

PROGRAM

General Program and Oral Communications

Monday 20th

16:00-19:00 Registration and placement of posters.

Tuesday 21st

08:00-10:00 Registration and placement of posters.

09:00-09:15 Opening Ceremony.

09:15-10:00 **Opening lecture.** Past, present and future of compost research.

Prof. Ed Stentiford, University of Leeds (UK)

10:00-10:45 **Opening lecture.** Compost as a tool to suppress plant diseases: Established and putative mechanisms.

Prof. Michael Raviv, Agricultural Research Organization (Israel). ISHS Representative.

10:45-11:15 **Coffee break and poster session.**

SESSION 1. NUTRITIONAL ASPECTS OF THE USE OF COMPOST IN AGRICULTURE. ROLE IN GLOBAL FOOD SECURITY

Chair: Peter Kuikman and Bart Vandecasteele

11:15-12:00 **Keynote lecture.** Phosphorus fractions in organic materials and their effects on soil P levels and crop nutrition.

Prof. Rodrigo Ortega Blu, Universidad Técnica Federico Santa María (Chile).

12:00-12:15 Crop yield and N management in an organic horticultural rotation with compost, commercial organic fertilizer and green manure. *Pinto R, Brito LM and Coutinho J (Portugal)*

12:15-12:30 Nitrogen recovery and use efficiency of potato in an integrated compost fertilization in an andosol soil. *Nakidakida TG and Hayashi H (Japan)*

12:30-12:45 Lettuce (*Lactuca sativa* cv. Webbs Wonderful) shoot and root growth in different grades of compost and vermicomposted compost. *Duggan T and Jones P (Ireland)*

12:45-13:00 Effects of vermicompost and soil ratios on qualitative properties and minerals element contents of Basil (*Ocimum basilicum* L). *Hosseini Farahi M and Noroozinejad M (Iran).*

- 13:00-13:15 Growth and yield of carrot (*Daucus Carlota* L.) as influenced by organic wastes and NPK application in the humid ultisol location. *Law-Ogbomo KE, Ighalo SA, Osaigbovo AU and Ogedegbe SA (Nigeria)*
- 13:15-13:30 Developing site-specific fertilizer recommendations in Ethiopia: a quick-scan tool based approach in the CASCAPE project innovation team. *Heesmans H, van Beek CL and Elias E (The Netherlands/Ethiopia)*
- 13:30-15:00 **Lunch time and poster session.**

SESSION 2. IMPACT OF ORGANIC AMENDMENTS ON SOIL SUSTAINABILITY

Chair: Michael Raviv and Maria M Martínez

- 15:00-15:45 **Keynote lecture.** The complexity of soil sustainability: linking organic C levels to soil biological properties and soil resilience.
Prof. Maria De Nobili, University of Udine (Italy).
- 15:45-16:00 Impact of long term compost amendments on soil fertility, soil organic matter distribution and nitrogen mineralization. *De Clercq T, Elsen A, Vandendriessche H and Merckx R (Belgium).*
- 16:00-16:15 Multi-criteria indexes to evaluate the effects of repeated organic amendment applications on soil quality. *Obriot F, Stauffer M, Goubard Y, Vieublé-Gonod L, Revallier A and Houot S (France)*
- 16:15-16:30 Can simple indices derived from soil incubations explain soil and maize response to organic and mineral fertilization in real agroecosystems?. *Fiorentino N, Bertora C, Ventorino V, Fagnano M, Pepe O and Grignani C (Italy)*
- 16:30-17:00 **Coffee break and poster session.**
- 17:00-17:15 The relevance water-, nutrient-, and hormonal homeostasis in the molecular and physiological mechanisms involved in the plant growth promoting action of humic substances. *Olaetxea M, Mora V, Bacaicoa E, Garnica M, San Francisco S, Casanova E, Zamarreño AM, Baigorri R, Erro J, Urrutia O and García-Mina JM (Spain)*
- 17:15-17:30 Using compost amendments to enhance soil health and replant establishment of tree-fruit and berry crops. *Forge TA, Neilsen D, Zebarth B, Neilsen G, Kenney E, Hashimoto N and Watson T (Canada)*
- 17:30-17:45 Insights into the suppressiveness of composts against *Phytophthora nicotianae* by omics. *Blaya J, Macías R, Santísima-Trinidad AB, Pascual JA and Ros M (Spain)*

Wednesday 22nd

SESSION 3. RECYCLING OF ORGANIC WASTES IN AGRICULTURE

Chair: Claudia Kammann and Hanneke Heesmans

- 09:00-09:45 **Keynote lecture.** Carbon accounting for compost - from feedstock to farm.
Dr. Sally Brown, University of Washington (USA).
- 09:45-10:00 Development of markets for using compost in horticulture- Victoria Australia. *Vujovic S (Australia)*
- 10:00-10:15 Recycling of organic wastes in Brazil: composting, substrate and fertilizer manufacture. *Silva CA (Brazil)*
- 10:15-10:30 Characterization of the digestate from microalgae anaerobic digestion and co-digestion with sewage sludge for agricultural use. *Solé M, Folch M, Tàpies J, Matamoros V, Garfí M, García J and Ferrer I (Spain)*
- 10:30-10:45 Co-composting as a method to produce a nutrient rich compost from olive mill waste to use as a substitute for growing strawberries in the UK. *Mortimer N, Fletcher L and Velis C (UK)*
- 10:45-11:00 Evaluation of a nitrification inhibitor in nitrogen stabilization, fertility potential and biochemical properties during the composting process of sugar mill residues. *Martinez MM and Ortega Blu R (Chile)*
- 11:00-11:30 **Coffee break and poster session.**
- 11:30-11:45 Effect of compost amendment on the growth of ornamental plants in a soilless substrate for green roofs. *Di Bonito R, Biagiotti D, Giagnacovo G, Canditelli M, Campiotti CA (Italy)*
- 11:45-12:00 Phosphorous availability of seven organic manures in a sandy soil. *Cardoso CE, López F, Orden L, Rodríguez R and Díaz J (Argentina/Colombia)*
- 12:00-12:15 Plant residue compost impacts on Chinese cabbage growth and organic matter fractions in a red soil. *Mohamed I and Chen F (China/Egypt)*

