PROMOTING WORLD-WIDE PLANT HEALTH AND FOOD SECURITY

INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

ISPP NEWSLETTER

ISSUE 51 (3) MARCH 2021

Editor: Daniel Hüberli (**email**)

Join the ISPP **mail list**

The International Society for Plant Pathology promotes the world-wide development of plant pathology and the dissemination of knowledge about plant diseases and plant health management

IN THIS ISSUE:

CALL FOR BIDS TO HOST THE 13TH INTERNATIONAL CONGRESS OF PLANT PATHOLOGY, ICPP2028

Associated Societies of ISPP are invited to present bids to host the 13th International Congress of Plant Pathology in 2028. Traditionally the ICPP is held in August.

ISPP councillors are urged to consider and discuss this opportunity with their Society.

The deadline for receipt of bids is 31 August, 2021. They should be sent to the Business Manager of ISPP, with c.c. to the Secretary ISPP, as e-mail attachments and/or Web addresses.

Andrea Masino

Business Manager, International Society for Plant Pathology
business.manager@isppweb.org

Dr Brenda Wingfield
Secretary-General, International Society for Plant Pathology
ispp.secretary@isppweb.org

If a Society is considering a bid for the 13th International Congress of Plant Pathology, 2028, please read the bid and congress guidelines and requirements carefully. They can be accessed here.

POSTPONED CONFERENCE DUE TO COVID-19

In order to protect the health, safety and well-being of our international community from COVID-19 some conferences and workshops have been postponed or changed to virtual meetings. Affected meetings with cancellations or new dates, where confirmed, are listed here. These changes have also been updated in the Coming Events list. Please let me know of any date changes that I may have missed.

- 16th Congress of the Mediterranean Phytopathological Union has been postponed with new dates to be announced.
- International Plant & Animal Genome XXIX has been further postponed to 8 -12 January, 2022.
- International Plant Health Conference "Protecting Plant Health in a changing world" has been cancelled with a new possible date of the week of 12 May 2022.

PLANT DISEASES CHANGED THE WORLD - A NEW PODCAST

ANDREA MASINO

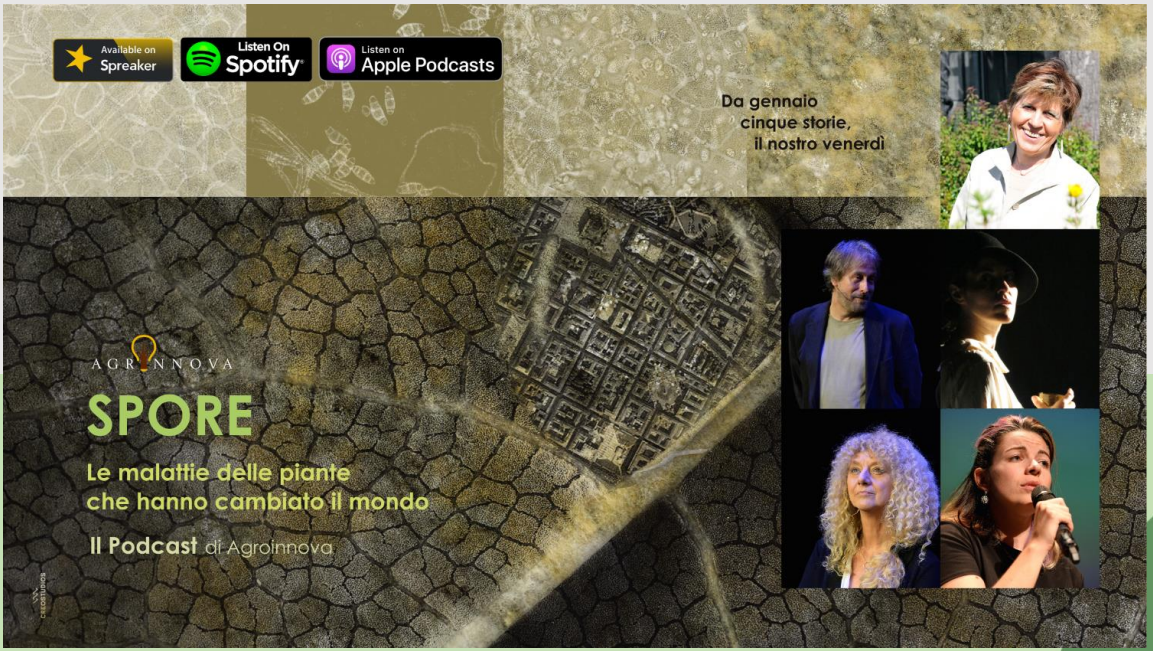
The weekly publication of the podcast "Spore" ended with "*Xylella* destroys olive trees in Puglia" on 19th February: the podcast talks about five stories, five plant diseases that have upset the world's economies and societies. A trip into the past, into the present and even a little into the future through five episodes freely taken from the book "Spore" (Daniela Piazza Editor) written by Maria Lodovica Gullino, Director of Agroinnova, the Centre of Competence for the innovation in the agro-environmental field of the University of Torino in Italy.

