



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



PROMOTING WORLD-WIDE PLANT HEALTH AND FOOD SECURITY

INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

ISPP NEWSLETTER

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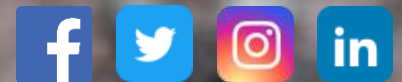
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INTRODUCING THE INFECTARIUM AT UNIVERSIDADE FEDERAL DE VIÇOSA, BRAZIL

ROBERT W. BARRETO, PLANT PATHOLOGY DEPARTMENT, UNIVERSIDADE FEDERAL DE VIÇOSA, BRAZIL



Partial aerial view of the Infectarium (Photo credit: Robert W. Barreto, UFV).

“A STROLL AMONGST THE DIVERSITY OF PLANTS CULTIVATED BY HUMANS, AND THE DISEASES THAT ATTACK THEM.”

Recently inaugurated, the Infectarium at the Universidade Federal de Viçosa (UFV) in Brazil is possibly the sole existing garden designed specifically as a training tool in plant pathology. It is significantly larger (6500 m²) than the small (100 m²) pioneering “plant disease plot” at the University of Exeter, Devon, UK which was established by S. A. J. Tarr, but no longer maintained.

Environmental conditions at Viçosa (state of Minas Gerais, Brazil) are warm temperate allowing for the cultivation of crops ranging from equatorial (eg –

cocoa and rubber) to temperate (eg – oats and apple). There are a total of 190 cultivated plant species, and the collection is growing. It also serves as an economic botany demonstration garden.

The collection includes cereals, vegetables, fruit crops, spices, ornamentals, oil and energy crops, fiber and forestry crops. There are 20 plots with infested soil from important soil pathogens including bacteria, nematodes, fungi and a virus (TMV). Major diseases of crops commonly present depending on weather conditions and crop availability include potato blight, soybean rust, sugarcane smut, papaya ringspot, and bacterial wilt of tomato.

The gardens offers an opportunity for students and the general public to have direct contact with the plants that feed, stimulate, dress and provide energy and building materials – from major crops to unconventional minor crops. It is used as field classes for students at the Plant Pathology Department of the Universidade Federal de Viçosa (UFV).

Serving as a ‘sentinel garden’, the infectarium indicates the arrival or presence of plant diseases

which, as yet, have remained undetected in Brazil or are new diseases. A total of 13 new published reports of diseases on crops are based on observations from the Infectarium with several more reports to follow (see www.infectario.ufv.br/novidades-fitopatologicas).

More information: visit www.infectario.ufv.br.



Disease symptoms from the Infectarium including A) cercospora leaf spot of yellow yam, B) brown spot of rice, C) leaf spot of peanuts, D) anthracnose of *Solanum jillo*, and E) southern blight of beetroot (Photo credits: Robert W. Barreto, UFV).

OBITUARY OF GIOVANNI PAOLO MARTELLI, 1935-2020

MARC FUCHS AND LUISA RUBINO

Giovanni Paolo Martelli, Emeritus Professor of the University "Aldo Moro" of Bari, Italy, passed away on 8 January 2020. He was a recognised authority on plant virology, and in particular on viruses and virus diseases of grapevines. More recently, he documented the causal role of the bacterium *Xylella fastidiosa* in olive quick decline in southern Italy.

Born in Palermo, on 17 January 1935, he graduated *cum laude* in Agricultural Sciences in 1956 from the University of Bari, where he spent most of his career, being appointed full professor in 1973 and holding the chair of Plant Virology from 1980 to his retirement in 2010.

G. P. Martelli identified and characterised many viruses and virus diseases of vegetables, fruit trees, ornamentals and weeds. He had a keen interest for the study of the cytopathology of virus infections, as well as for virus taxonomy. He co-authored the description of more than 50 new virus species, genera and families, and was an active member of the International Committee on Taxonomy of Viruses (ICTV) since 1978 and a "Life member" of the Executive Committee of ICTV since 1999. While serving as chair of the ICTV Plant Virus Subcommittee he promoted the adoption of the taxonomic system based on family-genus-species. He published more than 300 research papers in international refereed journals and many additional written contributions for a total over 600 scripts. He served as the Editor-in-Chief of the *Journal of Plant Pathology*, the official journal of the Italian Society for Plant Pathology, from 2002 to 2020.

