

REVIEW

STUDY OF SOLANACEAE AND CUCURBITACEAE DISEASES

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INTRODUCTION

Current research at the species of *Cucurbitaceae* and *Solanaceae* families aims to stimulate the progress of fundamental knowledge of plant genetics and physiology, as well as the interactions of plants with the environment, including biotic and abiotic stress (Gómez Tenorio and all., 2016; Laquale and all., 2016; Crescenzi and all., 2016; Agnieszka Skarzyska and all., 2019; Qinsheng Gu, 2019; Brezenu and all., 2019; Kim and all., 2019; Borges and all. 2019; Ortega și colab. 2019). Also the new technologies developed offer possibilities of application in production of the new methods and practices of cultivation in the field and protected spaces (Fahrentz and all., 2016; Menzel and Winter, 2016; Karabuyuk and Aysan, 2016; Shojaeiyan and Sahar Aminkar, 2019; Craeve and Marie-Christine Van Labeke, 2019; Zhang and Hao, 2019; Solis and all., 2019; Solis and Madrid, 2019; Shin and all., 2019; Kim and all., 2019; Fracchiolla and all., 2019; Sofie Van Laethem and all., 2019; Oak Jin Lee, 2019; Yi-Ru Lai, and Huang, 2019; Xingping Yang and all., 2019. Xiefeng Yao and all., 2019; Illsup Nou and all., 2019; Bozena Sedlakova, 2019; Yupeng Pan and all., 2019; Elisabeth Abele and all., 2019; Chana-Muñoz and all., 2019, Spania; Fátima Carvajal și colab., 2019, Spania; Liu Wenge, și colab., 2019, China; Aguado și colab., 2019, Spania; Alicia García și colab., 2019, Spania).

MATERIAL AND METHODS

The biological material of this study was represented by species of *Solanaceae* and *Cucurbitaceae* family.

The study was conducted as a review of regarding the diseases and application of new methods in the management of the control of various pathogens, in protected areas and fields, at variety of *Solanaceae* and *Cucurbitaceae* species grow in organical or conventional system, in the current context of climate change. The study are interdisciplinary area with genetics and physiology of plants, as well as the multiple interactions with the environment, including biotic and abiotic stress. Also

the new technologies offer possibilities to modernize the methods and practices of cultivation in the field and protected areas, as well as obtaining valuable results in the implementation of a diverse range of techniques applied in the monitoring and control of the attack of the various pathogens.

RESULTS AND DISCUSSIONS

Many countries have initiated research to obtain results regarding the application of new techniques in the management of the control of various pathogens, in protected areas and in the field, to a diverse range of *cucurbitaceae* species cultivated in ecological or conventional system, in the current context of climate change. These include the following topics:

- Study of genetic resources and breeding technologies for increasing disease resistance (Narinder Dhillon, 2019 in Thailand; Abdullah Unlu et al., 2019 in Turkey; Elena Domblides et al. In Russia; Agnieszka Skarzyska et al., 2019 in Poland; Qinsheng Gu, 2019 in China, Brezenu et al., 2019 in Romania ; Kim et al., 2019 in Korea; Borges et al. In Brazil; Ortega et al. 2019 in Mexico).
- Protected crop experiments (Vanninen, 2019, Finland; De Win et al. 2019, Belgium; Fracchiolla et al., 2019, Italy; Saskia Buvsen and Sara Crape, 2019, Belgium; Elings et al., Holland; Craeve et al., 2019 Belgium).
- Mycology (Grumet et al., 2019, USA; Liu et al., 2019, China; De Win et al., 2019, Belgium; Cohen et al., 2019, Israel; Lebeda et al., 2019, Czech Republic; Schouten et al. , 2019, Holland; De Win et al. 2019, Belgium; Su Lee et al., Korea, Sun et al., 2019, China; Jiménez et al., 2019 Spain; Unu et al., 2019, Turkey).
- Fruit quality study in the context of climate change (Li et al., 2019, Israel; Xingfang Gu et al., 2019, China; Liu et al., 2019, China; Mingming Cui et al., 2019, China; Meiling Gao et al. , 2019, China; Penta Pristijono et al., 2019, Australia; Deblina Mitra, et al., 2019 Israel).
- Plant propagation and grafting (Maria Belén et al., 2019, Spain; Bantis et al., 2019, Greece.
- Virology and Bacteriology (Cecile Desbiez and

Hervé Lecoq, 2019, France; De Jonghe et al., 2019, Belgium; Ana Pérez-de-Castro, 2019, Spain; Shahar Nizan et al., 2019, Israel; Mohammad Babadoost, 2019, US.

- Nutrition content and health benefits of *cucurbitaceae* (Patil et al., 2019, USA; Gurubasappa and Ganiger, 2019, India).

- Biostimulators and abiotic stress (Colla et al., 2019, Italy; Ganiger Colla et al., 2019, India; Qin and Leskovar, 2019, USA; Tira-Umphon and Nitwatthanakul, 2019, Thailand; Shojaeiyan and Sahar Aminkar, 2019, Iran; Craeve and Marie-Christine Van Labeke, 2019, Belgium; Zhang and Hao, 2019, China; Solis et al., 2019, Mexico; Solis and Madrid, 2019 Mexico; Shin et al., 2019, Korea; Kim et al., 2019, Korea; Fracchiolla et al., 2019, Italy; Sofie Van Laethem et al., 2019, Belgium; Oak Jin Lee et al., 2019, Korea; Yi-Ru Lai, and Huang, 2019, Taipei; Xingping Yang et al., 2019, China. Xiefeng Yao et al., 2019, China; Illsup New et al., 2019, Korea; Bozena Sedlakova, et al., 2019, Czech Republic; Yupeng Pan et al., 2019, USA; Elisabeth Abele et al., 2019, Germany; Chana-Muñoz, et al., 2019, Spain; Fátima Carvajal et al., 2019, Spain; Liu Wenge, et al., 2019, China; Aguado et al., 2019, Spain; Alicia García et al., 2019, Spain; Cebrián, et al., 2019, Spain; Carmina, et al., 2019, Spain; Cebrián et al., 2019, Spain; Carmina et al., 2019; Spain, Moya-Hernández, et al., 2019, Mexico; Samira Jandoust et al., 2019, Iran; Rita Mercia Borges et al., 2019, Brazil; Jihve Moon et al., 2019, Korea; Liu Wenge, et al., 2019, China.