Thanks to the collaboration with the Tangram Theater of Torino, "Spore - the Podcast" makes use of wonderful voices and succeeds in perfectly enthusing the listeners through historical-scientific notions, songs and poems.

From 22nd January, every Friday, Agroinnova talked about tulip fever, the great economic crisis that affected Netherlands and its tulips in the 1600s; the destruction of basil 'Genovese' by the downy mildew in the early years of the new millennium; the radical changes in the agricultural economy of Sri Lanka, now known mainly for tea but once the main producer of coffee, until the arrival of the pathogen that causes the coffee rust; the great Irish famine of 1845 due to the attacks of the downy mildew on potatoes. The latest episode of "Spore" has been dedicated to the recent attack of the bacterium that destroyed the olive trees in the beloved region of Southern Italy.

The podcast "Spore" is distributed in Italian language and is available through the dedicated website (https://www.spreaker.com/show/spore), the Festival Plant Health 2020 (https://planthealth2020.di.unito.it/), Spotify and Apple Podcasts.

Agroinnova has a website (https://planthealth2020.di.unito.it/), a Facebook page (@lepiantealcentro) and an Instagram profile (@lepiantealcentro) to talk about stories, topics and activities with a focus on "Le Piante, al Centro".



NEW EBOOK PROVIDES LATEST INFORMATION ON WESTERN AUSTRALIAN SOIL TO IMPROVE AGRICULTURE OUTCOMES

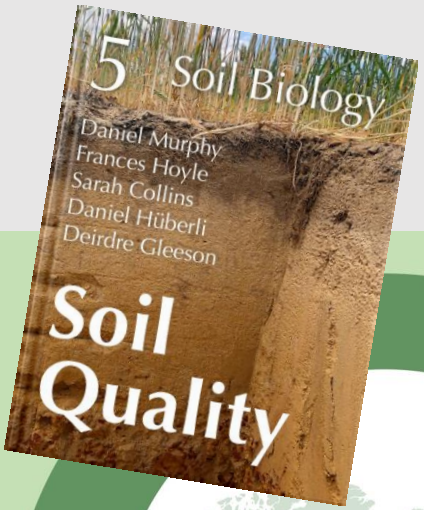
DPIRD AND UWA MEDIA RELEASE, 22 FEBRUARY 2021

Western Australian growers and agriculture industry representatives can access the latest information about soil fertility and soilborne diseases in a new digital publication Soil Quality: 5 Soil Biology. The Grains Research and Development Corporation (GRDC) and SoilsWest – a research partnership between The University of Western Australia (UWA) and the Department of Primary Industries and Regional Development (DPIRD) – worked together to publish the free ebook.

Authors and editor of the new Soil Biology ebook at the Research Updates 2021 launch from left to right Daniel Hüberli (DPIRD), Daniel Murphy (UWA), Deirdre Gleeson (UWA), Rowan Maddern (GRDC, one of the Soil Quality series editors), Sarah Collins (DPIRD), and Frances Hoyle (UWA).