G. P. Martelli was President of the International Council for the Study of Viruses and Virus Diseases of the Grapevine (ICVG) from 1987 to 2018, the Associazione Fitopatologica Italiana (1980-1986) and the Italian Society for Plant Pathology (2002-2004). He chaired the ISHS International Working Group on Vegetable Viruses (1979-81). He was named a Fellow of the American Phytopathological Society in 1997. He was also a member of prestigious Italian Academies, among which Accademia Nazionale dei Lincei and Accademia dei Georgofili. In recognition of his scientific merit, Professor Martelli was honoured with numerous awards, among which a gold medal by the Académie d'Agriculture de France and the "F. Maseri-Florio World Prize for Distinguished Research in Agriculture".

G. P. Martelli will be always remembered as a pioneer scientist, an outstanding mentor and a true gentleman.

More detailed obituary in the [Journal of Plant Pathology](#).



DRONE TECHNOLOGY DETECTS TWO TOMATO DISEASES

BRAD BUCK, [UF/IFAS BLOGS](#), 13 JANUARY 2020

New technology being developed by scientists from the University of Florida identifies two dangerous tomato diseases with 99 percent accuracy. This finding is critical because these diseases can cost growers millions of dollars annually in the state's third most valuable crop. Thus, the earlier farmers detect those ailments, the better their chances of treating them before the diseases cause excessive damage.

To help tomato growers – and perhaps eventually other farmers – find diseases early and accurately, two UF/IFAS researchers used images from drone technology to see if they could distinguish between two perilous tomato diseases, target spot caused by the fungus *Corynespora cassicola* and bacterial spot (BS) caused by *Xanthomonas perforans*.

For the new study, Roberts and Yiannis Ampatzidis, researchers at the UF/IFAS Southwest Florida Research and Education Center, flew drones over experimental tomato farms at the facility. The unmanned aerial vehicles took images of the crop and, from those pictures, the scientists were able to identify the diseases.

Through technology called a “multilayer perceptron neural network,” the scientists differentiated between bacterial spot and target spot, and did so with nearly perfect accuracy.

The results from the study are published in the journal [Precision Agriculture](#).

MOST INFLUENTIAL PUBLICATIONS BY CHINESE RESEARCHERS

To celebrate Chinese New Year, Springer Nature have curated a collection of the most recent influential publications by Chinese researchers including 500+ highly cited papers and most downloaded/cited book chapters. All articles and chapters are free to read until the end of February, 2020. Open access content is freely available at any time.

[Read papers and chapters.](#)

PACIFIC PESTS AND PATHOGENS APP, MOBILE VERSION 8

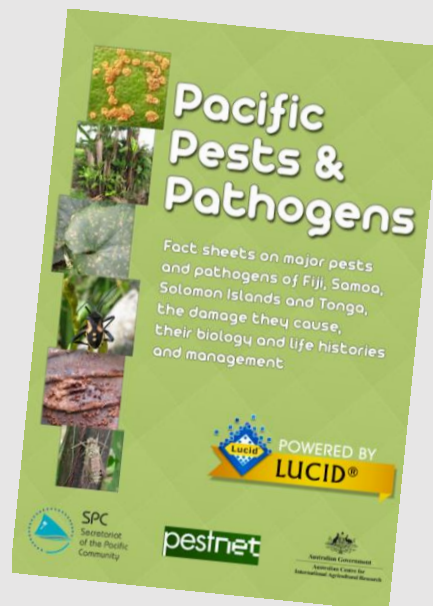
GRAHAME JACKSON, 30 DECEMBER
2019

The mobile versions of the [Pests and Pathogens app](#) is available at the Google and Apple stores. Download version 8 for free and take advantage of the extra 40 fact sheets, bringing the total pests described to 441.

