

**Programme 73rd International Symposium on Crop Protection –
24 May 2022 (virtual event)**

Schedule (CEST):

09:00 - 10:10 Plenary session

10:20 - 12:00 Oral sessions

13:00 - 14:00 Poster session

14:00 - 14:30 Plenary session

14:40 - 16:40 Oral sessions

14:40 - 16:40 Oral sessions

16:45 – 16:50 Closing speech

ORAL SESSIONS

Plenary session

Morning session

09:00 Introduction by the chair

09:10 **RNAi strategies for inducing pest and disease resistance in fruit crops**

- Bruno Mezzetti (Università Politecnica delle Marche, Italy)

09:40 **Biodiversity and agriculture: a hand in hand story**

- Elisa Viñuela (Universidad Politécnica de Madrid, Spain)

Afternoon session

14:00 **Working towards eutopia – competitive, sustainable agriculture and biodiverse landscapes**

- John Holland (The Game and Wildlife Conservation Trust, UK)

Session Agricultural Entomology and Acarology

- 10:20 **Low-impact strategy to control *Toumeyella parvicornis* Cockerell infestation on *Pinus pinea* L.**
- [N. Di Sora](#), L. Rossini, M. Contarini, E. Chiarot and S. Speranza (Università degli Studi della Tuscia, Italy)
- 10:40 **Implementation of evidence based integrated pest management minimized reliance to conventional chemical insecticides in greenhouse tomato crops**
- [Emmanouil Roditakis](#), Styliani Malliaraki, Maria Chalkiadaki, Aris Ilias, Emmanouil Markakis, Anastasia Tsagkarakou (Hellenic Mediterranean University; Hellenic Mediterranean University Research Centre, Greece)
- 11:00 **Effects of biological pesticides on beneficial arthropods: predators and pollinators**
- [Angeliki Paspali](#), Evangelia Karakosta, Katerina Koukaki, Emmanouil Roditakis and Anastasia Tsagkarakou (Hellenic Agricultural Organization - ELGO- DIMITRA Institute of Olive Tree, Subtropical Crops and Viticulture, Greece)
- 11:20 **Reviewing options for smallholder farmers in the war against fall-armyworm in Africa**
- [Allen T.](#), Keiser A., Norgrove L. (Bern University of Applied Sciences (BFH), Switzerland)
- 11:40 **QTL mapping suggests that both cytochrome P450-mediated detoxification and target-site resistance are involved in fenbutatin oxide resistance in *Tetranychus urticae***
- [Berdien De Beer](#), Ernesto Villacis-Perez, Mousaalreza Khalighi, Corinna Saalwaechter, Marilou Vandenhole, Wim Jonckheere, Ibrahim Ismaeil, Sven Geibel, Thomas Van Leeuwen, Wannes Dermauw (Ghent University, Belgium)
- 14:40 **Development of biological alternatives to insecticides to control *Drosophila suzukii* with semiochemicals and entomopathogenic fungi**
- [C. Galland](#), I. Lalaymia, S. Declerck, F. Verheggen (Université de Liège, Belgium)
- 15:00 **Identifying odorant lures to develop an attract & kill strategy to manage wireworm larvae**
- [A. Chacon Hurtado](#), L. Durant, A. Boullis & F.J. Verheggen (Université de Liège, Belgium)
- 15:20 **Use of Geographical Information Systems and Remote Sensing to Predict *Halyomorpha halys* populations in Kiwi Orchards**
- [Vasileios Liakos](#), Nikolaz Gogolashvili, Panagiotis Markoutis, Andreas Protopapadakis, Ioannis Faraslis, Ioannis E. Navrozidis and Stefanos S. Andreadis (University of Thessaly, Greece)
- 15:40 **Seed inoculation of tomato with endophytic entomopathogenic fungi alters the olfactory behavior, feeding damage and survival of *Nesidiocoris tenuis***
- [C. Meesters](#), H. Jacquemyn and B. Lievens (KU Leuven, Belgium)

