INTERNATIONAL NEWSLETTER ON PLANT PATHOLOGY ISPP Newsletter
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News and announcements from all on any aspect of Plant Pathology are invited for the Newsletter. Contributions from the ISPP Executive, Council and Subject Matter Committees, Associated Societies and Supporting Organisations are requested.

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ISPP President's Message for 2015

For the International Society for Plant Pathology, 2014 has been a year of many significant and useful meetings - including the 3rd International Conference of Pakistan Phytopathological Society in Karachi, Pakistan in January, the 13th International Congress of Plant Pathogenic Bacteria in Shanghai, China in June, the XVI Congress of the International Society of Molecular Plant-Microbe Interactions (IS-MPMI 2014) on Rhodes Island, Greece in July, the 10th International Mycological Congress (IMC10) in Bangkok, Thailand in August, the joint congress of the 14th International Mediterranean Phytopathological Union and the International Society of Mycotoxicology (Mediterranean Branch) in Turkey in August, the 11th European Foundation for Plant Pathology (EFPP) Conference in Krakow, Poland in September, the 5th Asian Conference on Plant Pathology in Chiang Mai, Thailand and the 11th Arab Congress of Plant Protection in Amman Jordan in November.

There were also ISPP associated symposia and workshops, including the 8th International Symposium on Chemical and Non Chemical Soil and Substrate Disinfestation in Torino, Italy in July and the 9th International Workshop on Grapevine Trunk Diseases in Adelaide, Australia in November.

I was able to attend three of these meetings -in Pakistan, Chiang Mai and Jordan, as well as part of the APS annual meeting in Minneapolis, USA, and gained many insights into both the issues and challenges faced by plant pathologists around the world.

And sadly as well in 2014, our long-serving ISPP Newsletter Editor, Brian Deverall passed away during August.

As plant pathologists, we are all familiar with the effects of change in host, environment and the seasons of the year - summer to autumn to winter to spring - in the growth cycle of plants, and their evolution and adaptions to survive plant disease. Humanity as a species has done much to adjust and manage the impacts of climate, ecosystem and seasonal change, as well as sudden and unexpected shocks, on our agricultural systems and plant disease.

But in 2014, and for the coming year, our awareness of the fragility of life and the quest for safe and secure future seem to be especially important.

Of course I am writing this towards the end of a year in which the world seems to have come to my home, Australia, through the International Horticulture Congress in Brisbane in August, the G20 Group of Nations meeting in November, and sadly, through the loss of many Australians, as well as Malaysian, Dutch and other Nations' citizens in the shooting down of Flight MH 17 over the Ukraine in July, and just a few days ago, through terrorist incidents with innocent lives lost in Sydney, Australia and Peshawar, Pakistan.

In Australia in June, the Agricultural Chief Scientists of the G20 Group of Nations agreed that the food security challenge was urgent, and encompassed several dimensions, including increasing food production, improving human health through diets and reducing waste and losses. They said that challenges should be addressed

through systems approaches, and increased collaboration between countries and international organisations in collaborative international research. As plant pathologists and biosecurity specialists, we are especially aware of the threats to food security, and of the importance of systems approaches and international collaboration, so perhaps we can have some small hope that the G20 agriculturalists declaration might mean jobs and funds to tackle the foes that devastate our crops, forests and ecosystems.

During his visit to Australia for the G20 meeting, the Prime Minister of India, Narendra Modi, said: "Many people held dreams of doing many great jobs. They may have their dreams"..."But I have to do small jobs for smaller people... and [make] the small people big..."That is what I want to work for."

And for food security and reducing the terror of plant disease, to paraphrase Prime Minister Modi.

Many people do hold dreams of doing many great jobs, but they may have their jobs. It is plant pathologists, some of the small people, who do small jobs for smaller people, the world's farmers - so that the world can grow tall- for global prosperity through less disease.

So in 2015, through our small tasks, we will continue little by little, step by step, to a safer and more secure world, where peace becomes the priority, and plant disease, as well as war and terror, fade into history. I wish all of you all 'small victories' and hopes fulfilled.