Soil Quality: 5 Soil Biology is the fifth in a series of ebooks produced by SoilsWest, which focuses on soil quality for Western Australia and includes current knowledge on best practice soil techniques in an easy-to-navigate format. SoilsWest director and co-author of the book, UWA Associate Professor Frances Hoyle, said the publication would appeal to students, growers, consultants and academics. "There is a growing interest in the role of microorganisms in the soil that support key functions which underpin agriculture and other land related activities," Professor Hoyle said. "Soil is the building-blocks of what we eat, so for the agriculture sector to continue to thrive, it is important to explore ways to maintain and enhance our soil for future generations."

UWA Professor Daniel Murphy said the ebook outlined the multifunctional role of soil and its inhabitants. "It includes information on beneficial and disease-causing organisms and the influence of the environment and management on soil habitats which impacts soil production and resilience," Professor Murphy said. "The book features short videos and audio from consultants, farmers and research scientists about soil biology and regional perspectives on soilborne diseases and nematode pests."



GRDC Manager Agronomy, Soil and Farming Systems West Dr Rowan Maddern, said the ebook series was created in response to grower and industry demand for a platform that enabled them to read, listen and view soil management information from any location, including the tractor. "Topics covered by the ebooks, including those in the pipeline, cover a number of priority areas addressed in the GRDC current and previous investments in soil and nutrition management in WA," Dr Maddern said. "A highlight of the book design is that it includes not only research information about soil, but evidence-based industry and landholder perspectives of soil management challenges and solutions."

The Soil Quality: 5 Soil Biology ebook is available at no cost via Apple Books, along with the first four publications in the series.

ANNOUNCING THE PHYTOPATHOLOGY AND MPMI 2022 FOCUS ISSUES

Phytopathology will focus on Candidatus Liberibacter pathosystems, given their growing economic importance, broad impact on plant pathology, and potential importance to better management based on new knowledge of Ca. Liberibacter-plant-insect interactions. The focus issue editors are Elizabeth (Betsy) Pierson, Jaime Cubero, Judith K. Brown, Caroline Roper, and Nian Wang.

MPMI's 2022 focus issue draws from the Top 10 Unanswered Questions in MPMI and will focus on question number 2: How does abiotic stress, such as climate change, influence plant-microbe interactions? Learn more about this issue. The focus issue editors are Jacquie Bede, Kenichi Tsuda, and Jeanne Harris.

PLANT DOCTORS ACIAR VIDEO

In the Pacific, Australian Centre for International Agricultural Research (ACIAR) is investing in plant health in training over 200 Plant Doctors to work with smallholder farmers to improve regional biosecurity capacity. These Plant Doctors assist rural communities to quickly identify and combat emerging pests and diseases, helping reduce the loss of crops and further protect local food security.

Even during the COVID-19 pandemic, Plant Doctors were able to help farmers through the use of innovative technology like the PestNet App.

PANAMA DISEASE BREAKTHROUGH SPARKS US FUNDING

QUEENSLAND UNIVERSITY OF TECHNOLOGY NEWS, 17 FEBRUARY 2021

Queensland University of Technology (QUT) researcher Distinguished Professor James Dale and his team have successfully developed a line of Cavendish bananas resistant to Panama disease tropical race 4 (TR4). The development of the TR4 resistant line has led to a multi-million-dollar partnership with US-based international fresh fruit and vegetable leader, Fresh Del Monte. Professor Dale said the funding would enable his research team to build on this breakthrough research by using gene-editing CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) technology to now create a non-genetically modified variety of Cavendish, also resistant to TR4.

"While our success in developing a disease-resistant genetically modified line of Cavendish is a world-first achievement, this funding will enable us to develop the next generation of TR4 resistant Cavendish bananas," Professor Dale said.

Hans Sauter, Chief Sustainability Officer, and Senior Vice President, Research and Development, Agricultural Services for Fresh Del Monte said the company was addressing critical issues facing the banana industry as we speak. "We see the potential with these revolutionary technologies, and we are looking forward to putting these tools to work to solve real problems facing the world.

Professor Dale's research is conducted in Brisbane at QUT's Centre for Agriculture and the Bioeconomy, with the confined field trials conducted on a La Manna Premier Group (LPG) joint venture banana farm outside Darwin in the Northern Territory. He said the field trials showed that high expression of the gene RGA2 derived from a wild banana provides resistance to TR4 disease. Although RGA2 is also present in Cavendish it is not expressed.