Session Nematology

- 10:20 **Impact of cover crops on the population density of root knot nematode *Meloidogyne chitwoodi***
- Taning L.M., Tafes E.K., Fleerackers, S., Formesyn, E. , Lippens L. and Wesemael, W.M.L. (Flanders research institute for agriculture, fisheries and food (ILVO); Ghent University, Belgium)
- 10:40 **Is potato development influenced by nematicidal phytochemicals?**
- Pedro Barbosa, Rui Machado, Renato Coelho, Cláudia Vicente, A. Cristina Figueiredo, Manuel Mota (Évora University, Portugal)
- 11:00 **Root-knot nematode *Meloidogyne inornata* - a new pest reported for potato?**
- Barbara Gerič Stare, Nik Susič, Saša Širca (Agricultural Institute of Slovenia, Slovenia)
- 11:20 **Potential use of endophyte bacteria as a biocontrol agent against root-knot *nematode M. incognita* in tomato**
- Richard. R. Singh, Wim Wesemael (Ghent University, Belgium)

Session: Phytopathology: characterisation and plant-pathogen interactions

- 10:20 **Genetic variability in barley and wheat in relation to their responses to beneficial endophytes**
- Thielmann J, Khanh TH, Micknass U, Imani J, Kogel KH (Justus Liebig University Giessen, Germany)
- 10:40 ***Magnaporthe oryzae* virulence is mediated by Macrophage migration Inhibitor Factor (MIF), a cytokine found in all kingdoms of aerobic life**
- Galli M, Jacob S, Zheng Y, Imani J, Coustau C, Keller H, Thines E, Kogel KH (Justus Liebig University Giessen, Germany)
- 11:00 **Verticillium wilt in pepper: water relations and xylem sap metabolites**
- Marcou S., De Boeck K., De Paepe R., Moyse J., Quéro A., Steppe K., Höfte M. (Ghent University, Belgium)
- 11:20 ***Fusarium oxysporum f.sp. cubense* persists as a major threat to banana production in Eastern Kenya**
- Samuel Musime Malaka, David Mwongera Thurairira, Maina Mwangi, Shem Bonuke Nchore, Hudson Lubabali, Charity Gathambiri (Kenyatta University, Kenya)
- 14:40 **Development of an effective inoculation technique for resistant screening to wheat blast**
- Muhammed Ali Hossain, Tamanna Tabassum, Biprojit Roy, Farzana Haque Tumpa (Ghent University, Belgium)
- 15:00 **Specific and sensitive qPCR assays for *Fusarium oxysporum f. sp. lactucae* races 1 and 4 and their application in soil, water and surface samples**
- H. Mestdagh, K. Van Poucke, T. Dockx, I. Vandevelde, S. Venneman, J. Neukermans, S. Buysens, E. Dendauw, A. Decombel, P. Bleyaert, M. Höfte, K. Heungens (Ghent University, Belgium)
- 15:20 **Specific and sensitive monitoring of *Trichoderma asperellum* T34 in substrates via qPCR**
- Kris Van Poucke, Soraya C. França, Eva Casanova, Maria Isabel Trillas Gay, Kurt Heungens (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO))
- 15:40 **Sensitive and reliable detection of nepoviruses in *Xiphinema* nematode vectors**
- Ellen Everaert, Nicole Viane, Kris De Jonghe (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Belgium)

Session Phytopathology: disease management

- 14:40 **Useful bacteria and insects join forces to combat plant pathogens**
- Jari Temmermans, Marie Legein, Sarah Lebeer, Guy Smagghe (Antwerp University; Ghent University, Belgium)
- 15:00 **IPM strategies to reduce interseasonal transmission of *Leptosphaeria* spp. inoculum**
- J. A. Fortune, A. Qi, F. Ritchie, C. S. Karandeni Dewage, B. D. L. Fitt & Y. Huang (RSK ADAS Ltd)
- 15:20 **Disease suppressiveness of sustainable substrates is linked to the rhizosphere microbiome**
- Pot, S., De Tender, C., Ommeslag, S., Delcour, I., Ceusters, J., Vandecasteele, B., Debode, J., Vancampenhout, K. (KU Leuven, Belgium)
- 15:40 **In vivo screening of new biocontrol agents from an aquaponic origin to control *Pythium aphanidermatum* root rot disease on soilless lettuce**
- Stouvenakers Gilles, Massart Sébastien, Jijakli M. Haissam (University of Liège, Belgium)
- 16:00 **Characterization of a new *Bacillus nakamurai* soil isolate with strong antimicrobial and biocontrol potential**
- Nimbeshaho F., Arias A.A., Nihorimbere G., Anckaert A., Steels S., Niang M.P., Legrève A., Nihorimbere V. and Ongena M. (University of Liège, Belgium)
- 16:20 **Management of grape downy mildew in Italy replacing “candidates for substitution” with other active substances**
- Massimo Pugliese (University of Torino, Italy)

