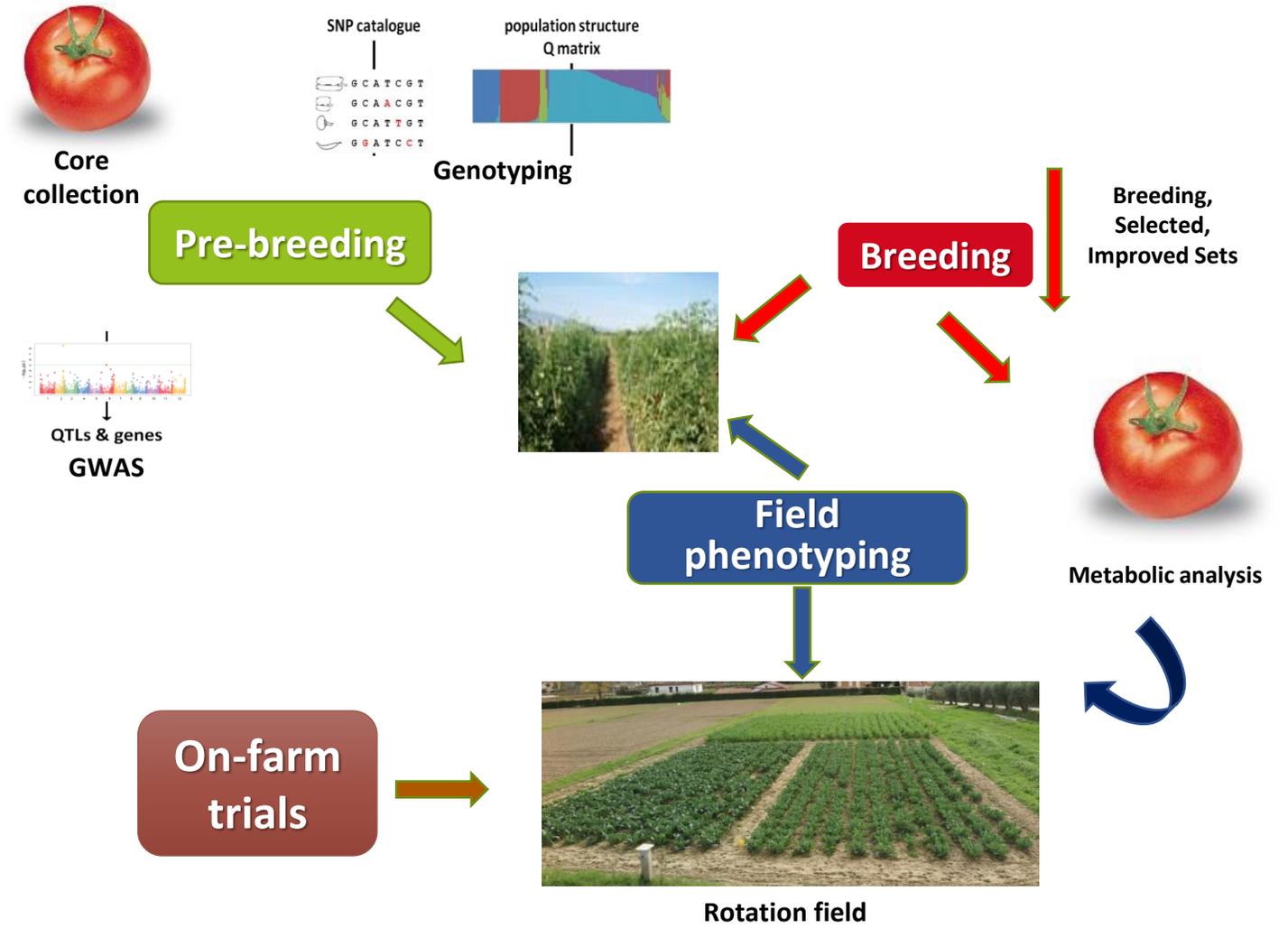


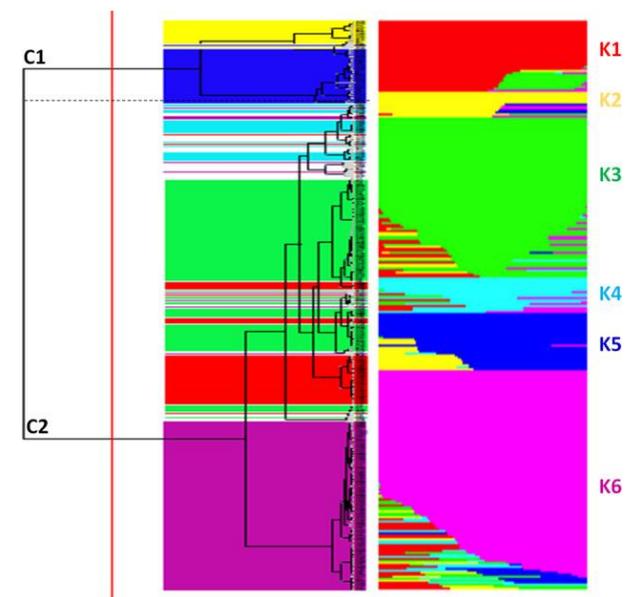
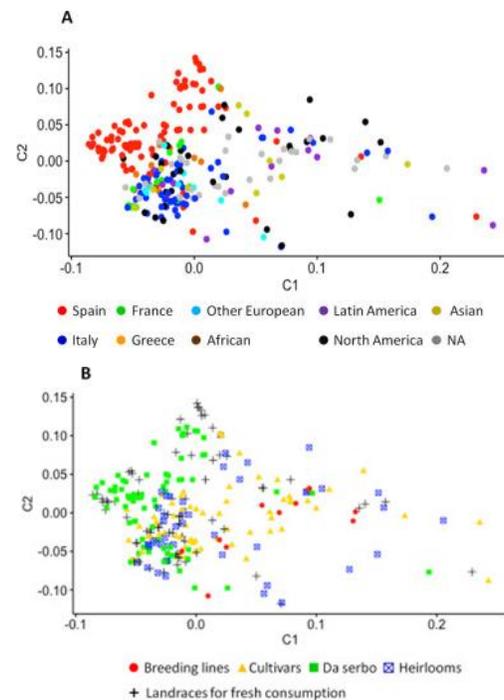
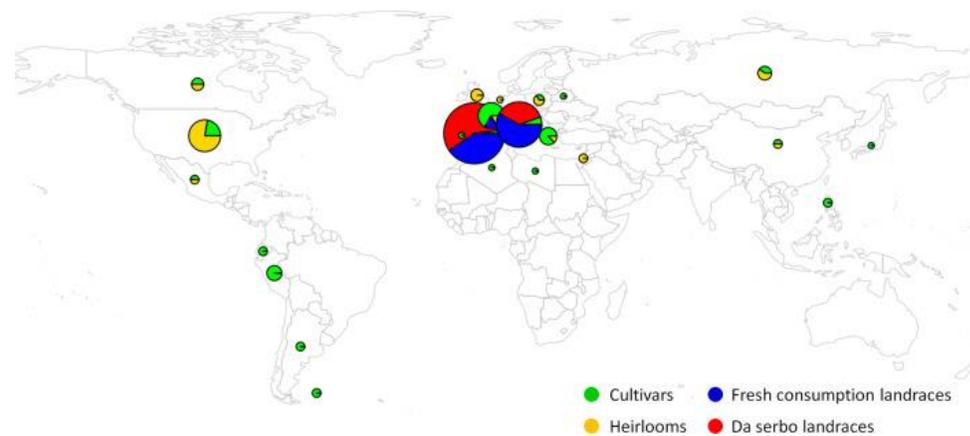
22 partners
13 countries



Multi crops
3 BRESOV crops

With changing climatic conditions and a rapidly growing world population estimated to reach 9 billion by 2050, mankind faces the serious challenge of of BRESOV is to tackle this challenge by exploring the genetic diversity of three of the (i, snap bean and tomato) and to improve the competitiveness of these three crops in an organic aim is to increase the plants' tolerance to biotic and abiotic stresses and adapt the varieties to the





Esposito et al. *Horticulture Research* (2020)7:134
<https://doi.org/10.1038/s41438-020-00353-6>

Horticulture Research
www.nature.com/hortres

“da serbo”, “de penjar”, “de Ramellet”



- ➡ Extended shelf life
- ➡ Resilience to drought
- ➡ High soluble solids
- ➡ Organoleptic properties

- ➡ Private SNPs in Genes involved in stress resistance
- ➡ New mutations in *Cnr* (Colorless non-ripening), *nac-nor* (non-ripening), *rin* (ripening inhibitor)

ARTICLE

Open Access

ddRAD sequencing-based genotyping for population structure analysis in cultivated tomato provides new insights into the genomic diversity of Mediterranean ‘da serbo’ type long shelf-life germplasm

