Proceedings of the 52nd Italian Society of Agricultural Genetics Annual Congress
Padova, Italy – 14/17 September, 2008
ISBN **978-88-900622-8-5**

Poster Abstract – A.30

MOLECULAR MARKER ASSISTED SELECTION TO INTRODUCE DISEASE RESISTANCE GENES IN TRADITIONAL TOMATO VARIETIES

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tomato, MAS selection, local germoplasm, disease resistance gene

Several traditional tomato ecotypes are cultivated on a small scale and to be better prized for their intense flavour. However, they lack disease resistance traits. Molecular marker are being widely used as a principal tool to introgress disease resistance genes in many crops. Marker-assisted selection programs (MAS) has proved to accelerate breeding program and to select in more effective way monogenic traits.

To this end, five tomato genotypes carrying various monogenic resistance genes were crossed with local adapted germoplasm (S. Marzano, Sorrento, Vesuviano and Parmitanella). The genotype are: Momor for the resistance to *Phytophthora infestant*, Stevens for the resistance to TSWV, Motelle for the resistance to *Fusarium oxysporum f. sp. lycopersici, Meloidogyne spp.*, and *Verticillium dahliae,* Pyrella for the resistance to *Pyrenochaeta lycopersici*, and Ontario for the resistance to *Pseudomonas syringae*. Various backcross schemes have been carried out starting from different F1 hybrids. At each backcross generation, the screening of resistant genotype was performed through molecular marker linked to the resistance genes. Up to date, BC3 generation has been reached for some cross combinations. Markers CAPS will be used for selecting the resistant genotypes. In the future we are going to combine different genotypes to obtain hybrids with multiple resistances.