Session Formulation and Application Technology; Pesticide Residues: Toxicology and Ecotoxicology

- 14:40 **Teratogenicity study of spirotetramat and tebuconazole on chicken embryos**
- [N. Saidon](#), G. Askarova, I. M. Somlyay, L. Major, P. Budai, J. Lehel, R. Szabo (Hungarian University of Agriculture and Life Sciences, Hungary)
- 15:00 **SMARTPROTECT: Horizon 2020 Thematic Network for innovative vegetable crop protection**
- [Pollet S.](#), De Mey J., Ervinck L (Inagro vzw, Belgium)
- 15:20 **IPMWORKS project demonstrates that IPM indeed works**
- [Jolien Claerbout](#), Jonathan De Mey, Simon Lox, Hilde Wustenberghs, Laure Triste, Sabien Pollet (Inagro vzw, Belgium)
- 15:40 **The INNOSETA platform: A webtool to collect and disseminate spray innovations**
- [Godaert Reinout](#), Mozzannini Eric, Gioelli Fabrizio, Gil Emilio, Tsiropoulos Zisis, Nuyttens David (Flanders Research Institute for Agriculture, Fisheries and Food (EV ILVO))
- 16:00 **Spanish project finds spraying drones support sustainable farming**
- Sánchez-Fernández, L; Martínez-Guanter, J.; García, E.; Asin, L.; [Pérez-Ruiz, M.](#) (University of Seville, Spain)
- 16:20 **Incorporation of *Rhizobium leguminosarum* and *Pseudomonas* spp. in seed encrustings for nitrogen fixation and biological control in *Phaseolus vulgaris* L.**
- [Jasmine De Rop](#), Laurence Vandenbulcke, Monica Höfte, Pieter Spanoghe (Ghent University, Belgium)

Session Herbology

- 10:20 **Classification of hyperspectral spectrometer data of *Phaseolus vulgaris* L., *Spinacia oleracea* L. and poisonous solanaceous weeds**
- Marlies Lauwers, David Nuyttens, Benny De Cauwer, Jan Pieters (Ghent University, Belgium)
- 10:40 **Combined use of herbicides against root suckers and weeds in small fruit plantations**
- Wim Verjans, Dany Bylemans, Serge Remy (Research Center for Fruit npo, Department of Pomology, Belgium)
- 11:00 **Impact of hood steaming on tuber viability of *Cyperus esculentus***
- B. De Cauwer, D. Reheul & J. Feys (Ghent University, Belgium)
- 11:20 **The use of essential oils as bioherbicide: Proof of concept through field trials**
- B  r  nice Foncoux, Sofiene Ben Kaab, Simon Dal Maso and M. Ha  ssam Jijakli (University of Li  ge, Belgium)
- 11:40 **Genetic and morphological variation of Belgian *Cyperus esculentus* L. clones**
- Sander De Ryck, Dirk Reheul, Jan De Riek, Ellen De Keyser and Benny De Cauwer (Ghent University, Belgium)

Special session: RNAi, new developments and its place for plant protection in the Green Deal

- 10:20 **RNAi of FucT6 revealed its important role in the nymphal development of the rice pest insect *Nilaparvata lugens***
- [Qun Yang](#), Kristof De Schutter, Pengyu Chen, Els J.M. Van Damme, Guy Smagghe (Ghent University, Belgium)
- 10:40 **Virus-induced gene silencing for insect pest control: concept, mechanism and case studies**
- [Ericmar Avila dos Santos*](#), [Qi Xue*](#), Moises João Zotti, Guy Smagghe, Clauvis Nji Tizi Taning (Ghent University, Belgium; Federal University of Pelotas, Brazil)
- 11:00 **RNA-based biocontrol products: Market status, regulatory aspects and risk assessment**
- [De Schutter K.](#), Taning C.N.T., Van Daele L., Van Damme E.J.M., Dubruel P., Smagghe G. (Ghent University, Belgium)
- 11:20 **Novel aspects of RNA-based plant protection**
- Ladera-Carmona M, Šečić E, Nasfi S, Liu S, Hossain M, Loew J, Zheng Y, Hossain, IM, Abdeldayem M, Kreutz R, Steinbrenner J, Imani I, [Kogel KH](#) (Justus Liebig University, Germany)
- 11:40 **Developing tools for tracing dsRNA and co-formulants in the insect body: challenges and opportunities**
- [Mariya Tsaneva](#), Olivier Christiaens, Kaat Cappelle, Myriam Beghyn, Geert Plaetinck, Lenny Van Daele, Peter Dubruel, Guy Smagghe (Ghent University, Belgium; Syngenta Ghent Innovation Center)

