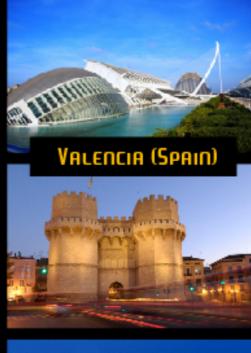
## **ABSTRACTS BOOK**

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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.

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