Although the app is directed towards Pacific island countries, it does contain many pests and pathogens of worldwide distribution, and those not in Pacific island countries to which they are vulnerable, so hopefully the app will be useful in other regions.

However, if your favourite pest is not there, contact Grahame Jackson.

The next edition will concentrate on weeds.



INTERNATIONAL YEAR OF PLANT HEALTH IN AUSTRALIA

MANDY GYLES, PLANT HEALTH AUSTRALIA

The International Year of Plant Health is being celebrated throughout 2020. To promote the year in Australia a central website has been created as a hub of information - planthealthyear.org.au.

The site provides tips on how you can protect plants from pests and diseases, a calendar of events along with news and stories about plant health in Australia.

If you know of any events to add to the calendar, please send them through to media@phau.com.au. Also good plant health stories are welcomed.



WILD TOMATOES RESIST DEVASTATING BACTERIAL CANKER

KRISY GASHLER, CORNELL UNIVERSITY NEWS, 16 JANUARY 2020

Many tomato growers are familiar with the scourge of bacterial canker – the wilted leaves and blistered fruit that can spoil an entire season’s planting. For those whose livelihoods depend on tomatoes, this pathogen – *Clavibacter michiganensis* – is economically devastating.

In a new paper in the journal *Phytopathology*, researchers from Cornell University showed that wild tomato varieties are less affected by bacterial canker than traditionally cultivated varieties. Recently, plant breeders have identified wild tomatoes in the Andes Mountains region of South America, that seem to be less susceptible to bacterial canker and are resistant to other pathogens.

The team found that in cultivated species, bacterial canker spreads everywhere, while in wild species the bacteria remain confined to certain xylem vessels without moving much into surrounding tissues. This is the first study ever confirming that wild tomatoes are susceptible to bacterial canker, though the infection is less severe than in cultivated varieties. But while a severe infection causes fewer symptoms in the wild plant, it can still cause lesions on the fruit.

[Read more.](#)

PLANTS FOUND TO SPEAK NEMATODE'S LANGUAGE

MICHAEL J. HAAS, BOYCE THOMPSON
INSTITUTE NEWS, 10 JANUARY 2020

New research has found that plants manipulate the nematodes pheromones to repel infestations, providing insights into how farmers could fight these pests. Led by Boyce Thompson Institute faculty member Frank Schroeder, the group studied a group of chemicals called ascarosides, which the worms produce and secrete to communicate with each other. As described in a [paper](#) published in *Nature Communications* in January, the researchers have shown that plants also “talk” to nematodes by metabolising ascarosides and secreting the metabolites back into the soil.

“It’s not only that the plant can ‘sense’ or ‘smell’ a nematode,” Schroeder said. “It’s that the plant learns a foreign language, and then broadcasts something in that language to spread propaganda that ‘this is a bad place’. Plants mess with nematodes’ communications system to drive them away.”

[Read more.](#)



These tomato roots have been infected with southern root-knot nematodes (*Meloidogyne incognita*). The microscopic nematodes form galls or “knots” where they feed, ultimately stunting the plants and reducing yield (Photo credit: BTI/Murli Manohar).

FOCUS ON CELL BIOLOGY OF VIRUS-PLANT AND VIRUS-VECTOR INTERACTIONS

AIMING WANG, TESSA M. BURCH-
SMITH, AND YI LI, MOLECULAR PLANT-
MICROBE INTERACTIONS, JANUARY
2020

A successful viral infection requires complex, compatible molecular interactions between the invading virus and the host. A better understanding of such interactions may assist in the development of novel approaches to control viral diseases for sustainable crop production. In the past decade, the cell biology of virus-host and virus-vector interactions has been one of the most exciting areas of research in the molecular plant-microbe field. This is partially attributed to the availability of powerful cell biology techniques, including imaging tools like confocal microscopy and electron microscopy and tomography. As a result, there has been an unprecedented increase in knowledge in the areas of the bi- and tripartite interactions of virus, host, and vector. We now have a much clearer picture of viral virulence mechanisms, virus-induced host defenses, viral counteracting strategies, and viral circulations in the insect vectors. This Focus Issue highlights molecular virus-plant and virus-vector interactions in the areas of cell biology and closely related disciplines and explores biotechnology-based antiviral strategies using knowledge generated from these research areas.

