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Enhancement of Crop Wild Relatives in Eggplant Breeding for Adaptation to Climate Change: Results of Interspecific Hybridization

P. Gramazio, M. Plazas, R.M. Fonseca¹, A. Kouassi², S. Vilanova, H. Fonseca³, A. Kouassi², A. Rodríguez-Burruezo, T. Welegama³, B. Kouassi², A. Fita, L. Niran⁴, R.H.G. Ranil¹, F. J. Herraiz, A. Dissanayake⁴ and J. Prohens*

Instituto de Conservación y Mejora de la Agrodiversidad Valenciana
Universidad Politécnica de Valencia
Camino de Vera 14, 46022 Valencia
Spain

Developing eggplant (*Solanum melongena*) varieties adapted to climate change is an important breeding objective. Eggplant is related to many wild species of *Solanum* subgenus *Leptostemonum*, many of which grow in desertic and semi-desertic areas. These wild species could represent a source of variation for breeding for tolerance to stresses. The present study used six accessions of eggplant and 35 accessions from 15 wild species from the primary, secondary, and tertiary gene pools for interspecific hybridization between cultivated eggplant and wild relatives. More than 1850 crosses were made in three countries (Spain, Sri Lanka, and Ivory Coast). As a result, seed of 75 interspecific hybrid combinations were obtained between the six eggplant accessions and 17 accessions of wild species of the primary and secondary gene pool. Also, viable embryos of interspecific hybrids between eggplant and two accessions of the tertiary gene pool species *S. torvum* were obtained. Interspecific hybrids were confirmed with morphological and SNP molecular markers. The hybrid materials obtained represent a first step for introgression breeding for the development of eggplant varieties adapted to climate change conditions.

Keywords: Climate change, gene pools, interspecific hybrids, *Solanum melongena*, wild relatives

¹ Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka.
² Laboratory of Genetics, Félix Houphouët-Boigny University, Abidjan, Ivory Coast.
³ Horticultural Crop Research and Development Institute, Peradeniya, Sri Lanka.
⁴ Agriculture Research Station, Girandukotte, Sri Lanka.
* Corresponding author: jprohens@btc.upv.es