POSTER SESSION

Agricultural Entomology and Acarology

- E01 **Leaf and fruit responses of ten apple cultivars to aphid (*Dysaphis plantaginea* Passerini) infestation**
- Ammar Alhmedi, Tim Beliën, Dany Bylemans (Research Centre for Fruit Cultivation (pcfruit npo), Belgium)
- E02 **Molecular characterization of Apioninae populations on wild beans in Costa Rica**
- Alcides Sánchez-Monge, Eduardo Hernandez Jiménez, Rodolfo Araya Villalobos & Nestor Chaves Barrantes (University of Costa Rica, Costa Rica)
- E03 **Diversity of entomopathogenic fungus in hazelnut orchards of the west Georgia**
- Tea Abramishvili, Dali Gaganidze, Anna Dadeqashvili, Medea Burjanadze (State Laboratory of Agriculture (SLA), Georgia)
- E04 **Current status of insecticide resistance for *Helicoverpa armigera* in Greece**
- Marianna Stavrakaki, Konstantinos Simoglou, George Myronidis, Christoph. T. Zimmer, Emmanouil Roditakis (Hellenic Mediterranean University; Hellenic Mediterranean University Research Centre, Greece)
- E05 **A five-year monitoring survey on insecticide resistance for cotton whitefly *Bemisia tabaci* in Greece**
- Marianna Stavrakaki, Maria Mamalaki, Konstantina Alipranti, Eva Kasapaki, Efi Pantalou, Anastasia Tsagkarakou, John Vontas and Emmanouil Roditakis (Agricultural University of Athens; Hellenic Mediterranean University; Hellenic Agricultural Organization - ELGO DIMITRA, Greece)
- E06 **Do parasitoid wasps deployed with entomopathogenic microorganisms perform better?**
- Janique Studer, Louis Sutter, Jana Collatz, Lindsey Norgrove (Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences; Agroscope, Switzerland)

- E07 **CRISPR/Cas9 in Lepidopteran insects: progress, application and prospects**
- [Jiang-Jie Li](#), Yan Shi, Ji-Nan Wu, Hao Li, Guy Smagghe, Tong-Xian Liu (Qingdao Agricultural University, China; Ghent University, Belgium)
- E08 **Signatures of agricultural stress in the genomes of two European bumblebees**
- [K Maebe](#) AF Hart, J Verbeeck, D Ariza, D Cejas, G Ghisbain, H Honchar, VG Radchenko, J Straka, T Ljubomirov, T Lecocq, J Dániel Ferreira, S Flaminio, L Bortolotti, R Karise, I Meeus, N Vereecken, P Vandamme, D Michez, G Smagghe (Ghent University, Belgium)
- E09 **Establishing insecticide resistance level in grape berry moth *Lobesia botrana* populations from Greece**
- Emmanouil Roditakis, Kyriaki Mylona, Emmanouil Skalidakis, [Katerina Kremi](#), Aris Ilias, John Vontas (Hellenic Mediterranean University, Greece)
- E10 **VIRTAB: Assessing the risk of whitefly-transmitted viruses for Belgian crops**
- [Wannes Dermauw](#), Annelies Haegeman, Ellen Everaert, Johan Witters, Jochem Bonte, Saskia Buysens, Kris De Jonghe (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Belgium)
- E11 **Comparative life cycle of two populations of onion thrips on leek, onion and Brussels sprout**
- [Ebrahimi, N.](#), Witters, J., Goedefroit, T., Verbruggen, L., De Vis, R., Lippens, L., Formesyn, E., Temmerman, F., Liévrard, S., De Smet, M. and Bonte, J. (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Belgium)
- E12 **Revisiting the methodologies for evaluating the efficacy of insecticides for tomato borer *Tuta absoluta*: the case of slow acting molecules**
- Roditakis Emmanouil, [Kyriaki Mylona](#), Dimitris Piperidis, George Afantenos (Hellenic Mediterranean University, Greece)