Current research in the field of culture and solanaceous protection technologies aims to stimulate the progress of the fundamental knowledge of the genetics and physiology of tomato, pepper and eggplant plants, as well as the multiple interactions with the environment, including biotic and abiotic stress. Also, the new technologies offer possibilities to modernize the methods and practices of cultivation in the field and protected areas, as well as obtaining valuable results in implementing a diverse range of techniques applied in monitoring and controlling the attack of various pathogens (Louws et al., 2016). The studies and experiments are carried out in protected areas and open field, at a variety of solanacea species cultivated in ecological or conventional system, under different conditions, in the current context of climate change (Kara et al., 2016). Diseases in tomatoes, peppers and eggplants can be caused by numerous pathogenic organisms (Aparicio et al., 2016; Frenkel et al., 2016), respectively cellular pathogens (eg. fungi, bacteria, mycoplasmas) and non-cellular pathogens. (for example, viruses and viroids). As respond to the attack of the pathogen, tomato plants, like other organisms, have developed an immune system, in which pathogenic effectors and plant receptor proteins (eg. resistance proteins) play a central role (Moriones and Muñoz, 2016). . With advances in the genomics era, understanding of

plant-pathogen interactions has evolved rapidly. For example, pathogenic genomics has performed genome-wide studies on the structure, function, and evolution of effector pathogens (Yuling Bai et al., 2018). The so-called effectormics offers a functional approach with high efficiency in the study of plant genes associated with effectors, such as resistance genes (R) and sensitivity genes (S). In tomatoes, the "genome of the germplasm" facilitates a resizing of the nucleus and the cytoplasm of cells, to explore the diversity of plant resistance by sequencing and re-sequencing the resources available in the germplasm. This discovery and advanced genome editing techniques have set up new strategies for improving tomatoes with resistance to attack by pathogens. Thus they were revealed:

- Different responses of the plant immune system (T.T.H. Do, 2016 et al., 2016; Gonçalves et al., 2016).

- Possibilities for the practical application of valuable genes in increasing the tolerance or resistance to pathogens of solanaceous plants (Laurindo et al., 2016. Arwiyanto et al., 2016; Pereira et al., 2016);

- Rapid identification of genes for resistance and sensitivity (Moreno-Félix et al., 2016; Janssen et al., 2016).

- New methods for sustainable resistance to pathogens and pests (Jaiswal et al., 2016; Vitti et al., 2016; Fahrenttrapp et al., 2016; Myrta et al., 2016).

- New methods of transmitting resistance to biotic and abiotic stress, with an extended intersection between pathways / pathways for resistance to pathogens and tolerance to abiotic stress (Rufián et al., 2016; Sheikh and Ntoukakis, 2016; Elizondo-Pasten et al., 2016).

Infectious diseases reduce crop yields by affecting the quality and quantity of the production obtained (Cotes et al., 2016; Samaras et al., 2016; Gunes and Aysan, 2016).

Most pathogens are of fungal origin, Late Blight being one of the main pathogens of tomato crops (Elad, 2016; Deberdt, 2016; Boix-Ruiz et al., 2016; Shtienberg et al., 2016; Grabowskin and Orshinsky, 2016). Viruses are extremely infectious and easily transmitted by mechanical means, pests, etc. which may cause different symptoms in tomatoes such as: mosaic, light green and / or dark spots on the leaves (Menzel and Winter, 2016; Wintermantel et al., 2016; Wintermantel et al., 2016). For example, the tobacco mosaic virus (TMV) causes deformation of mature leaves and can cause leaflet malformations, reducing the leaf surface (Sui et al., 2016; Seepiban et al., 2016). Certain symptoms of viral infections are characterized by the creasing of the leaves, the deformation of the stalk and the petiole, atypical fruits, without commercial importance, symptoms that can be confused with the phytotoxicity of the herbicides.

Therefore, it is necessary to identify and correctly understand the plant symptoms and the infectious power of the pathogen, in order to apply the appropriate control methods and practices (Bhunchoth, 2016; Kirli et al., 2016; Bhunchoth et al., 2016; Ferriol and et al., 2016). Detecting and correctly identifying pathogens that attack plants are essential for disease control strategies. The commonly used diagnostic methods for the detection of plant pathogens have limitations in the laboratory such as: the requirement of prior knowledge of the genome sequence, low sensitivity of the apparatus having the ability to detect several pathogens simultaneously, etc. The development of advanced DNA sequencing technologies has allowed the determination of total nucleic acid content in biological samples (Fuentes et al., 2018; Chalupowicz et al., 2019). The possibility of using the single molecule sequencing platform from Oxford Nanopore as a general method for diagnosing plant diseases was examined. It was tested by sequencing DNA or RNA isolated from symptomatic plant tissues from several families inoculated with known pathogens (eg, bacteria, viruses, fungi, mycoplasmas). In addition, samples were tested with seed groups containing infections with two or three pathogens, as well as symptomatic samples with unidentified pathogens. The sequencing results were analyzed with Nanopore data analysis tools. In all inoculated plants, the pathogens were identified in real time within one to two hours after the operation of the Nanopore sequencer and were classified at the species or pathotype level. DNA sequencing or direct RNA sequencing of samples with unidentified pathogens were validated by conventional diagnostic procedures (eg PCR, ELISA, Koch test), which supported the results obtained by Nanopore sequencing. The advantages of this technology include: large reading lengths, fast running times, portability and reduced costs, the possibility of use in each laboratory. This study indicates that the adoption of the Nanopore platform will be very advantageous for routine laboratory diagnostics.

The use of varieties resistant to diseases, certified seeds, free from diseases and pests, crop rotation practices, cultural hygiene (elimination of plants attacked from crops), fertilization, ventilation and proper drainage can prevent the occurrence of diseases. Ferriol et al. (2016), considers that preventive and integrated measures are very important to ensure the quality and quantity of production specific to the variety's potential. European Union (EU) regulations have reduced the availability of control measures with chemicals, imposing residue limits, break times or restrictions for certain chemicals considered toxic to humans or the environment. Therefore, selection of disease resistant varieties has become one of the widely used methods to prevent the occurrence and attack of pathogens (Janssen et