"Our main gene editing strategy is to activate the expression of the RGA2 gene in Cavendish creating

a gene-edited banana resistant to TR4," Professor Dale said.

TR4 is a catastrophic disease with outbreaks leading to diminished crops across Asia, the Middle East and Africa and in 2019 was found in Colombia in Latin America, the region which accounts for about 85% of the world's export bananas. "With bananas being a staple food in many nations around the world, this disease has the potential to become a humanitarian issue," Professor Dale said.

He said until the 1950s the most common export banana worldwide was the Gros Michel, a variety that was obliterated by Panama disease race 1. "Scientists around the world are working to ensure Cavendish doesn't suffer the same fate."

The Fresh Del Monte and QUT research collaboration is staged with multiple phases over the next five years, ultimately resulting in novel commercial resistant banana variety releases. Both see this effort as the first step in leading future innovation in the banana sector.

AUSTRALIAN NATIONAL MYRTLE RUST SYMPOSIUM

The Australian National Myrtle Rust Symposium is coming up on 23-25 March 2021 (Eastern Australia Summer time), everyone is welcome, and registration is free. It will be a hybrid conference where key stakeholders come together in Ballina (NSW, Australia) to work through ways of implementing the National Action Plan, combined with an online event to share the latest research, activities and thinking to a broader audience.

The symposium will bring key stakeholders together to build a community of interest, share knowledge and build co-ordination and implementation of the National Action Plan. Presenters will share the latest research, response, surveillance and conservation activity, framed against the Action Plan. Workshop sessions and discussion will aim to maximise the effectiveness of the Plan in reducing the risk of new strain entering Australia, reduce the risk of greater spread, understand the impacts on both species and ecologies, and options for conservation of threatened species.

Already over 100 people have registered.

Register here.

NEMATOPHAGOUS FUNGI FROM HETERODERA SCHACHTII

A paper by Ying-Yu Chen *et al.* titled "Detection of nematophagous fungi from *Heterodera schachtii* females using a baiting experiment with soils cropped to *Brassica* species from California's central coast" was published on 25 October 2020 by *PhytoFrontiers* (vol. 1, pp. 4-12). The abstract is as follows:-

Until the early 1990s, cyst nematodes were bundant pathogens in fields where hosts of *Heterodera* spp. were frequent members of crop rotations along California's Central Coast. To mitigate damage caused by *Heterodera schachtii* and *H. cruciferae*, the soil fumigant 1,3-dichloropropene (1,3-D) was used by more than 43% of surveyed broccoli growers. Over the last few decades, use of 1,3-D and other nematicides has dramatically diminished, suggesting a decline in nematode disease pressure. The goal of this study was to examine the hypothesis that increased population densities of nematophagous fungi contribute to the low populations of Heterodera spp. in fields frequently cropped to their hosts. In 2016, soil samples were collected from 152 Brassica fields with a broad geographical distribution, from Santa Barbara County to Santa Cruz County. The average number of *Heterodera* cysts per 250 cm^3 of soil ranged from 0.5 to 27.5, with 62% of the soils harboring no detectable cyst nematodes and only a few samples reaching a potentially damaging threshold level. A baiting experiment with *H. schachtii* and cabbage was performed in a greenhouse to detect nematophagous fungi associated with nematode females as their posterior end emerged and became exposed to the soil's rhizosphere. An Illumina-based sequence analysis of these *H. schachtii* females identified several known nematophagous fungi, including members of the Hyalorbilia oviparasitica clade, Pochonia chlamydosporia, certain *Fusarium* spp., and others. These soils clearly harbor a diverse population of hyperparasitic fungi that could be biologically suppressing cyst nematodes below a damaging threshold.

Read paper.

LAB FOCUSES ON ADDRESSING EMERGING FOREST DISEASES

JUSTIN WHITMORE, MICHIGAN STATE UNIVERSITY NEWS, 18 FEBRUARY 2021

Michigan trees and the native and invasive diseases that attack them are at the center of research performed by Monique Sakalidis, Michigan State University (MSU) professor in the departments of Forestry and Plant, Soil and Microbial Sciences. Her lab develops molecular tools that identify pathogens within a few hours, a process that could take weeks using traditional methods. She works closely with the plant and pest diagnostic labs at MSU and the Michigan Department of Agriculture and Rural Development (MDARD) to move these tools into application.

