



THE 15<sup>TH</sup> INTERNATIONAL SYMPOSIUM  
**PROSPECTS FOR THE  
3<sup>rd</sup> MILLENNIUM  
AGRICULTURE**

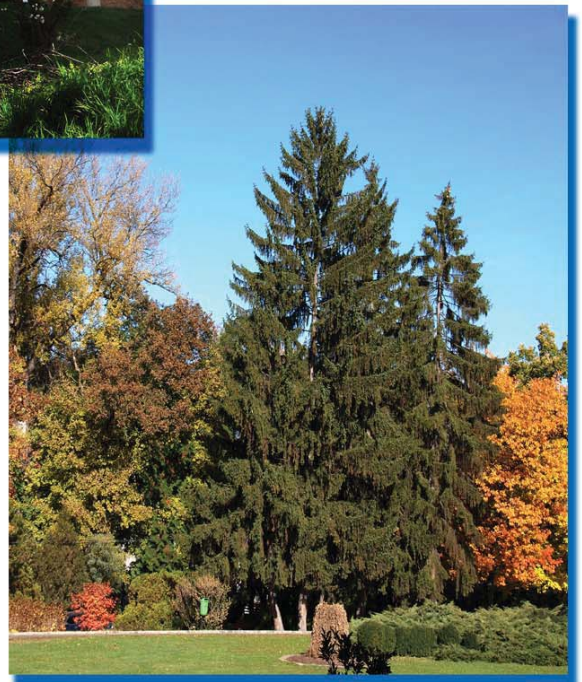


29<sup>th</sup> September - 1<sup>st</sup> October 2016, Cluj-Napoca, Romania



# BOOK OF ABSTRACTS

No. 3/2016



## **IMPRESSUM**

Published by University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca

Editor in chief Lect. Dan C. VODNAR, PhD

Printed by AcademicPres (EAP),  
3-5 Manastur Street, Cluj-Napoca, 400372  
Romania

Web page <http://symposium.usamvcluj.ro>

## **IMPRESSUM**

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca

### **in collaboration with**

University of Natural Resources and Applied Life Sciences, BOKU (Austria)

University of Liege (Belgium)

EuCheMS – Division of Food Chemistry

### **under the patronage of Romanian**

Ministry of National Education and Scientific Research

Ministry of Agriculture and Rural Development

Academy of Agricultural and Forestry Sciences

Romanian Academy

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## **THE 15<sup>th</sup> INTERNATIONAL SYMPOSIUM**

### **“PROSPECTS FOR THE 3<sup>rd</sup> MILLENNIUM AGRICULTURE”**

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Cluj-Napoca, Romania

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## EGGPLANT PRE-BREEDING USING AN INTROGRESSIOMICS APPROACH

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**Keywords:** *introgression, marker-assisted-selection, Solanum melongena, wild relatives*

**Introduction:** Introgressiomics is an approach, based in the use of a large variation of wild species, interspecific hybridization and genomic tools, to create multiple materials of crops carrying introgressions from wild relatives. One of the most promising target crops for introgressiomics is eggplant (*Solanum melongena*), as it is related to a large number of very diverse wild species.

**Aims:** Our objective is to develop highly diverse pre-breeding materials of eggplant that contain introgressions from different wild species using an introgressiomics approach.

**Materials and Methods:** We used six accessions of eggplant and different accessions of 15 wild species from the primary, secondary and tertiary genepools. Hybridizations were performed and the interspecific hybrids obtained were backcrossed to the cultivated eggplant. For one of the wild species (*S. incanum*), marker assisted selection was used in a backcross programme to obtain introgression lines.

**Results:** Hybrids between eggplant and 14 wild species have been obtained, and up to now first backcross generations have been obtained with 10 wild species. These materials are highly variable and a selection for high diversity using morphological traits and molecular markers will be used for further backcrossing. Also, a large set (>40) introgression lines carrying specific genomic fragments of the wild *S. incanum* in the genetic background of *S. melongena* have been obtained using marker-assisted-selection.

**Conclusion:** The materials obtained represent eggplant pre-breeding materials of great interest to breeders. The use of the introgressiomics approach has allowed generating a large diversity of materials that may represent the foundations for a new generation of eggplant cultivars.

*Acknowledgements: This work was undertaken as part of the initiative “Adapting Agriculture to Climate Change: Collecting, Protecting and Preparing Crop Wild Relatives” which is supported by the Government of Norway. The project is managed by the Global Crop Diversity Trust with the Millennium Seed Bank of the Royal Botanic Gardens, Kew and implemented in partnership with national and international gene banks and plant breeding institutes around the world. For further information see the project website: <http://www.cwrdiversity.org/>. This work has also been funded in part by European Union's Horizon 2020 research and innovation programme under grant agreement No 677379 (G2P-SOL) and from Spanish Ministerio de Economía y Competitividad and Fondo Europeo de Desarrollo Regional (FEDER) (grant AGL2015-64755-R MINECO/FEDER, UE). Pietro Gramazio is grateful to Universitat Politècnica de València for a pre-doctoral (Programa FPI de la UPV-Subprograma 1/2013 call) contract.*