al., 2016). Thus, cultivation of resistant varieties can be an effective alternative for integrated pest control (IPC) and integrated pest management (IPM) measures for crops in protected areas and fields (Gómez □ Tenorio et al., 2016; Laquale et al., 2016; Crescenzi et al., 2016). In order to successfully implement IPM, it is essential to understand the interactions between plants, environmental conditions, pathogens and their effect on plant growth, quantity and quality of production (Jaiswal, et al., 2016; Davenport et al., 2016). Continuous advances in plant pathology studies make this knowledge possible and can contribute to positive results in preventing and controlling disease attack (Vitti et al. 2016; Aguiar et al. 2016). Thus, it has been observed that under certain environmental and technological conditions, plants develop defensive mechanisms to withstand the attack of pathogens (Fahrenttrapp et al., 2016; Menzel and Winter, 2016; Karabuyuk and Aysan, 2016). But a resistance of pathogens to the treatments of control and the diminution of the mechanisms of defense of the plants has been highlighted (Rufián et al., 2016). To help increase the resistance of plants to infections with pathogens nano technologies come with new research in the field. HarpinPss, an elicitor obtained from *Pseudomonas syringae* pv. *syringes*, induces systemic acquired resistance to plants that have not been infected with pathogens. Poor assimilation of harpinPss is a major constraint on foliar application of biopesticide (Nadendla et al., 2018). To improve the bioavailability of the substance, chitosan nanoparticles (H-CSNPs) were combined with harpinPss and tomatoes were treated with the substance obtained. H-CSNPs exhibited high encapsulation efficiency (90%), improved stability ($p < 0.01$) and good harpinPss bioavailability ($p < 0.01$). Treatment with H-CSNPs resulted in sustained induction of peroxidase and ammoniac phenylalanine reducing infection with *Rhizoctonia solani* ($p < 0.05$). Transcripts of several genes involved in defense response had different expressions for harpinPss, CSNP and H-CSNPs treatments. Thus, genes involved in the metabolism of jasmonic acid (JA) were activated during harpinPss and H-CSNP spray treatments, indicating the role of the JA pathway in triggering harpin-mediated defense responses. In addition, CSNPs entry into the cell and harpinPss localization in the chloroplast was tracked using rhodamine-labeled CSNPs encapsulated with harpPss and GFP-labeled. The results of this study indicate that the use of H-CSNPs is effective for sustained release of harpinPss by modulating the genome of plants for long-term resistance to *R. solani* (Nadendla et al., 2018). Thus, the previous approach of studying only the influence of biotic factors on plant growth is no longer relevant, and complex studies of methods and practices used in protected and conventional or ecological crops are needed (Sheikh et al., 2016; Elad, 2016; Myrta et al., 2016).

In the field of organic farming, foliar disease control in early and late tomatoes is one of the biggest challenges facing organic tomato growers (Hoagland et al., 2016; Samaras et al., 2016; Kanto et al., 2016; Louws et al., 2016). Although resistant hybrids are available, but farmers often like local varieties because they have superior quality and taste. As a result, the current research aims to address this system of culture by: 1 selecting improved tomato cultivars using a participatory approach of conservative selection; 2 improving the understanding of the factors that regulate the induced systemic resistance and the selection of tomato cultivars with multiple forms of resistance; 3 identification of combinations of biofungicides and biostimulators that control foliar diseases while reducing the amount of copper applied (Deberdt, 2016). Thus, in the USA, seed crops were analyzed and controlled in the university research farms of Indiana, North Carolina, Oregon and Wisconsin, USA, between 2015 and 2016. The plants from the best varieties were recombined during winter 2015. The genotypes representing wild or improved breeding lines, modern and advanced breeding lines have been tested at respond to the attack of pathogens under organic farming conditions (Hoagland et al., 2016). Valuable genotypes will be included in RNA-seq experiments to improve understanding of the mechanisms that regulate resistance to disease and adverse environmental conditions and to design markers to improve screening for germplasm collections and to quantify resistance gene expression in studies. land. Advanced propagation lines will be tested for quantitative resistance to leaf diseases, using molecular markers for quantitative resistance to pathogens, by detached leaf analysis. In the current research, the organic biofungicides and the biostimulants are tested alone and in combination, in order to establish the potential in the control of foliar and soil diseases, under the conditions of the new climatic changes. The best combinations are then tested in experiments on production background (Boix-Ruiz et al., 2016).

CONCLUSIONS

This review highlights the latest research in the diseases and application of new methos in the management of the control of various pathogens, in protected areas and fields, at variety of *Solanaceae* and *Cucurbitaceae* species grown in organical or conventional system, in the current context of climate change. The study are interdisciplinary area with genetics and physiology of plants, as well as the multiple interactions with the environment, including biotic and abiotic stress. Also the new technologies offer possibilities to modernize the methods and practices of cultivation in the field and protected areas, as well as obtaining valuable results in the implementation of a diverse range of techniques

applied in the monitoring and control of the attack of the various pathogens.

ABSTRACT

Solanaceae and *Cucurbitaceae* diseases represent an important limitative factor of crop varieties.

The study include the following topics: study of genetic resources and breeding technologies for increasing disease resistance, protected crop experiments, Mycology, fruit quality study in the context of climate change, plant propagation, biostimulators and abiotic stress, different responses of the plant immune systems, possibilities for the practical application of valuable genes in increasing the tolerance or resistance to pathogens of solanaceous plants, rapid identification of genes for resistance and sensitivity, new methods for sustainable resistance to pathogens and pests, new methods of transmitting resistance to biotic and abiotic stress, with an extended intersection between pathways / pathways for resistance to pathogens and tolerance to abiotic and biotic stress.

This review highlights the latest research in the diseases and application of new methos in the management of the control of various pathogens, in protected areas and fields, at variety of *Solanaceae* and *Cucurbitaceae* species grown in organical or conventional system, in the current context of climate change. The study are interdisciplinary area with genetics and physiology of plants, as well as the multiple interactions with the environment, including biotic and abiotic stress. Also the new technologies offer possibilities to modernize the methods and practices of cultivation in the field and protected areas, as well as obtaining valuable results in the implementation of a diverse range of techniques applied in the monitoring and control of the attack of the various pathogens.

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REFERENCES

1. ABELE ELISABETH, MICHAEL FLECK, JENS HARTUNG, SABINE ZIKELI, SIMONE GRAEFF-HÖNNINGER, 2019 - Sensory characteristics of three different zucchini-cultivars, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
2. AGUADO ENCARNACIÓN, ALICIA GARCÍA, JESSICA IGLESIAS, JONATHAN