Oak wilt symptoms: A) Dying red oak showing foliar wilt symptoms. B) Crack in the bark indicating mycelial mat presence. C) Nitidulid beetle visiting a mycelial mat. D) Gray spore containing mycelial mat and pressure pad (Photo credit: Monique Sakalidis, Michigan State University).

While she studies exotic pathogens, Sakalidis is also concerned with native pathogens that are becoming empowered by stress and climate change. "Increasing human influences, including climate change, put stress on our forests so that pathogens -- that are part of the natural forest ecosystem where they nibble away at declining trees to help the decaying process -- start to nibble away at relatively healthy trees," she said.

Through appointments in research, MSU Extension and teaching, she works alongside the DNR, MDARD and the U.S. Forest Service as they consistently survey forests and sites where trees and seedlings grow. "I'm focused on treating the diseases faced by Michigan trees," she said. "I work with issues that affect trees in forests across the state, small-holder forests, Christmas tree farms, seedling nurseries, urban trees and more recently chestnuts. My work really includes quite a broad purview."

Upon identifying a challenging tree health issue without an easy management solution, she works with partners to diagnose the issue and develop a research plan. "We have been working to develop better detection tools and understand the biology and spread of diseases such as oak wilt, Caliciopsis canker, Phytophthora root rot, and spruce decline here in Michigan," she said. "These diseases impact trees and seedlings in Michigan, in the U.S. and in some cases globally."

In addition to providing preventative advice, Sakalidis has constructed her lab to handle emergent issues as they arise. "Part of what I'm trying to develop in my lab is a pipeline of information, so if there is something new, we have a series of steps we can take to quickly say, 'hey, this is what it is and based on the characteristics of this disease we know what we can do next,' or 'we don't yet have the answers, and this is the research that is needed to find a solution,'" she said.

Read more.

CURRENT VACANCIES

No current vacancies.

ACKNOWLEDGEMENTS

Thanks to Tony Cooke, Grahame Jackson, Greg Johnson, Jan Leach, and Andrea Masino for contributions.

COMING EVENTS

7th International Conference of Pakistan Phytopathological Society
Postponed – date to be announced
University of Agriculture Faisalabad and Ayub Agricultural Research Institute, Faisalabad, Pakistan
Website: pakps.com/web/7icpps

16th Congress of the Mediterranean Phytopathological Union
Postponed – date to be announced
Limassol, Cyprus

Meeting of the 66th Annual Conference on Soilborne Plant Pathogens and the 51st Annual Statewide California Nematology Workshop
23 March - 24 March, 2021
To be held virtually on Zoom
Website: soilfungus.wsu.edu

Australian National Myrtle Rust Symposium
23 March – 25 March, 2021
Register: consol.eventsair.com/myrtle-rust/rego/Site/Register

International Symposium on Cereal Leaf Blights
19 May - 21 May, 2021
Hammamet, Tunisia
Website: www.isclb2021.com

BotrySclero Webinar
8 June - 10 June, 2021
Avignon, France
Website: colloque.inra.fr/botrytis-sclerotinia-2020

International Phytobiomes Conference 2021
14 September - 17 September, 2021
Denver, Colorado, USA
Website: phytobiomesconference.org/

13th Arab Congress of Plant Protection
31 October - 5 November, 2021
Le Royal Hotel, Hammamat, Tunisia
Contact: Dr. Asma Jajar, Chairperson of Organising Committee info@acpp-aspp.com
Website: acpp-aspp.com

Australasian Plant Pathology Society Conference – Staying Connected for Plant Health
23 November - 26 November, 2021
Online conference
Website: appsconference.com.au/home

International Plant & Animal Genome XXIX
8 January -12 January, 2022
San Diego, California, USA
Website: www.intlpag.org/2021/

10th International IPM Symposium
28 February - 3 March, 2022
Denver, Colorado, USA
Website: ipmsymposium.org/2021

7th International Congress of Nematology
1 May - 6 May, 2022
Antibes Juan-les-Pins, France
Website: www.alphavisa.com/icn/2020/index.php

