Poster Abstract - C.29

## CHARACTERIZATION OF PLANTS OBTAINED FROM "BACKFUSION" BETWEEN SOMATIC HYBRID-DERIVED DIHAPLOIDS AND EGGPLANT

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## Solanum melongena, Solanum aethiopicum, somatic hybridization, Fusarium oxysporum f.sp. melongenae, ISSR.

One of the major limitations for incorporation of somatic hybridization into applied breeding of eggplant is generally represented by the tetraploid level of the somatic hybrids obtained. Somatic hybrids of eggplant with different allied species have been produced (e.g. *S. aethiopicum, S. integrifolium, S. sisymbrifolium, S. torvum*). Reduction of the ploidy level to the diploid status may facilitate the backcross with the cultivated diploid eggplant. Dihaploid androgenic plants have been obtained through anther culture of the somatic hybrid between eggplant and the allied specie *S. aethiopicum*. Morphological, biochemical, molecular and biological features of the androgenetic dihaploids plants demonstrate that genetic recombination between the genome of the two species took place in the somatic hybrids (Rizza et al, 2002; Toppino et al, 2005). Although this finding open up the possibility to introgress useful traits (e.g. resistance to *Fusarium oxysporum* f.sp. *melongenae* and *Ralstonia solanacearum*) into the eggplant gene pool, the dramatic reduction of the fertility of dihaploids hampers their practical exploitation in breeding program by sexual crosses. In order to overcome such hindrance, the dihaploid somatic hybrids in which the genome of eggplant. This method was used to obtain tetraploid somatic hybrids in which the genome of eggplant of obtain tetraploid somatic hybrids in which the genome of eggplant would be prevalent and, consequently, the dihaploids extracted by anther culture should be more fertile and suitable for backcrossing.

Leaf protoplasts of *in vitro*-grown plantlets from two different dihaploids resistant to *Fusarium oxysporum* and from the eggplant parental cv. Dourga were electrofused. Data about phenotypic (floral and fruit characteristics), biological (pollen viability), ploidy level and ISSR molecular characterization of the regenerated backfused somatic plants are presented and discussed.

References:

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