- ROMERO, GUSTAVO CEBRIÁN, CECILIA MARTÍNEZ, MANUEL JAMILENA, 2019 - Generation, selection and characterisation of ethylene insensitive mutants in watermelon, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
3. AGUIAR F.M., G.E. VALLAD, A. REIS, 2016 - In-vitro sensitivity to fungicides of *Corynespora cassiicola* isolates from different hosts and geographic regions from Brazil, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 4. APARICIO F., J. ARAMBURU, M.C. HERRANZ, V. PALLÁS, C. LÓPEZ, 2016 - *Parietaria mottle virus*: a potential threat for tomato crops? V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 5. ARWIYANTO T., B. TRIMAN, S. SULANDARI, S. SURYANTI, 2016 - Preliminary test of a local tomato cultivar as a rootstock to control two soil-borne plant pathogens, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 6. BABADOOST MOHAMMAD, SALISU SULLEY, SITA THAPA, XIAOYUE ZHANG, 2019 - Progress on management of bacterial spot of cucurbits incited by *Xanthomonas cucurbitae*, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 7. BAI YULING, ZHE YAN, E. MORIONES, R. FERNÁNDEZ-MUÑOZ, 2016 - Tomato disease resistances in the post-genomics era. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 8. BANTIS FILIPPOS, ATHANASIOS KOUKOUNARAS, ANASTASIOS SIOMOS, GEORGIOS MENEXES, CHRISTODOULOS DANGITSIS, THEOLOGOS KOUFAKIS, 2019 - Quantitative criteria of watermelon and squash seedlings used as scion and rootstock during grafting, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 9. BELÉN PICÓ SIRVENT MARIA; ANDRÉS CÁCERES; G. CASTRO, GORKA PERPIÑA, ANA GARCÉS- CLAVER, VÍCTOR GONZÁLEZ, MARÍA LUISA GÓMEZ-GUINAMÓN, CARMINA GISBERT, 2019 - KEYNOTE: Rootstocks for melon grafting, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 10. BHIMANAGOUDA S. PATIL, JASHBIR SINGH, PRATHIBA ACHARYA, RITA METRANI, SIDDANAGOUDA SHIVANAGOUDRA, JOSE PEREZ, G. JAYAPRAKASHA, 2019 - KEYNOTE: Hidden treasures of the Cucurbitaceae: health benefits of melons, from watermelon to bitter melon, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 11. BHUNCHOTH A., N. PHIRONRIT, C. LEKSOMBOON, T. KAWASAKI, T. YAMADA, O. CHATCHAWANKANPHANICH, 2016 - Isolation and characterization of bacteriophages that infect *Ralstonia solanacearum* in Thailand. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 12. BHUVANESHWARI GURUBASAPPA, SHRUTHI GONDI, 2019 - Yield and quality of different wild melon (*Cucumis melo* var. *agrestis*) genotypes under the northern dry zone of Karnataka, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 13. BHUVANESHWARI GURUBASAPPA, VASANT GANIGER, 2019 - Preparation of value-added product jam from underutilized vegetable oriental pickling melon (*Cucumis melo* var. *Conomon*), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 14. BOIX-RUIZ A., M. IBÁÑEZ-SALVADOR, P. GARCÍA-RAYA, C. RUIZ-OLMOS, M.A. GÓMEZ-TENORIO, J.I. MARÍN-GUIRAO, F. CAMACHO-FERRE, J.C. TELLO-MARQUINA, 2016 - Solarization to control *Fusarium oxysporum* f. sp. *radicis-lycopersici* on different substrates. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 15. BOIX-RUIZ A., M.A. GÓMEZ-TENORIO, C. RUIZ-OLMOS, J.I. MARÍN-GUIRAO, F. TORESANO-SÁNCHEZ, J.C. TELLO-MARQUINA, F. CAMACHO-FERRE, M. DE CARA-GARCÍA, 2016 - Coconut fiber grow bags as a source of primary inoculum of *Fusarium oxysporum* f. sp. *radicis-lycopersici* in greenhouse tomato crops in Almería (Spain). V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;

16. BORGES RITA MERCIA, MARIA A. COELHO DE LIMA, 2019 - P41 Genetic parameters and variability for commercial and nutritional quality attributes in pumpkin genotypes, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
17. BORGES RITA MERCIA, NATONIEL F DE MELO, 2019 - Genetic divergence in pumpkin genotypes using ISSR markers, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
18. BOZENA SEDLAKOVA, ALES LEBEDA, BARBORA KADEROVA, EVA KRISTKOVA, 2019 - Disease prevalence, severity and species spectrum of cucurbit powdery mildews in the Czech Republic in the period 2011 to 2016, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
19. BREZEANU PETRE MARIAN, CREOLA BREZEANU, SILVICA AMBARUS, CRINA ANDREEA ANTAL, NELLY FINARU, ANNE MARIE NECHITA, 2019 - Review of cultivated and spontaneous Cucurbitaceae species for use as food, medicinal and decorative, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
20. BUVSENS SASKIA, SARA CRAPPE, 2019 - How cucumber cultivation can contribute to a sustainable fish production, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
21. CARVAJAL FÁTIMA, ALEJANDRO CASTRO-CEGRÍ, MARIANO ORTEGA-MUÑOZ, RAQUEL JIMÉNEZ-MUÑOZ, DOLORES GARRIDO, FRANCISCO PALMA, 2019 - Effect of a dextrin-based coating, alone or enriched with oleuropein, on the quality of zucchini fruit after cold storage, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
22. CEBRIÁN GUSTAVO, ALICIA GARCÍA, ENCARNACIÓN AGUADO, JONATHAN ROMERO, ANDRÉS CHANA-MUÑOS, CECILIA MARTINEZ, JUAN LUIS VALENZUELA, MIGUEL GUZMÁN, MANUEL JAMILENA, 2019 - Use of germination and early radicle growth parameters for assessing oxidative stress tolerance in Zucchini squash, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
23. CEBRIÁN GUSTAVO, ALICIA GARCÍA, ENCARNACIÓN AGUADO, JONATHAN ROMERO, ANDRÉS CHANA-MUÑOS, CECILIA MARTINEZ, JUAN LUIS VALENZUELA, MIGUEL GUZMÁN, MANUEL JAMILENA, 2019 - Use of germination and early radicle growth parameters for assessing oxidative stress tolerance in Zucchini squash, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
24. CHALUPOWICZ, L., DOMBROVSKY, A., GABA, V., LURIA, N. , REUVEN, M. , BEERMAN, A. , LACHMAN, O. , DROR, O. , NISSAN, G. AND MANULIS SASSON, S. 2019 - Diagnosis of plant diseases using the Nanopore sequencing platform. *Plant Pathol*, 68: 229-238. doi:10.1111/ppa.12957;
25. CHANA-MUÑOZ ANDRÉS, ALICIA GARCÍA, ENCARNACIÓN AGUADO, JONATHAN ROMERO, GUSTAVO CEBRIÁN, DOLORES GARRIDO, JUAN LUIS VALENZUELA, MANUEL JAMILENA, 2019 - RNA-seq reveals molecular pathways associated with reduced chilling injury in individual shrink wrapped (ISW) Zucchini fruits, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
26. COHEN RONI, MEITAL ELKABETZ, JOSEPH BURGER, AMIT GUR, 2019 - Variation in the response of melon and watermelon to the charcoal rot disease caused by *Macrophomina phaseolonia*, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
27. COLLA GIUSEPPE, MARIATERESA CARDARELLI, YOUSSEF ROUPHAEL, 2019 - KEYNOTE: Plant biostimulants: new tool for enhancing agronomic performance and fruit quality of Cucurbits, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
28. COSTACHE M., GABRIELA ȘOVĂREL, ELENA BRATU, 2018 - Bolile și dăunătorii culturilor de legume din spații protejate. Recomandări și combatere. Ed. Ceres, București (Diseases and pests of vegetable crops from protected areas. Recommendations and combat. Ed. Ceres, Bucharest), 2018;
29. COSTACHE M., ROMAN TR., COSTACHE C., 2007 - Bolile și dăunătorii culturilor de legume. Ed. AGRIS Redacția Revistelor Agricole (Diseases and pests of vegetable crops Ed. AGRIS, Editorial of Agricultural Magazines);
30. COTES A., C.A. MORENO-VELANDIA, C. ESPINEL, L. VILLAMIZAR, M. GÓMEZ, 2016 - Biological control of tomato Fusarium wilt and whiteflies with two fungal biopesticides. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, *Acta Horticulturae*, 1207, ISSN (Electronic) 2406-6168;
31. CRAEVE SIMON, AN DECOMBEL, STEFAAN FABRI, PETER BLEVAERT, 2019 - Importance of a sufficiently high daily temperature to prevent male flower shortage in zucchini (*Cucurbita pepo* L.), VI-th