International Plant Health Conference "Protecting Plant Health in a changing world"
Week of 12 May 2022
Location to be advised
Website: www.fao.org/plant-health-2020/events/events-detail/en/c/1250609/

4th International *Erwinia* Workshop
2 July - 3 July, 2022
Assisi, Italy
Website: www.icppb2020.com

14th International Conference on Plant Pathogenic Bacteria
3 July - 8 July, 2022
Assisi, Italy
Website: www.icppb2020.com

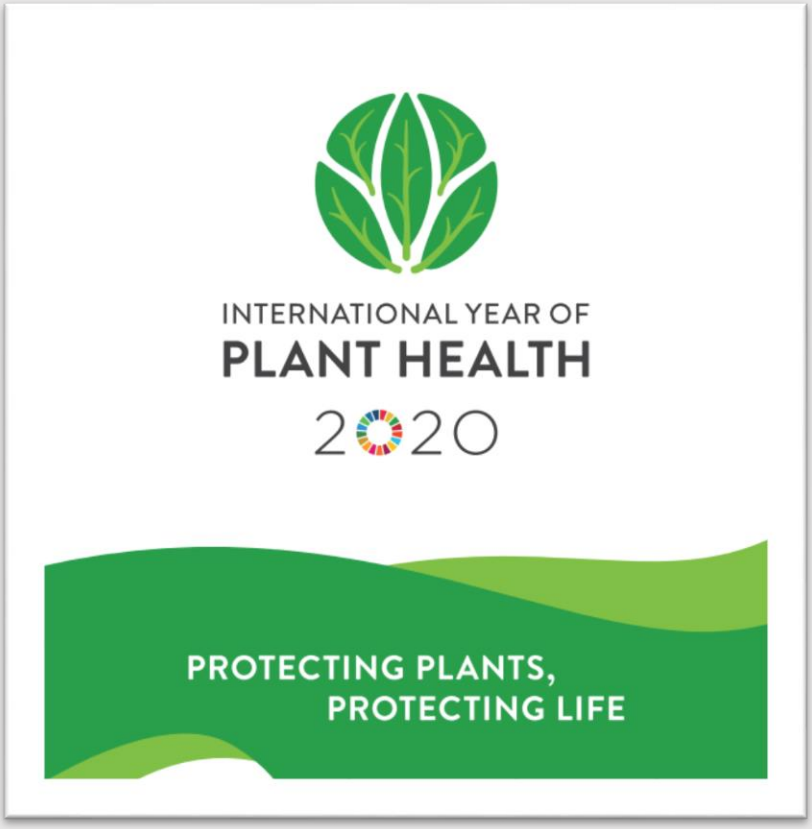
11th Australasian Soilborne Diseases Symposium
Mid-late 2022
Cairns, Queensland, Australia
Website: asds2020.w.yrd.currinda.com

XX International Plant Protection Congress
10 June - 15 June, 2023
Athens, Greece
Website: www.ippcathens2023.gr

12th International Congress of Plant Pathology (ICPP2023)
20 August - 25 August, 2023
Lyon, France
Website: www.icpp2023.org

9th ISHS International Postharvest Symposium
11 November – 15 November, 2024
Rotorua, New Zealand
Website: scienceevents.co.nz/postharvest2024

INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY (ISPP)



WWW.ISPPWEB.ORG

The ISPP List is an e-mail list server which broadcasts messages and announcements to its subscribers. Its goal is to facilitate communication among members of the International Society for Plant Pathology and its Associated Societies. Advertised vacancies in plant pathology and ISPP Newsletter alerts are also sent to members of the ISPP List.

In accordance with the guidelines and recommendations established by the new EU General Data Protection Regulation 679/2016 (GDPR), the International Society for Plant Pathology has created a Privacy Information Notice containing all the information you need to know about how we collect, use and protect your personal data.

This policy explains when and why we collect personal information about our users, how we use it, the conditions under which we may disclose it to third parties, how we keep it safe and secure and your rights and choices in relation to your personal information.

Should you need further information please contact business.manager@issppweb.org

SUBSCRIBE OUR NEWSLETTER