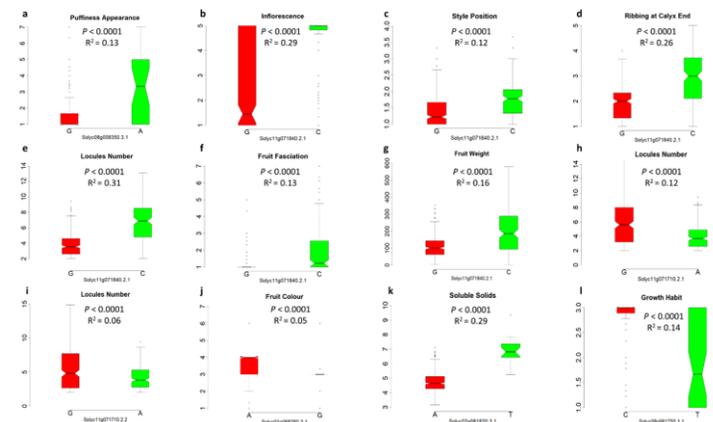
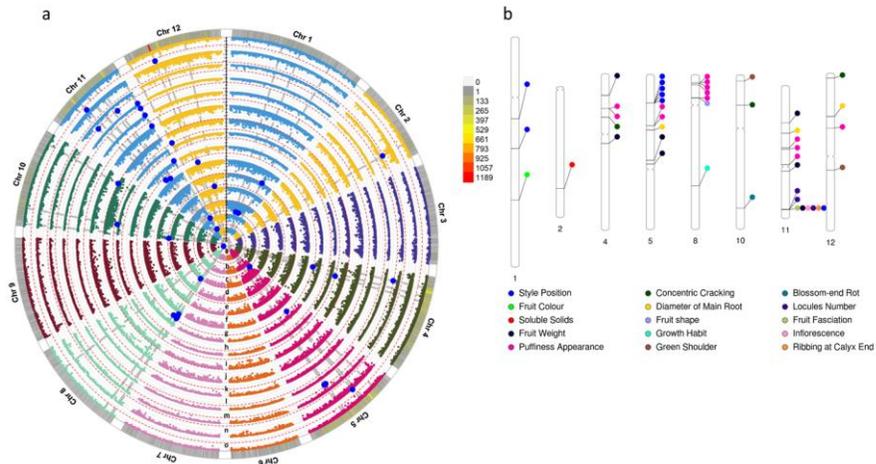
Salvatore Esposito¹, Teodoro Cardi¹, Gabriele Campanelli², Sara Sestili², María José Díez³, Salvador Soler³, Jaime Prohens³ and Pasquale Tripodi¹



244 Accessions, 37 traits, 2 locations, organic farming



2019



Tripodi et al. *BMC Plant Biol* (2021) 21:481
<https://doi.org/10.1186/s12870-021-03271-4>

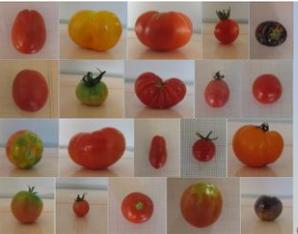
BMC Plant Biology

RESEARCH Open Access

Genome wide association mapping for agronomic, fruit quality, and root architectural traits in tomato under organic farming conditions

Pasquale Tripodi^{1*}, Salvador Soler², Gabriele Campanelli³, María José Díez², Salvatore Esposito¹, Sara Sestili³, María R. Figàs², Fabrizio Leteo³, Cristina Casanova², Cristiano Platani³, Elena Soler², Aldo Bertone³, Leandro Pereira-Dias², Daniela Palma³, Resurrección Burguet², Andrea Pepe³, Elena Rosa-Martínez², Jaime Prohens^{2*} and Teodoro Cardí¹