- International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
32. CRAEVE SIMON, MARIE-CHRISTINE VAN LABEKE, 2019 - Evaluation of pollen storage strategies in *Cucúrbita pepo* L, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July, 2019 -
 33. CRESCENZI A., M. GIULIANI, E. NARDELLA, N. PRENCIPE, A. FANIGLIULO, G. GATTA, 2016 - Evaluation of acibenzolar-*S*-methyl and azoxystrobin on the control of blossom end rot in processing tomato cultivated under two different water regimes. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 34. DAVENPORT B., K. SCHUETZ, C. KUROWSKI, 2016 - Rapid and sensitive isothermal detection of *Clavibacter michiganensis* subsp. *michiganensis* using AmplifyRP®. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 35. DE JONGHE KRIS, MATHIAS DE BACKER, SOFIE DARWICH, DANNY CALLENS, SOFIE VENNEMAN, LUC DE ROOSTER, 2019 - Epidemiology of zucchini viruses in Flanders in support of a sustainable management strategy, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 36. DE WIN JONAS, SOFIE VAN LAETHEM, RUDI AERTS, MARIO FRANS, STEFAN VAN KERCKHOVE, ANNELEEN PAELEMAN, SOFIE VERHELST, PETER BLEYAERT, STEFANIE DE GROOTE, STEFAAN FABRI, 2019 - *Didymella bryoniae* in cucumber: a complete control strategy, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 37. DE WIN JONAS, STEFAAN FABRI, HENDRIK-JAN VAN TELGEN, CONNV VERVOORT, JEROEN VAN ROY, FJO DE RIDDER, LIEVE WITTEMANS, 2019 - Can LED successfully replace HPS in a high wire winter crop of cucumber? VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 38. DEBERDT P., P. FERNANDES, R. CORANSON-BEAUDU, S. MINATCHI, A. RATNADASS, 2016 - The use of biocontrol plants to manage bacterial wilt of tomato in the tropics, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 39. DESBIEZ CECILE, HERVÉ LECOQ, 2019 - Of cucurbits and viruses: a never-ending story, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 40. DHILLON NARINDER, 2019, Update on cucurbit breeding at the World Vegetable Center, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July.
 41. DO T.T.H., A.-M. CATANZARITI, G.T.T. LIM, D.A. JONES, 2016 - Evidence against the existence of genes for resistance to *Fusarium oxysporum* f. sp. *lycopersici* races 1 and 2 on *Solanum pennellii* chromosome 7 additional to 1-3. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 42. DOMBLIDES ELENA, NATALIA SHMYKOVA, GALINA KHIMICH, IRINA KOROTSEVA, LUDMILA KAN, ALEXEY ERMOLAEV, SERGEY BELOV, KSENIYA KOROTSEVA, ARTHUR DOMBLIDES, VICTOR PIVOVAROV, ALEXEY SOLDATENKO, 2019; Production of doubled haploid plants of Cucurbitaceae family crops through unpollinated ovule culture in vitro, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 43. ELAD Y., 2016 - Disease management: disease suppression by cultural means and through biocontrol, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 44. ELINGS ANNE, ISABELLA RIGHINI, FEIIE DE ZWART, SILKE HEMMING, 2019 - Remote control of greenhouse cucumber production with artificial intelligence ' results from the first international autonomous challenge with focus on production, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 45. ELIZONDO-PASTEN E., A. BOIX-RUIZ, M.A. GÓMEZ-TENORIO, C. RUIZ-OLMOS, J.I. MARÍN-GUIRAO, J.C. TELLO-MARQUINA, F. CAMACHO-FERRE, 2016 - Two complementary techniques allow detection of *Fusarium oxysporum* f. sp. *radicis-lycopersici* in soils from two different tomato-cultivated areas of Chile, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 46. FAHRENTTRAPP J., B. DUFFY, P. NICOT, F. REZZONICO, 2016 - Spatio-temporal transcriptional effects of compatible pathogen

- attack in tomato. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
47. FAZZA ANA CAROLINA; LEANDRO JOSÉ DALLAGNOL; ANA CRISTINA FAZZA; CAROLINA C. MONTEIRO; BRUNO MARCO DE LIMA; DEBORA TARGINO WASSANO; LUIS EDUARDO ARANHA, 2013 - Camargo Mapping of resistance genes to races 1, 3 and 5 of *Podosphaera xanthii* in melon PI 414723, Crop Breed. Appl. Biotechnol. vol.13 no.4 Viçosa;
 48. FERRIOL I., M. TURINA, M. VALLINO, E.J. ZAMORA-MACORRA, J.C. NIGG, B.W. FALK, 2016 - New tools to study torradovirus molecular biology and epidemiology. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 49. FRACCHIOLLA MARIANO, ANGELO SIGNORE, CESARE LASORELLA, MASSIMILIANO RENNA, PIETRO SANTAMARIA, EUGENIO CAZZATO, 2019 - Effects of organic farming practices on yield and quality of 'barattiere', a local variety of *Cucumis melo* L. from Puglia (Southern Italy), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 50. FRACCHIOLLA MARIANO, CESARE LASORELLA, MASSIMILIANO RENNA, PIETRO SANTAMARIA, ANGELO SIGNORE, EUGENIO CAZZATO, 2019 - Response of organic grown mini watermelon (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) to different green manure crops and nitrogen fertilization, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 51. FRENKEL O., L. CHALUPOWICZ, R. SHULHANI, M. BORNSTEIN, F. ABU-MOCH, M. SOFER, S. MANULIS-SASSON, D. SHTIENBERG, 2016 - Bacterial canker severity during the nursery stage is affected by fertigation. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 52. FUENTES ALVARO F., SOOK YOON, JAESU LEE, AND DONG SUN PARK, 2018 - "High-Performance Deep Neural Network-Based Tomato Plant Diseases and Pests Diagnosis System With Refinement Filter Bank." Frontiers in plant science vol. 9 1162. 29 Aug. 2018, doi: 10.3389/fpls.2018.01162;
 53. GAO MEILING, XIAOXUE LIANG, YU GUO, YANLING ZHANG, JIXIU LIU, XIUIE LIU, XIAOSONG LIU, CHUANGHAN HU, 2019 - The molecular inheritance pattern of green/white skin color of immature fruit in cucumber, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 54. GARCÍA ALICIA, ENCARNACIÓN AGUADO, JONATHAN ROMERO, GUSTAVO CEBRIÁN, CECILIA MARTÍNEZ, DOLORES GARRIDO, MANUEL JAMILENA, 2019 - Characterisation of two novel androecious single mutants in *Cucurbita pepo* L. VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 55. GISBERT CARMINA, ANDRES CÁCERES, GORKA PERPIÑÁ, ANA GARCÉS-CLAVER, MARÍA LUISA GÓMEZ- GUILLAMÓN, MARÍA BELÉN PICÓ, 2019 - Interspecific hybrids of wild *Cucumis* species (Fian and Fimy): new rootstocks for melon highly resistant to biotic soil stress, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 56. GISBERT CARMINA, ANDRES CÁCERES, GORKA PERPIÑÁ, ANA GARCÉS-CLAVER, MARÍA LUISA GÓMEZ- GUILLAMÓN, MARÍA BELÉN PICÓ, 2019 - Interspecific hybrids of wild *Cucumis* species (Fian and Fimy): new rootstocks for melon highly resistant to biotic soil stress, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 57. GÓMEZ TENORIO M.A., B. LUPIÓN RODRÍGUEZ, A. BOIX RUIZ, C. RUIZ OLMOS, J.I. MARÍN GUIRAO, J.C. TELLO-MARQUINA, F. CAMACHO-FERRE, M. DE CARA-GARCÍA, 2016 - Meloidogyne-infested tomato crop residues are a suitable material for biodisinfestation to manage Meloidogyne sp. in greenhouses in Almería (south-east Spain). V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 58. GONÇALVES A., H. COSTA, M.E.N. FONSECA, L.S. BOITEUX, C.A. LOPES, A. REIS, 2016 - Variability and geographical distribution of *Fusarium oxysporum* f. sp. *lycopersici* physiological races and field performance of resistant sources in Brazil, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 59. GRABOWSKI M.A., A.M. ORSHINSKY, 2016 - Identification of plant pathogens in high-tunnel tomato production in Minnesota, USA, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in

- Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
60. GRUMET REBECCA, ZHANGJUN FEI, YIQUN WENG, AMNON LEVI, JAMES MCCREIGHT, MICHAEL MAZOUREK, XIN WANG, BEN MANSFELD, SHAKER KOUSIK, KAI-SHU LIN, CECILIA MCGREGOR, 2019 - KEYNOTE: The CucCAP project: Leveraging applied genomics to improve disease resistance in cucurbit crops, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 61. GU QINSHENG, 2019 - A vector based on cucumber green mottle mosaic virus for virus-induced gene silence in cucurbit plants, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 62. GU XINGFANG, SHENGPING ZHANG, KAILIANG BO, SHUANG WEI, WEIPING WANG, HAN MIAO, SHAOYUN DONG, 2019 - QTL mapping and GWAS analysis of green flesh in cucumber, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 63. GUNES M., Y. AYSAN, 2016 - Tomato bacterial diseases in plastic greenhouses and fields in Mersin, Turkey, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 64. HOAGLAND L., M. COLLEY, J. DAWSON, J. DAVIS, D. EGEL, S. GU, T. MENGISTE, J. MYERS, J. ZYSTRO, 2016 - Tomato organic management and improvement project (TOMI): an interdisciplinary approach to managing foliar diseases in tomato. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 65. JAISWAL A.K., Y. ELAD, E.R. GRABER, E. CYTRYN, O. FRENKEL, 2016 - Soil-borne disease suppression and plant growth promotion by biochar soil amendments and possible mode of action, V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 66. JANDOUST SAMIRA, ABDOLALI SHOJAEIYAN, MAHDI AYYARI, SAHAR AMINKAR, 2019 - P40 Isolation and characterization of squalene monooxygenase by expressed sequence tag mining in bitter melon (*Momordica charantia* L.), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 67. JANSSEN D., C. GARCÍA, L. RUIZ, M. DE CARA-GARCÍA, A. SIMON, A. MARTINEZ, 2016 - Disease resistance in tomato crops produced in Spain. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 68. JIMÉNEZ RAQUEL, ALICIA PÉREZ-LORENTE, FRANCISCO PALMA, FÁTIMA CARVAJAL, AMADA PULIDO, MANUEL JAMILENA, DOLORES GARRIDO, 2019 - Implementation of an *Agrobacterium*-mediated transformation and regeneration protocol in *Cucúrbita pepo* (zucchini), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 69. KANTO T., K. WATANABE, K. UCHIHASHI, M. NISHINO, F. SATO, M. ARII, 2016 - Ultraviolet B radiation from a compact fluorescent lamp for tomato disease control. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 70. KARA S., S. TILIMISINA, M.A. JACQUES, N. POTNIS, G.V. MINSAVAGE, G.E. VALLAD, J. JONES, M. FISCHER-LE SAUX, 2016 - *Xanthomonas cynarae* shares its host range with a closely related species, *Xanthomonas gardneri*. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 71. KARABUYUK, F.Y. AYSAN, 2016 - Aqueous plant extracts as seed treatments on tomato bacterial speck disease,. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 72. KIM JINHEE, EUN SU LEE, DOSUN KIM, HYE-EUN LEE, JONG PIL HONG, MINKYONG KIM, JI-HYE MOON, 2019 - Development of high-throughput SNP marker set for screening cucumber seed quality, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 73. KIM SEONG CHEOL, MIN JU SHIN, CHUN HWAN KIM, CHAN-KVU LIM, HVUN JOO AN, JAYANNANAIAK BANAVATH, 2019 - Comparison of varieties for off-season production of bitter melon (*Momordica charantia* L.) in Korea, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;