SESSION 4. ENVIRONMENTAL IMPACTS AND HEALTH RISKS ASSOCIATED TO THE USE OF COMPOST IN AGRICULTURE

Chair: Ed Stentiford and Asunción Roig

- 12:30-13:15 **Keynote lecture.** Health risks associated to solid waste composting: From production to use in agriculture.
Prof. *Martí Nadal* and Jose Luis Domingo, University Rovira i Virgili (Spain).
- 13:15-13:30 P leaching and effects of long term application of compost versus other fertilizer types. *Vanden Nest T, Vandecasteele B, Ruyschaert G, Cougnon M, Houot S, Reheul D and Merckx R (Belgium/France)*

13:30-15:00 **Lunch time.**

15:00-15:15 Influence of organic and inorganic amendments on the bioavailability of arsenic and cadmium in soils. Rocco C, Seshadri B, Adamo P, Bolan NS and Naidu R (Italy/Australia)

15:15-15:30 Assessment of groundwater vulnerability to pollution in Barrax, Albacete, Spain. Komnitsas K and Bartzas G (Greece)

15:30-16:00 **Poster session.**

16:00-17:00 **ISHS meeting.**

Thursday 23rd

SESSION 5. CHALLENGES FOR THE DEVELOPMENT AND TESTING OF NEXT GENERATION ORGANIC AMENDMENTS

Chair: Sally Brown and Mariluz Cayuela

09:00-09:45 **Keynote lecture.** Interaction of compost and biochar. Prof. Claudia Kammann, Hochschule Geisenheim University (Germany).

09:45-10:00 Biomass or Biochar – Which is superior at improving hydraulic properties?. Spokas KA, Watts D, Jun T, Weis R, Novak J and Feyereisen G (USA/South Korea)

10:00-10:15 Can biochar reduce nitrogen pollution from chicken manure? Assessing biochar's biogeochemical fate and policy opportunities. Ryals R, Hastings MG, King D, Tang J (USA)

10:15-10:30 Combination of biochar and clinoptilolite for nutrient recovery from liquid fraction of digestate. Kocaturk NP, Bruun S, Zwart K, Brussaard L and Jensen LS (Denmark/The Netherlands)

10:30-10:45 Addition of clay, biochar and their mixture during composting with earthworms: a strategy to reduce carbon emissions?. Barthod J, Rumpel C and Dignac M-F (France)

10:45-11:00 Are biochar and hydrochar adequate materials as substrate constituents? A summary of the research carried-out at UPV. Fornes F and Belda RM (Spain)

11:00-11:30 **Coffee break and poster session.**

SESSION 6. NUTRIENT AND ORGANIC MATTER RECYCLING VIA INTEGRATION OF BIOCHAR AND COMPOST. PERSPECTIVES FROM EUROPE'S FP7

Chair: Miguel A. Sánchez-Monedero and Carlos Alberto Silva

11:30-11:50 Investigating the nutrient adsorption capacities of various waste-derived biochars.

Ms. Chibi Takaya. University of Leeds (UK).

11:50-12:10 Potential of biochar in composting: effect on process performance and greenhouse gas emissions.

Dr. Claudio Mondini. CRA (Italy)

12:10-12:30 Interaction of biochar with compost, plant health, yield and soil quality: balancing risks and opportunities!

Dr. Bart Vandecasteele, ILVO (Belgium).

12:30-12:50 New insights on the interaction between biochar and soil N₂O.

Dr. Mariluz Cayuela. CEBAS-CSIC (Spain).

12:50-13:10 Biochar as a soil amendment in vegetable crops developed under greenhouse conditions in Spain.

Dr. Carolina Martínez, TECNOVA (Spain).

13:30-15:30 **Lunch time and poster session.**

15:30-17:30 **Round Table.** Does biochar qualify for a role in sustainable agriculture and circular economy?.

Chairman: Dr. Peter Kuikman. Alterra (The Netherlands). FERTIPLUS coordinator.

Participants:

- Dr. David Wayne. Member of the IBI Board and Advisory Committee (UK)

- Dr. José María Gómez Palacios. Biomasa del Guadalquivir (Spain). REFERTIL

- Dr. Kurt Spokas. University of Minnesota (USA)

- Prof. Claudia Kammann. Hochschule Geisenheim University (Germany).

- Prof. Maria de Nobili. University of Udine (Italy)

Introductory talk. What might biochar cost?.

Dr. David Wayne. Member of the IBI Board and Advisory Committee (UK).

17:30-18:00 **Closing session.**

20:00 **Symposium dinner.**

Friday 24th

08:30-19:00 **Technical and cultural visit.**