THE INTERNATIONAL ORGANIZATION OF CITRUS VIROLOGISTS - IOCV

NEWSLETTER - June 2017/Feb. 2018

In this issue

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FROM IOCV CHAIRMAN

Dr. Changyong Zhou:

Dear IOCV Friends,

Time is flying. One year later we'll meet at UCR for the next IOCV and HLB Conference. The first announcement of this joint Conf. will be released soon by our joint local organizing committee coordinated via Chair-elect Georgios Vidalakis. Although the year 2017 marked the 60th anniversary of the IOCV family, the Business Meeting in 2016 set the date for the celebration in 2019 when the 21st IOCV Conf. is held at UCR. As the IOCV birthplace and a cradle of predecessors, UCR is definitely the right place for such a big event which will bring back historical memories and forge our friendship.

The excitement is followed by challenges: Firstly, the Journal of Citrus Pathology (JCP) has not yet received any

articles or short communications from attendees of last IOCV Conf. Although the IF, SCI, ESI are more influential among the young generation, I would like to take the chance to make an urgent request to you for the submission of the presentations to the JCP ASAP; Secondly, with the fast development of citrus genomics, bioinformatics and metabolomics, interdisciplinary researches become more popular and irreversible. Many young IOCV members show keen research interest in combining traditional breeding methods, genetic engineering and genome editing technologies rather than focusing on a narrow field as the old generation did before. Thirdly, HLB issue is still the biggest challenge to us. Recently I had a chance to discuss this issue with Deputy Director General Daniel Gustafson from FAO, who is also concerned about the HLB control in the world.

Opportunities and challenges will go hand in hand in the next 60 years of development of IOCV, during which international cooperation should remain the most important theme for IOCV family. I sincerely thank all the members for your kind cooperation.

Less is more, let's focus on IOCV issues in 2018.

With warm regards and best wishes.
Changyong

FROM IOCV CHAIR-ELECT

Dr. Georgios Vidalakis:

Dear IOCV friends,

It is good to be in touch again. The battle against Huanglongbing (HLB) is ongoing in California. The Asian citrus psyllid (ACP) is now spread in all citrus producing areas in California and the positive HLB trees in the residential areas of Los Angeles are now in the hundreds. The first HLB positive tree was also identified in Riverside, CA in August 2017.
HLB and ACP research is ongoing in the USA and we will all have the opportunity to hear about the developments at the joint HLB-IOCV conference in Riverside, CA on Spring of 2019. The first official conference announcement will be released later this month. Overall, convention center has been booked, hotel rooms have been blocked, the //IRCHLB.org website transition from Florida to California has been arranged, sponsors are been identified, and general schedule has been defined.

The IOCV delegates will meet in advance of the HLB presentations to discuss the non-HLB related scientific

topics and have our business meeting. We will make the IOCV business announcements, and present honors during the welcome dinner of the HLB conference and thus transition to the HLB portion of the conference. IOCV will take the lead in organizing the mid conference and post conference tours in Riverside and citrus operations throughout the state, respectively.

In my previous newsletter message to you I set two goals for my tenure as chair elect and chair:

A successful well-attended IOCV conference and

A robust peer reviewed Journal of Citrus Pathology.

As described above we have made excellent progress with our collaborators across the world in organizing a very successful and historical for IOCV conference. Regrettably, I have been failing our Organization on the Journal of Citrus Pathology (JCP). Unfortunately, following the 2016 IOCV Conference in China, JCP did not receive any articles or short communications from the work/abstracts presented at the conference. As an editor and IOCV secretary that coordinated the establishment of the Journal, I failed to remind all of you the importance of submitting your IOCV conference presented work for publication at the JCP. You have my apologies and I have a request for you.

With the opening for abstract submission period for the 2019 IOCV conference approaching fast (most likely May 2018), I would like to urge you to submit a short communication or full article if you have the data by now, regarding your 2016 IOCV presentation or poster to the Journal of Citrus Pathology by Monday 16th April, 2018. This way we will be able to wrap up publications from our 2016 IOCV conference before opening the abstract submissions for the 2019 IOCV.

