

COST Action no. FA1204

Vegetable grafting to improve yield and fruit quality under biotic and abiotic stress conditions

2012 | 2016

Background & Objectives

- Cucurbits and solanaceous crops are frequently cultivated under unfavorable soil and environmental conditions.
- Grafting represents a practical, and effective tool to reduce the losses in production caused by adverse conditions.
- The Action promotes advanced knowledge gathering and exchanging through a multidisciplinary network of partners in order to identifying and understanding how rootstock-mediated traits can improve vegetable crop yield and quality under (a)biotic adverse conditions.

Main Achievements

- The Action has attracted already 207 participants, of which about 30% are women, representing about 100 institutions in 20 COST-Countries and 4 NON-COST Countries.
- An Annual Meeting (Murcia Nov 2013) and on Core Group Meeting (Jerusalem Feb 2014) have been organized in the second year with the participation of more than 250 persons coming from the scientific community and private companies.
- 4 STSM has been successfully completed in the second year and one STSM is ongoing.
- The COST action has already stimulated several project proposals and research cooperation among the WG members.
- An electronic database is currently being implemented with the main information on vegetable grafting.
- The objectives and contents of the first Training School on Vegetable Grafting (23-26 September 2014, Catania, Italy) have been defined.
- The objectives and preliminary program of the second Annual Conference entitled 'Innovation in vegetable grafting for sustainability' (20 -22 October 2014, Carcavelos, Portugal) have been defined.

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Food and Agriculture (FA)

Participating countries

BE, BG, CH, CY, CZ, DE, EL, ES, FR, HR, HU, IL, IT, LT, NL, PT, RO, SI, TR, UK

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Working Group activities

Working Group 1 (Genetic resources and rootstock breeding)

- Defining the current genetic variability existing in each vegetable species, as well as the existing breeding programs.
- Collecting the information on germplasm available for each vegetable crop, on commercial rootstocks, and on rootstock breeding programs.

Working Group 2 (Rootstock-scion interactions and graft compatibility)

- Defining the major physiological and genetic determinants of root and shoot development and grafting compatibility for each vegetable species.
- Collecting information on the molecular, biochemical and physiological studies related to root-shoot communication, and on the factors affecting grafting compatibility.

Working Group 3 (Rootstock-mediated resistance to stresses)

- Defining the current status of knowledge about rootstock-mediated crop improvement to attenuate the impacts of biotic, abiotic and combined stresses, and on the improvement of resource use efficiency.
- Collecting information on the main biotic and abiotic stresses for each vegetable crops, and on rootstock effects on mitigation of stresses and resource use efficiency improvement.

Working Group 4 (Rootstock-mediated improvement of fruit quality)

- Defining rootstock effects on fruit quality, and strategies for a better understanding and exploitation of the processes involved.
- Collecting information on the most important commercial and nutritional quality traits of vegetable crops, and on research activities aimed to study the rootstock influence on fruit quality.

