

COST ACTION FA1204



3rd COST Action FA1204 Annual Conference

Vegetable Grafting and the Rhizosphere
14 – 16 September 2015, Berlin, Germany

REPORT



Report of the COST ACTION FA1204

3rd Annual Conference – Vegetable Grafting and the Rhizosphere

The 3rd Annual Conference of the COST Action FA1204 took place in Berlin, Germany, from September 14th to 16th 2015, following up the 1st Annual Conference in Murcia, Spain and the 2nd Annual Conference in Carcavellos, Portugal. The conference was organized by the Leibniz Institute of Vegetable and Ornamental Crops e.V. Grossbeeren&Erfurt (IGZ). Following the invitation, 67 scientists, students and professionals from 17 countries in and around Europe participated, gave talks, presented posters and discussed intensely during these 3 days.

Table: Number of participants per country

Country	Number	Country	Number	Country	Number
Austria	1	Germany	23	Portugal	2
Bulgaria	4	Greece	1	Spain	8
China	1	Israel	1	Romania	1
Croatia	3	Italy	7	Switzerland	1
Cyprus	2	Malta	1	Turkey	9
France	1	Netherlands	1	UK	2

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This year's conference took place at the Dahlem campus of Humboldt University Berlin in the south of Berlin. The program comprised four invited communications, twenty two oral and seven poster presentations, focusing on the root system of grafted plants being a part of specific interest concerning a wide range of traits as e.g. plant resistance against biotic and abiotic stresses or yield quality and quantity.

After a welcome by Eckhard George, Director of Research at the IGZ, host of this event, the conference started with the first session on the rhizosphere, chaired by Marie Torres and Nikolai Velkow in the first part and by Antonio Albacete and Ana Pina after the first break. Two invited lectures, one on the Primary and secondary Metabolites by Katje Witzel (IGZ), the second on the microbial community in the rhizosphere (Tomislav Cernava; Techn. Univ. Graz, Austria) have been followed by ten oral presentations of the participants.

Session 2 on 'Shoot – root interactions' started after a guided tour to a low energy greenhouse, which was part of the cooperative project ZINEG by 10 German partners, winner of the German Sustainability Award in 2014. Smiljana Goreta and Youssef Roupael chaired this session with an invited lecture by Julia Kehr (Univ. Hamburg, Germany) on Phloem transport of proteins and miRNAs and four presentations on effects of grafting on vegetables under diverse abiotic stresses.

Meetings of the four working groups was the last program highlight of the first day. A summary of the single working group meetings is summarized below.

The second day started with session 3 'Plant metabolism and fruit quality', chaired by Sevilay Topcu and Dimitrios Savvas. Eswarayaa Ramireddy (Freie Univ. Berlin, Germany) gave the first invited lecture of this day, presenting results on root engineering for crop improvement. Antonella Verzera and Marios Kyriacou moderated the follow up part of this session. All eight further talks during this session focused on the effects induced in fruits depending on the choice of the rootstocks.

After this last session and before the steering committee meeting, all participants were invited to join a guided walking tour at the Botanical Garden of the Freie Univ. Berlin, explaining the structure of the site itself and presenting various peculiar plants from the Solanaceae and Cucurbitaceae families in and outside greenhouses.

The last part of this day was the steering committee meeting focusing on relevant issues of the Action as status and budget of FA1204, the scientific proceedings, an update of STSMs, the upcoming tasks of the committee, the next meeting and the training school in Wageningen (NL), the next annual meeting in Puöa (Croatia), as well as the conference website and Cost homepage.

The third day was reserved for the technical visit to the Spreewald region. Firstly the group visited a farm 'Buschmann-Winkelmann', producing open field cucurbits of more than 70 varieties (many of them are potential rootstocks), blueberries, strawberries and asparagus. In addition to the farm, Buschmann-Winkelmann includes shops and restaurants to sell products made of their cucurbits and asparagus. Next stop of the tour was the farm Raddusch, who changed from greenhouse production of cucumbers to cultivation of grafted tomato. Raddusch belongs to a so called vegetable ring (Gemuesering) which jointly puts the product of several producers from this region on the market.

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A boat tour through the Spreewald, a former large production area of gherkins and today protected landscape in the south east of Berlin, composed of a huge amount of naturally developed channels with subsequent barbecue was the last program highlight of this year's annual conference. The participants used this part of the meeting to get to know each other and further discuss projects and ideas related to grafting.

Program as well as abstract book have been sent to all registered participants in advance and have been published on the event website of this conference (attached).

The three sessions and the four work group meetings contributed furthermore the the objectives of the FA1204 COST Action – Vegetable Grafting to improve yield and fruit quality under biotic and abiotic stress conditions. This time a strong focus was set on the situation and processes inside the soil, in and around the roots with respect to abiotic and biotic stresses, yield, plant health, metabolic changes and much more. Oral presentations as well as posters fostered new insights into new aspects, stimulated discussion and broadened the knowledge.

Session 1: Rhizosphere was chaired by Marie Torres and Nikolai Velkow first, and Antonio Albacete and Ana Pina in the second part. While the first part concentrated on mainly on metabolic changes of both the primary and secondary metabolites and on plant reaction dependent on micro and macro nutrients uptake (zinc, arsenic, nitrogen) or fungal infection, in the second part aspects of phytohormone signaling on grafted plants has been discussed.



Session 2: Shoot-root interactions was chaired by Smiljana Goreta Ban und Youssef Roupheal focused on reactions of plants on abiotic, biotic or viral stresses according to the interaction of rootstock and scion.

In session 3, Sevilya Topcu, Dimitrios Savvas and Antonella Verzera with Marios Kyriacou moderated communications on the influence of rootstocks on quality and quantity of fruits e.g. at different ripening states or under partial root-zone drying.

Grossbeeren, 08.10.2015

The Local Organizing Committee

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