

DEVELOPMENT OF AN INTROGRESSION POPULATION OF EGGPLANT FROM THE WILD SPECIES *S. INDICUM*

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Allied species are a valuable source for key breeding traits for improving eggplant agronomic performance and fruit quality. Among them, *Solanum indicum* is a wild species which carries tolerance to *Verticillium dahliae*, resistance to *Fusarium oxysporum* f. sp. *melongenae*, and a supposed tolerance to nematodes (*Meloydogine spp.*). Preliminary biochemical characterization of fruits revealed not only very high levels of both solasonine and solamargine at all ripening stages but also unidentified glycoalkaloids that are considered as anti-nutritional molecules thus would deserve a further characterization. Moreover, the plant is characterized by a compact growth habit, small hair-velvety leaves, absence of spines and red colored fruits at ripening stage making this species also suitable for ornamental purposes.

An interspecific cross between *S. indicum* and the eggplant line '67/3' was established with the aim of (I) develop an introgression population, (II) transfer the favorable agronomic traits (e.g. resistance to disease, plant architecture) into the cultivated background of *S. melongena*. The '67/3' line has been recently utilized in our eggplant sequencing program and it is also the male parent of F2 and RIL mapping population previously developed by our group. Therefore, we can take advantage of all the genetic information now available for this line to underpin the molecular characterization of the newly developed introgressed progenies and of the genetic regions underlying the traits of interest. Currently, we have developed 113 BC4-BC5 introgression lines mostly containing a single and overlapping independent insert of the wild genome, which is going to be fixed in homozygosity through selfing in order to generate a living genomic library of the *S. indicum* into the cultivated eggplant genomic background.

The phenotypic and molecular screening of parental lines, interspecific hybrids, and of the subsequent BC lines is described. Some progenies are grown in open field for phenotypic characterization, this will help a finer localization of the introgressed regions linked to traits of interest.