74. KIRLI M.M., S. HORUZ, Y. AYSAN, S. TOPCU, 2016 - Management of bacterial speck of tomato in greenhouses under four individual polythene glazing materials, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
75. LAI YI-RU, CHIEN-JUI HUANG, 2019 - Probenazole induces systemic resistance in watermelon against bacterial fruit blotch, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
76. LAQUALE S., V. CANDIDO, T. D'ADDABBO, 2016 - Side effects of biostimulants against root-knot nematodes on tomato. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
77. LAURINDO B.S., R.D.F. LAURINDO, C.E. VITAL, P.P. FONTES, D.L. SILVA, M.C.B. PEREIRA, D.J.H. SILVA, 2016 - Proteomics analyses associated with resistant and susceptible tomato genotypes to late blight, V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
78. LEBEDA ALES, EVA KRISTKOVA, BOZENA SEDLAKOVA, 2019 - Virulence variation of *Pseudoperonospora cubensis* on the level of pathotypes and races, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
79. LEE EUN SU, JINHEE KIM, DO-SUN KIM, HYE-EUN LEE, YE-RIN LEE, MINKYONG KIM, OAKJIN LEE, 2019 - Development of the SNP marker set for the efficient *Cucurbita* spp. background selection in breeding, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
80. LEE OAK JIN, JI HYE MOON, SANG GYU KIM, DAE YOUNG KIM, SUN YI LEE, 2019 - Evaluation of powdery mildew resistance at seedling stage in pumpkin (*Cucurbita moschata*), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
81. LIU WEN GE, CHENGSHENG GONG, SHENGJIE ZHAO, XUQIANG LU, NAN HE, HONGJU ZHU, PINGLI YUAN, BINGBING LI, 2019 - Chemical composition and gene preliminary mapping of epicuticular wax on watermelon fruit, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
82. LIU WEN GE, HONGJU ZHU, XUQIANG LU, XUQIANG LU, SHENGJIE ZHAO, NAN HE, LIHUA GENG, 2019 - The mechanism of resistance to *Fusarium oxysporum* f. sp. Niveum race 1 in tetraploid watermelon, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
83. LIU WENGE, BINGBING LI, XUQIANG LU, JUNLING DOU, ASLAM ALI, LEI GAO, SHENGJIE ZHAO, NAN HE, 2019 - Construction of a high-density genetic map and mapping of fruit traits in watermelon (*Citrullus Lanatus* L.) based on whole-genome resequencing, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
84. LIU WENGE, HONGJU ZHU, SHENGJIE ZHAO, XUQIANG LU, NAN HE, 2019 - Variation of DNA methylation patterns associated with gene expression in tetraploid watermelon exposed to sodium, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
85. LOUWS F.J., 2016 - Evaluation of biopesticides and biorationals on bacterial canker and bacterial spot disease levels in tomato fresh-market production in North Carolina. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
86. LOUWS F.J., D. SUCHOFF, J. KRESSIN, D. PANTHEE, J. DRIVER, C. GUNTER, 2016 - Integrating grafting and emerging products to manage soilborne diseases of tomato. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
87. MARINESCU GH., COSTACHE M., STOENESCU A., 1986 - Bolile plantelor legumicole. Ed. Ceres București (Diseases of vegetable plants. Ed. Ceres Bucharest);
88. MENZEL W., S. WINTER, 2016 - B-Fast ELISA: application of a new ELISA technique for the rapid detection of *Pepino mosaic virus*, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
89. MITRA DEBLINA, YULA SHNAIDER, AMALIA BAR-ZIV, YARIV BROTMAN, RAFAEL PERL TREVES, 2019 - Transcript and metabolic profiles distinguish cucumber ovary fates and suggest candidate genes for fruit set control, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;

90. MOON JIHVE, SANGGVU KIM, OAKIIN LEE, DAEVOUNG KIM, SUNVI LEE, KIHWAN SONG, 2019 - Screening of low temperature tolerance in bottle gourd and wild watermelon resources for watermelon rootstock, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
91. MORENO-FÉLIX M.L., E.A. RODRÍGUEZ-NEGRETE, N. MELÉNDREZ-BOJÓRQUEZ, E. CAMACHO-BELTRÁN, N.E. LEYVA-LÓPEZ, J. MÉNDEZ-LOZANO, 2016 - A new isolate of *Pepper huasteco yellow vein virus* (PHYVV) breaks geminivirus tolerance in tomato (*Solanum lycopersicum*) commercial lines, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
92. MOYA-HERNÁNDEZ ARACELI, ELSA BOSQUEZ-MOLINA, JOSÉ RAMÓN VERDE-CALVO, GERARDO BLANCAS - FLORES, 2019 - Physiological and biochemical changes of *Cucurbita ficifolia* Bouché during its development and its hypoglycemic effect, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
93. MYRTA, A. SANTORI, M.J. ZANÓN, N. TSIMBOUKIS, R. DE VRIES, N. DE TOMMASO, 2016 - Effectiveness of dimethyl disulfide (DMDS) for management of root-knot nematode in protected tomatoes in southern Europe, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
94. NADENDLA SANDHYA RANI, T. SWAROOPA RANI, PAPA RAO VAIKUNTAPU, RAJESH RAO MADDU, APPA RAO PODILE, 2018 - HarpinPss encapsulation in chitosan nanoparticles for improved bioavailability and disease resistance in tomato, Carbohydrate Polymers, Volume 199, 2018, Pages 11-19, ISSN 0144-8617, <https://doi.org/10.1016/j.carbpol.2018.06.094>;
95. NIZAN. SHAHAR, KATYA PASHKOVSKY, GOLAN MILLER, ARIE AMITZUR, MICHAEL NORMANTOVICH, AMALIA BAR-ZIV, RAFAEL PERL TREVES, 2019 - Protein interactions and functional validation of Fusarium wilt and potyvirus resistance genes in melon, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
96. NOU ILLSUP, RAFIQUUL ISLAM, MOHAMMAD RASHED HOSSAIN, HOYTAEK KIM, JONG-IN PARK, BEOM- SEOK PARK, 2019 - Identification of bacterial fruit blotch resistant melon genotypes and development of molecular markers for melon host specific *Acidovorax citrulli* and cucurbit host specific *Acidovorax avenae* sp. Avenae, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
97. ORTEGA MARGARITA GISELA PEÑA, NORBERTO LÓPEZ-MÁRQUEZ, JOSE LUIS RODRIGUEZ DE LA O, MA. DE LOURDES MARTÍNEZ-CÁRDENAS, 2019 - Molecular characterization of 'wereke' (*Ibervillea sonora* Greene) natural populations, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
98. PAN YUPENG, YIQUN WENG, ZHIHUI CHENG, 2019 - The genetic architecture of round fruit shape in cucumber: pinpoint from several examples, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
99. PARIS HARRY S., TERESA LUST, 2019 - Origin of the Zucchini Squash, *Cucurbita pepo* subsp. *pepo* Zucchini Group. VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
100. PEREIRA R.B., J.B. PINHEIRO, J.L. DE MENDONÇA, J.A. GUIMARÃES, G.C. LUCAS, 2016 - Evaluation of resistance of *Solanum scuticum* accessions to soil-borne pathogens in tomato crops in Brazil, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
101. PÉREZ-DE-CASTRO ANA, EMILIO MARTÍNEZ DE ALBA, CRISTINA SÁEZ, ALEJANDRO FLORES, ALICIA SIFRES, MARÍA LUISA GÓMEZ-GUILLAMÓN, CARMELO LÓPEZ, MARÍA BELÉN PICÓ SIRVENT, 2019 - Incidence and genetic diversity of cucurbit viruses in Spain, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
102. PRISTIJONO PENTA, MICHAEL BOWYER, JOHN GOLDING, 2019 - An alternative method to maintain the quality of cucumbers with pre-storage UV-C treatment, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
103. QIN KUAN, DANIEL LESKOVAR, 2019 - Organic soil amendments with humic substances improved watermelon yield and soil quality in southwest Texas, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
104. RUFIÁN J.S., A.P. MACHO, C.M. GUEVARA, A. LUCÍA, C.R. BEUZÓN, J. RUIZ-ALBERT, 2016 - Effectors from the YopJ/HopZ/AvrBsT group: suppression of effector-triggered immunity and contribution to virulence in tomato and other plants of

