ABSTRACTS BOOK

XIV
SOLANACEAE and
3rd CUCURBITACEAE
Joint Conference
Solcuc2017

SEPTEMBER 3-6

www.solcuc2017.org

Valencia (Spain)

Conference Center

P0238 DEVELOPMENT OF EGGPLANT MATERIALS WITH INTROGRESSIONS FROM SOLANUM INCANUM AND IDENTIFICATION OF CANDIDATE GENES FOR DROUGHT TOLERANCE

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1 Full text

Solanum incanum is a wild relative of eggplant (*S. melongena*) that grows in desertic and semi-desertic areas. Introgression materials of *S. incanum* in the genetic background of *S. melongena* can be useful for genetics and genomics studies of drought tolerance and domestication, as well as contribute to breeding new cultivars in this crop. Using a marker-assisted-selection backcross scheme, we have developed a set of advanced backcrosses (ABs) and fixed introgression lines (ILs) in eggplant. The ABs materials (from BC2 to BC5) cover 99% of the *S. incanum* genome, while the set of fixed ILs consists of 45 lines, each carrying a single introgressed fragment in homozygosis, covering altogether 71.7% of the *S. incanum* genome. The introgressed size fragment in the ILs contains between 0.1% and 10.9% of the *S. incanum* genome, with an average value of 3.4%. A preliminary screening for candidate genes for drought tolerance has been made to identify the most promising materials. A total of 68 candidate genomic regions containing candidate genes for drought tolerance introgressed from *S. incanum* have been identified in the ILs set. Currently, a subset of the ILs is being grown in two different environments, and is being phenotyped for several plant, flower and fruit traits in order to detect genes and QTLs involved to these traits. The introgression materials obtained will be extremely useful for the genetic dissection of traits of interest for eggplant breeding and will be readily incorporable into the breeding pipelines for developing new improved eggplant cultivars.