(Picture - a small victory - small fruit in our small garden)

Greg Johnson

President International Society for Plant Pathology

Fifi the oomycete

Adventures of Fifi the oomycete in encounter with its plant hosts is a YouTube inspired by melody of "Frosty the Snowman". She learns evolution for survival; inspired by melody of "Frosty the Snowman".

https://www.youtube.com/watch?v=l9ikfDWZaT8

KamounLab

11th Arab Congress of Plant Protection, 9-13 November 2014

The 11th Arab Congress of Plant Protection organized by the Arab Society of Plant Protection (ASPP) and the Balqaa Applied University was held in Amman, Jordan, during the period 9-13 November, 2014. Around 300 participants from 17 Arab countries and from USA, France, Spain, Italy, Germany, Switzerland and United Kingdom participated in this event. Around 450 papers were presented in the meeting as either oral or poster presentations. The third day of the meeting was dedicated to a touristic and agricultural trip to the Dead Sea and Jordan Valley, where many vegetable and date palm farms were visited. In the closing ceremony awards for the best presentations by graduate students was announced. In this occasion, ASPP offered the "Society Fellow" award to five scientists for their distinguished service to the Society and for their professional excellence, and those were: Dr. Ahmed Heneidy (Egypt), Dr. Saeed Baangood (Yemen), Dr. Bassam Bayaa (Syria), Dr. Abdelsattar Aref Ali (Iraq) and Dr. Barakat Abu-Rmeileh (Jordan).

The Arab Society for Plant Protection Executive members meet with His Royal Highness, Prince El-Hassan bin Talal of Jordan, Patron of the 11th Arab Congress of Plant Protection held in Amman, Jordan. Pictured Left to Right: Dr Mustapha El-Bouhssini, of the International Center for Agricultural Research in the Dry Areas (ICARDA), HRH Prince El-Hassan bin Talal and Dr. Majd Jamal, (ICARDA) the President of ASPP (photo supplied by Mustapha El Bouhssini).

Closing Ceremony at the 11th Arab Congress of Plant Protection in Amman, Jordan (photo, Greg Johnson). (Khaled M. Makkouk)

8th Australasian Soilborne Diseases Symposium, 10-13 November 2014

The 8th Australasian Soilborne Diseases Symposium (8ASDS) was held in Hobart, Tasmania, from 10-13 November 2014 and brought together 85 delegates in total from across Australia as well as New Zealand, Brazil, Malaysia, The Netherlands, Scotland, Tunisia, and USA. The scientific programme encompassed topics including pesticides and soil amendments, integrated pest management, plant-pathogen interactions, biological control and disease suppression, resistance, pathogen ecology and epidemiology, and diagnostics and risk management. Keynote speakers included Dr Krishna V. Subbarao (UC-Davis) who discussed how consumer demand (human activities) can alter soil borne diseases, as illustrated with ongoing studies on *Sclerotinia sclerotiorum* and *Verticillium dahliae*. Dr Alison Lees (James Hutton Institute, UK) discussed the successes and failures of real-time PCR diagnostic assays as both a research tool and as a predictive tool for soil-borne diseases of potato. Additionally there was an Invited Presentations session on 'Management of Soilborne Diseases of Cereals' dedicated to the memory of the late David Roget. Rapid-fire poster sessions and open forums provided opportunities for rigorous debate of important and relevant scientific issues. Quality student

presentations were delivered with Natalia Cripps-Guazzone (Lincoln, NZ) being awarded the prize for best student presentation. A welcome reception which included a ferry ride to the world-acclaimed Museum of Old and New Art (MONA), a postgraduate student networking dinner, and a conference dinner at the Henry Jones Art Hotel provided ample opportunity to meet both old and new friends. A nematode workshop ran by Dr Graham Stirling, immediately after the conference, provided opportunities to get some hands on experience with beneficial microbes and suppressive soils

8ASDS attendees outside the Hobart Function and Conference Centre on the Elizabeth Street Pier in Tasmania, Australia (photo, Mark Balendres).

Participants at the nematode workshop organised by Graham Stirling (front, centre) looking at samples under the microscope (photo, Helen Hayden).

