


ABSTRACTS BOOK

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**P0148 INTERSPECIFIC HYBRIDIZATION BETWEEN SOLANUM ELAEAGNIFOLIUM AND S. MELONGENA AND POTENTIAL FOR EGGPLANT BREEDING**

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1 Full text

Silver-leaf nightshade (*Solanum elaeagnifolium*) is an invasive weed highly tolerant to drought considered as part of the tertiary genepool of eggplant (*S. melongena*). Although it is native to the New World, it has spread to many dry areas of the world. In an attempt to introgress *S. elaeagnifolium* drought tolerance into the cultivated eggplant we made multiple crosses of two accessions of *S. elaeagnifolium* with six different accessions of *S. melongena*. When using *S. melongena* as a female, F1 plantlets obtained by embryo rescue, as well as morphologically normal F1 seed, was obtained from a cross between one of *S. elaeagnifolium* and one *S. melongena* accession. The F1 hybrids had a pollen viability estimated with FDA of 21.6%, compared to values over 60% for both parents. The F1 hybrids were backcrossed to the *S. melongena* parent using the F1 as female parent. A high degree of success was obtained in the backcrosses, with a fruit set percentage of over 40% and a number of seeds per fruit between 4 and 40. Germination of the BC1 seed was around 50%. The morphological characterization revealed multiple differences between the parents for both vegetative, flower and fruit traits. The hybrids were intermediate, although they are more similar to the wild *S. elaeagnifolium* in fruit size traits. Also, *S. elaeagnifolium* had a total reducing capacity eight-fold higher than *S. melongena*. Overall the results indicate that introgression breeding using *S. elaeagnifolium* can be of interest for the genetic improvement of multiple traits in eggplant.