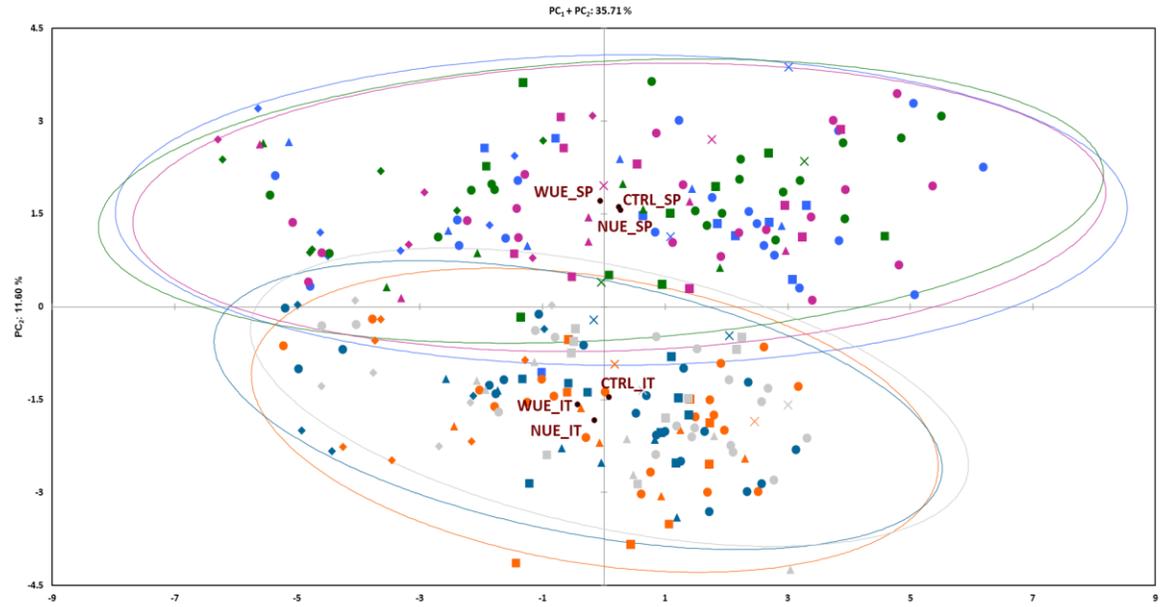
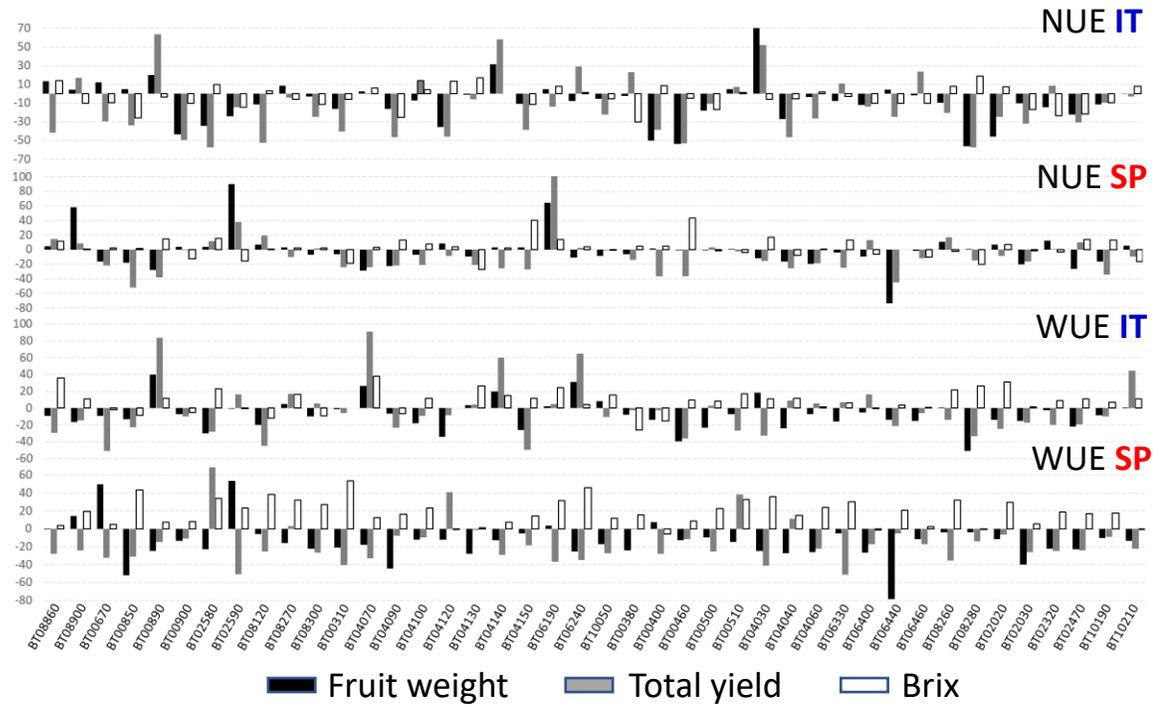




| | | |
|----------------------------|----------------------------|----------------------------|
| WUE (ETc30% N100%) | NUE (ETc100% N0%) | Control (ETc100% N100%) |
| NUE (ETc100% N0%) | Control (ETc100% N100%) | WUE (ETc30% N100%) |
| Control (ETc100% N100%) | WUE (ETc30% N100%) | NUE (ETc100% N0%) |



2020



Breeding activities



Cuore di BUE cuore



Cuore di BUE BIO



10 Donors

- ← Heat stress
- ← Drought stress
- ← Low incidence pests
- ← TSWV
- ← *F. oxysporum*
- ← *P. infestans*



Pera GLN



Allungato