(Calum Wilson and Robert Tegg, on behalf of the 8th ASDS organising committee)

9th Australasian Soilborne Diseases Symposium, 14-18 November 2016

The 9thASDS will be held in New Zealand in the spa resort township of Hanmer Springs, North Canterbury, in the spring of 2016. The Symposium, organised under the auspices of the Australasian Plant Pathology Society

(APPS), will continue the tradition of highly successful Symposia, which began on the Queensland Gold Coast in 1999, and has continued through to 2014, in Hobart, Tasmania. The 9th ASDS will include inputs from plant pathologists and other relevant researchers who study soilborne plant pathogens and the diseases they cause, soil health, microbiology and related ecology, in forestry, pasture, arable, fruit and vegetable crops. The 9thASDS is being organised by plant pathologists and APPS members at Lincoln.

(Richard Falloon)

The planet needs more plant scientists

Plant-breeding educators met at a workshop in Nairobi to develop new education and training materials for an ACIAR project on 'Demand-led plant variety design for emerging markets in Africa'.

The educators from several African universities, regional and international organisations shared experiences across eastern, southern and western Africa on the content and organisation of current plant-breeding courses and future needs. The workshop was held by the Australia-Africa Plant Biosecurity Partnership, which is a consortium made up of Australia's Plant Biosecurity Cooperative Research Centre, ACIAR, CSIRO, the Crawford Fund and CABI.

(ACIAR eNews, November 2014)

Global Experience Awardee Highlights Success of Vegetable IDM-Train the Trainer Workshop

Kylie Ireland, a plant pathology volunteer at the Plant Health and Food Safety Laboratory in southern Laos, was the 2014 recipient of the APS Office of International Programs (OIP) Global Experience Award. Kylie, along with Professor Lester Burgess and Somlit Vilavong, hosted the "Train the Trainer Workshop on Integrated Disease Management [IDM] for Vegetables" in Paksong District, Lao PDR, in September. The workshop included five intensive days of practical training, followed by a farmer field school and graduation day, when participants delivered the content to a new group of more than 30 farmers. Feedback from participants was overwhelmingly positive, and adoption of IDM strategies within that week and in the weeks following has already been recorded. The program of the workshop focused on the biggest five diseases recorded in Paksong District to date, the best IDM strategies for these diseases and a broader look at diseases of the two most important vegetable crops in Paksong-cabbages and tomatoes. Kylie submitted a comprehensive report to APS OIP for publication on the Global Experience Awardee webpage. The report provides a detailed summary on the experience with the trainees, and the results of the workshop.

Kylie has also published a blog post on her experience in Laos on the Researchers in Agriculture for International Development (RAID) and the Australian Volunteers for International Development websites. The blogs outline collaborations during Kylie's assignment with partners such as the Australian Centre for International Agricultural Research (ACIAR), local non-profit associations, the Crawford Fund of Australia (linking with Australian plant pathologists as mentors and expert advisors) and the United Nations Food and Agriculture Organisation (UN FAO).

Teaching about Bacterial Wilt - one of the Big 5 plant diseases in Paksong. Mixed media teaching, with PowerPoints, flip boards and physical specimens were key to interactive and effective cross-language and cross-cultural teaching.

(Kylie Ireland)

Battling Panama disease in Philippines' bananas

In a recent trip to Davao, the hub of the Philippines' banana industry, research scientists are trialling new sustainable methods of fighting the latest version of Panama disease, which is devastating Cavendish banana crops. Read Richard Markham's blog on the methods being trialled.

(ACIAR eNews, November 2014)

Most influential articles from Food Security

The most frequently discussed articles via social media and other online platforms over the course of the last year from Altmetric data:

- Taking stock of the genetically modified seed sector worldwide: market, stakeholders, and prices
- An integrated agro-ecosystem and livelihood systems approach for the poor and vulnerable in dry areas
- Priority research questions for the UK food system

Articles published since 2013 and most frequently cited since publication based on the ISI/Thomson Reuters database:

- Changes in quantity and quality of cropland and the implications for grain production in the Huang-Huai-Hai Plain of China
- Adapting maize production to climate change in sub-Saharan Africa
- Household food insecurity in Timor-Leste