- agronomic relevance, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
105. SAMARAS A., K. EFTHIMIOU, E. ROUMELIOTIS, G.S. KARAOGLANIDIS, 2016 - Biocontrol potential and plant-growth-promoting effects of *Bacillus amyloliquefaciens* MBI 600 against *Fusarium oxysporum* f. sp. *radicis-lycopersici* on tomato. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 106. SCHOUTEN HENK, JEROEN BERG, FREDDY HERMANS, WIM VRIEZEN, YULING BAI, 2019 - Identification of candidate genes for quantitative downy mildew resistance in cucumber UV-C light to control powdery mildew in cucumbers, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 107. SEEPIBAN C., S. CHAROENVILASIRI, N. WARIN, A. BHUNCHOTH, O. CHATCHA WANKANPHANICH, O. GAJANANDANA, 2016 - Occurrence and distribution of tospovirus and thrips species infecting tomato crops in Thailand, W.M. WINTERMANTEL, L.L. HLADKY, A.A. CORTEZ, 2016, Genome sequence, host range, and whitefly transmission of the tospovirus *Tomato necrotic dwarf virus*. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 108. SHEIKH A., V. NTOUKAKIS, 2016; Mitogen-activated protein kinase activation after effector recognition in tomato, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 109. SHIN MINIU, SEONG CHEOL KIM, CHUN HWAN KIM, CHAN-KVU LIM, HVUN JOO AN, JAVANNANAIAK BANAVATH, 2019 - Effect of high temperature during winter on the growth of bitter melon in South Korea, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 110. SHOJAEIYAN ABDOLALI, SAHAR AMINKAR, 2019 - Mining SSRs from expressed sequence tags databases for cystosterol biosynthesis genes in snake melon (*Cucumis melo* var. *flexuosus*), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 111. SHTIENBERG D., O. FRENKEL, Y. REKAH, O. DROR, F. ABU-MOCH, S. MANULIS-SASSON, 2016 - The prevalence, aggressiveness and survival of *Clavibacter michiganensis* subsp. *michiganensis* strains associated with different genetic groups in Israel, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 112. SKARZYNSKA AGNIESZKA, MAGDALENA PAWELKOWICZ, MARIA SZWACKA, GRZEGORZ BARTOSZEWSKI, WOJCIECH PLADER, 2019 - Comparative genomics of cucumber lines obtained by transgenesis and regeneration in vitro, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 113. SOLIS JUAN MARTINEZ, JUAN MARTÍNEZ JUÁREZ, JESSICA CABRERA, 2019 - Relationship between seed vigor test and field performance of two cucurbits, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 114. SOLIS JUAN MARTINEZ, KRISTIAN MADRID, 2019 - Effect of pre-chilling in cucumber and zucchini seed germination and vigor, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 115. SRIMAT SUPORN PUN, SUWANNEE LAENOI, JANG SUK-WOO, NARINDER DHILLON, 2019 - Screening of pumpkin breeding populations against potyviruses and geminiviruses, and for key fruit traits, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 116. SUI X., R. LI, C. PADMANABHAN, K.-S. LING, 2016 - Molecular, serological, and biological characterization of the emerging *Tomato mottle mosaic virus* on tomato, . V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
 117. SUN XIAOWU, SI GONG, TIAN ZOU, 2019 - Study on the technology of unfertilized ovary culture in watermelon, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
 118. TADMOR YAAKOV, NOAM CHAYUT, ARTHUR SCHAFFER, NURIT KATZIR, EFRAI, LEWIN SOHN, AMIT, 2019 - KEYNOTE: Carotenogenic lessons from our product-oriented research of cucurbits, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;

119. THOMAS ANDRES, HARRY S. PARIS, 2019 - Ancient origin of bicolor fruit in *Cucurbita moschata*. VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
120. TIRA-UMPHON ARAK, NATTHA NITWATTHANAKUL, 2019 - Evaluation of factors affecting to callus formation in unpollinated ovary culture of melon (*Cucumis melo* L.), VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
121. UNLU ABDULLAH, MINE UNLU, H. FILIZ BOYACI, RANA KURUM, ILKNUR POLAT, AYTUL KITAPCI, A. NACI ONUS, 2019 - Definition of genetic diversity in melon breeding population created by using PMR6 for resistance of *Podosphaera xanthii*, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
122. VAN LAETHEM SOFIE, RUDI AERTS, MARIO FRANS, STEFAAN FABRI, RAF DE VIS, STEFAN VAN KERCKHOVEN, ANNELEEN PAELEMEN, PETER BLEYAERT, SOFIE VERHELST, JUSTINE DEWITTE, JOHAN CEUSTERS, 2019 - Epidemiology and management of *Didymella bryoniae* causing internal fruit rot in cucurbits: inoculum sources, spore production and dispersal, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
123. VANNINEN IRENE, 2019 - KEYNOTE: New developments and challenges of cucumber production in western and northern countries, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
124. VITTI A., E. PELLEGRINI, C. NALI, S. LOVELLI, A. SOFO, M. VALERIO, A. SCOPA, M. NUZZACI, 2016 - Physiological and biochemical response of tomato plants treated with *Trichoderma harzianum* T-22 and infected by *Cucumber mosaic virus*. V International Symposium on Tomato Diseases: Perspectives and Future Directions in Tomato Protection, Malaga, Spain 13/06/16 → 16/06/16, Acta Horticulturae, 1207, ISSN (Electronic) 2406-6168;
125. YANG XINGPING, XIEFENG YAO, LINGLI ZHU, JINGHUA XU, MAN ZHANG, RUNSHEN REN, GUANG LIU, JIAN XU, 2019 - Screening of muskmelon germplasms for gummy stem blight resistance under greenhouse condition, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
126. YAO XIEFENG, LINGLI ZHU, JINHUA XU, MAN ZHANG, RUNSHEN REN, GUANG LIU, JIAN XU, XINGPING YANG, 2019 - Characterization of the melon seedling infection process by *Didymella bryoniae* tagged with GFP, VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July;
127. ZHANG XIAN, HAO LI, 2019 - Melatonin, calcium signal and hydrogen peroxide interactions on the breaking of abscisic acid-induced seed dormancy in *Cucumis melo* L., VI-th International Symposium on Cucurbits, Ghent, Belgium, 30 June – 4 July.

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