Phytopathology

- P01 **Evaluation of different variety and fungicide programme combinations for the control of light leaf spot, *Pyrenopeziza brassicae*, on winter oilseed rape**
- [Philip Walker](#), Faye Ritchie, Julie Goult, Olivia Potter (ADAS Ltd, UK)

- P02 **Biocontrol of tomato early blight and northern corn leaf blight by *Bacillus nakamurai* BDI-IS1**
- Nihorimbere G., Lienard C., Nimbeshaho F., Nibasumba A., Declerck S., Nihorimbere V., Ongena M., Legrève A. (Université catholique de Louvain, Belgium)
- P03 **Study of the genetic composition of *Plasmopara viticola* in South Tyrol**
- Selena Tomada, Alice Moffa, Sanja Baric (Free University of Bozen-Bolzano, Italy)
- P04 **Control of Ganoderma Basal Stem Rot Infection of Oil Palm Seedlings Via Chitosan Application at Different Concentrations and Delivery Methods**
- Menaka Ganeson & Christina Vimala Supramaniam (Universiti Teknologi PETRONAS, Malaysia)
- P05 **Antifungal activity of plant extracts against common phytopathogenic fungi**
- Jeroen Geuens J.G.; Annelore Wens A.W (Karel de Grote Applied University of Arts and Sciences, Belgium)
- P06 **Antifungal activity of geranium, ginger, thyme and turmeric essential oils against *Venturia inaequalis* compared to Mevalone®, a commercial biocontrol product.**
- Jacquin J., Dupuy M., Deweer C., Muchembled J. (JUNIA, France)
- P07 **Controlling Sweet Basil Downy Mildew with Biostimulants Containing Microelement**
- Nadav Nitzan (Valley of Springs Research & Extension Center, Israel)
- P08 **The effectiveness of *Aureobasidium pullulans* in reducing trichothecene concentrations in durum wheat grain**
- Weronika Giedrojć, Emilia Jurkiewicz, Angga Nofa Prasetyo, Jędrzej Mastalerz, Karolina Dorożko, Kinga Szablewska-Stuper, Wioletta Pluskota, Urszula Wachowska (University of Warmia and Mazury in Olsztyn, Poland)
- P09 **New vegetable pathogens in Mauritius: *Botrytis cinerea* and *Macrophomina phaseolina***
- Nooreen Mamode Ally, Sandhya Takooree, Huda Neetoo, Mala Ranghoo-Sanmukhiya, Mira Vojvodić, Aleksandra Bulajić (University of Belgrade, Serbia)
- P10 **First study of the varietal response to plant defense induction by COS-OGA in flax**
- Géraldine van Aubel, Claire Leclef, Pierre Van Cutsem (FytoFend, Belgium)

P11 Relating soilborne and seedborne inoculum levels to the severity of Verticillium wilt of flax

- Kurt Heungens, Renata Brito, Anne Chandelier, Jane Debode, Sylvain Lecomte, Marie Marchal, Julie Moyse, Maurane Pagniez, Delphine Paumier, Romain Valade, and Lies Willaert (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Belgium)

P12 Steam disinfestation against soilborne pathogens and effect on the soil microbiome

- Debode J., Pauwelyn E., Ommeslag S., Maenhout K., Vandecasteele B., Moeneclaeu B., Van Kerckhove S., Vandeveldel I., Dockx T., Waverijn A., Ferket K. and Decombel A. (Flanders Research Institute for Agriculture, Fisheries and Food (ILVO), Belgium)

P13 Pathogenic capacity of telluric fungi against GTA durum wheat

- Ounas F. N., Mezaache-Aichour S., Aissat K. and Zerroug M. M. (Batna 2 University, Algeria)

Nematology

N01 Biocontrol Potential of Arbuscular Mycorrhizal Fungi (*Glomus mosseae*) for Controlling Wilt Disease of Brinjal Caused by Root-knot Nematode

- Sonia Chowdhury, ShilaChakraborty, Sukalpa Das, Farzana Hague Tumpa, Md. Atiqur Rahman Khokon (Ghent University, Belgium)

Formulation and Application Technology; Pesticide Residues: Toxicology and Ecotoxicology

T01 Phytosanitary pressure in Tunisian pomegranate crops

- Toumi K.,Soudani N., Zinelabidine C., and Glida H. (University of Jendouba, Tunisia)