[Read Issue.](#)

CURRENT VACANCIES

No current vacancies.

ACKNOWLEDGEMENTS

Thanks to Robert W. Barreto, Marc Fuchs, Mandy Gyles, Grahame Jackson, Greg Johnson, Jan Leach, and Luisa Rubino for contributions.

COMING EVENTS

45th Annual Conference of the Nigerian Society for Plant Protection

15 March - 19 March, 2020
University of Uyo, Main campus, Akwa Ibom, Nigeria
Website: nsppnigeria.org

6th International Symposium on Head Blight

23 March - 26 March, 2020
Banff, Alberta, Canada
Website: www.isfhb.com

16th Congress of the Mediterranean Phytopathological Union

23 March - 27 March, 2020
Limassol, Cyprus
Website: cyprusconferences.org/mpu2020

66th Annual Conference on Soilborne Plant Pathogens (formerly Soil Fungus Conference) and the 51st Annual Statewide California Nematology Workshop

25 March - 27 March, 2020
San Luis Obispo, California, USA
Website: soilfungus.wsu.edu

7th International Bacterial Wilt Symposium

29 March - 3 April, 2020
Montevideo, Uruguay
Website: 7ibws2020.fq.edu.uy

7th International Congress of Nematology

3 May - 8 May, 2020
Antibes Juan-les-Pins, France
Website: www.alphavisa.com/icn/2020/index.php

14th International Conference on Plant Pathogenic Bacteria

7 June - 12 June, 2020
Assisi, Italy
Website: www.icppb2020.com

Joint 18th International *Botrytis* Symposium & 17th International *Sclerotinia* Workshop

8 June - 12 June, 2020
Avignon, France
Website: colloque.inra.fr/botrytis-sclerotinia-2020

4th International Conference on Global Food Security

16 June - 19 June, 2020
Montpellier, France
Website: www.globalfoodsecurityconference.com

Plant Health 2020 – APS Annual Meeting

8 August - 12 August, 2020
Denver, Colorado, USA
Website: www.apsnet.org/meetings/annual/planthealth2020/Pages/default.aspx

Asian Conference on Plant Pathology: Importance and Impact of Global Plant Health

15 September - 18 September, 2020
Tsukuba International Congress Center, Ibaraki, Japan
Website: <https://acpp2020.org/>

International Plant Health Conference "Protecting Plant Health in a changing world"

5 October - 8 October, 2020
Paasitorni Conference Centre, Helsinki, Finland
Website: <https://www.ipphc.int/en/iypc/chronology/international-conference-on-plant-health/>

13th Arab Congress of Plant Protection

1 November - 6 November, 2020
Le Royal Hotel, Hammamat, Tunisia
Contact: Dr. Asma Jajar, Chairperson of Organising Committee info@acpp-aspp.com
Website: acpp-aspp.com

IX International Postharvest Symposium

9 November - 13 November, 2020

Rotorua, New Zealand

Website: scienceevents.co.nz/postharvest2020

11th Australasian Soilborne Diseases Symposium

24 November - 27 November, 2020

Cairns, Queensland, Australia

Website: asds2020.w.yrd.currinda.com

**7th International Conference of Pakistan
Phytopathological Society**

29 November - 1 December, 2020

University of Agriculture Faisalabad and Ayub
Agricultural Research Institute, Faisalabad, Pakistan

Website: pakps.com/web/7icpps

**12th International Congress of Plant Pathology
(ICPP2023)**

20 August - 25 August, 2023

Lyon, France

Website: www.icpp2023.org



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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

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