The most frequently downloaded articles (published in 2013 and 2014) from SpringerLink:

- Adapting maize production to climate change in sub-Saharan Africa
- Crops that feed the world 10. Past successes and future challenges to the role played by wheat in

global food security
- The role of wild vegetable species in household food security in maize based subsistence cropping systems

(Springer)

Epitypification and neotypification

A paper by H. A. Ariyawansa *et al*. titled "Epitypification and neotypification: guidelines with appropriate and inappropriate examples" was published in November 2014 by *Fungal Diversity* (vol. 69, pp. 57-91). The abstract is as follows:-

A review of phylogenetic studies carried out together with morphological ones shows that a major problem with most early studies is that they concentrated on techniques and used material or strains of fungi that in most cases were not carefully reference, and in a worrying number of cases wrongly named. Most classical species, particularly of microfungi, are not represented by adequate type material, or other authoritatively identified cultures or specimens, that can serve as DNA sources for phylogenetic study, or for developing robust identification systems. Natural classifications of fungi therefore suffer from the lack of reference strains in resultant phylogenetic trees. In some cases, epitypification and neotypification can solve this problem and these tools are increasingly used to resolve taxonomic confusion and stabilize the understanding of species, genera, families, or orders of fungi. This manuscript discusses epitypification and neotypification, describes how to epitypify or neotypify species and examines the importance of this process. A set of guidelines for epitypification is presented. Examples where taxa have been epitypified are presented and the benefits and problems of epitypification are discussed. As examples of epitypification, or to provide reference specimens, a new epitype is designated for *Paraphaeosphaeria michotii* and reference specimens are provided for *Astrosphaeriella stellata*, *A. bakeriana, Phaeosphaeria elongata, Ophiobolus cirsii,* and *O. erythrosporus*. In this way we demonstrate how to epitypify taxa and its importance, and also illustrate the value of proposing reference specimens if epitypification is not advisable. Although we provided guidelines for epitypification, the decision to epitypify or not lies with the author, who should have experience of the fungus concerned. This responsibility is to be taken seriously, as once a later typification is made, it may not be possible to undo that, particularly in the case of epitypes, without using the lengthy and tedious formal conservation and rejection processes.

See: http://dx.doi.org/10.1007/s13225-014-0315-4.

The roots of crop health

A paper by S. Savary titled "The roots of crop health: cropping practices and disease management" was published in December 2014 by *Food Security* (vol. 6, pp. 819-831). The abstract is as follows:-

Much has been written and said of the importance of crop management to sustain plant health, a fundamental for feeding a world population expected to reach around nine billion by 2050. Yet, the two elements, crop management and plant health management, are generally addressed as two distinct entities, the former often being seen as a source for options for the latter. Agriculture of the Middle Age (900-1600 CE) seems not always to have distinguished crop and plant health management, considering them instead as a whole. In this article, these elements are addressed as parts of *production situations*, which represent a much broader level of integration for systems analysis. At the *production situation* level, plant disease epidemics, or their suppression, can both be seen as consequences of crop management. Modern agriculture tends to distinguish specific plant health management techniques (which are often over-emphasized) and general, non-specific ones (which are often downplayed). The former (e.g., specific host plant resistances, biological control, pesticides) may be overcome rather rapidly by plant pathogens, while the latter (e.g., crop rotation, tillage), with often progressive, incomplete, and confounded effects, may constitute the basis of sustainable management of plant health. A simulation modelling framework, with two model structures, is used to highlight the three components of disease management outlined by Berger (*Annual Review of Phytopathology*, 15, 165-183, 1977): (1) eliminate or reduce the initial inoculum or delay its appearance, (2) slow the rate of disease increase, and (3) shorten the time of exposure of the crop to the pathogen. The degree of involvement of these three components is further discussed in three groups of examples in plant production systems that significantly contribute to global food provisioning and food security. A few modelling outputs and evaluation of these examples suggest that, even in the most specialized production situations, both specific and non-specific plant health management strategies are necessary for sustained health of our crops and for durable performances of agricultural systems.

See: http://dx.doi.org/10.1007/s12571-014-0399-4

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