In our 2019 business meeting, we will have to discuss and make firm decisions about the future of the Journal which existence depends on your submissions of work presented at our conference. For now however, I am asking you to spent 5-6 hours in the upcoming weeks and submit at least a short communication from your 2016 IOCV presentation or poster to JCP in order to support our Journal and have a smooth opening of the abstract submission for the 2019 IOCV-HLB Conference.

On a final note, the 18 volumes of the IOCV Proceedings of the 1957 to 2010 conferences are now published at the eScolarship website: https://escholarship.org/uc/iocv_proceedin

gs. There are still a few minor issues to be addressed but the important part is that the proceedings are now dynamically searched and listed in major search engines such as google scholar. Enjoy, and do not forget your Journal of Citrus pathology Submissions by mid-April 2018! We are looking forward to them and I will see all soon in California.

FROM IOCV SECRETARY

Dr. Mengji Cao:

Dear members of IOCV,

This is a letter from Mengji Cao, IOCV Secretary. First and foremost, I'd like to express my gratitude to Dr. Freitas-Astúa, the former Chairwoman, and Dr. Zhou, the Chairman of IOCV, who entrusted me with this important post. My special thanks also go to Dr. Vidalakis, the Chair-Elect and former Secretary, for his trust. During his ten-year tenure, Georgios made great contribution to the development of IOCV. With the joint efforts of Drs. Vidalakis and Zhou, our organization has witnessed sustained growth.

In spite of the great success in the past, our organization is facing many challenges, one of which is the decrease of membership. Currently, there are about 110 members who pay membership dues. As the secretary, one of my major concerns is to make our organization more attractive to the scientists worldwide, especially young scientists from developing countries. Another one is to keep our members informed on the updates of our organization, as I have done since assuming the position last June. Unfortunately, what I have gotten is very limited until now.

In the past 60 years, our forerunners have contributed time and energy to the development of IOCV. They also witnessed both ups and downs. Now, in the face of both challenges and opportunities, my colleagues and I will live up to the expectations and work hard for a better future of the IOCV.

With Best wishes.
Mengji

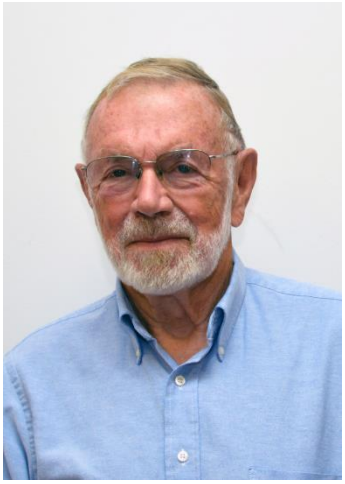
(Please visit IOCV at http://www.iocv.org/)

FROM IOCV FELLOWS

From IOCV Fellow
Dr. Pete Timmer:

HLB in Florida, Hurricane Irma and the Search for the Silver Bullet

As most of you know, Florida citrus has suffered greatly since HLB was first found in 2005. The psyllid vector, *Diaphorina citri*, had already been present since the late 1990s. Prior to the HLB introduction, the state was producing more than 200 million boxes of oranges annually. The most recent crop forecast by the USDA is that orange production in Florida in 2017-18 will be 45 million boxes. That figure represents a 35% decrease with respect to last season and it would make it the smallest crop in more than 75 years. Before the hurricane, the forecast had been approximately 70 million boxes. Florida grapefruit production is forecast to be 4.65 million boxes, 40 % less than last season. Much of the decline from last year was due to Hurricane Irma, which struck on September 10, 2017. Growers in southwest Florida were hit the hardest, reporting losses between 30 to 70% as a consequence of the hurricane. The hurricane uprooted trees and left water standing in many groves for up to three weeks, damaging the root systems, which will affect this coming seasons' growth and productivity.



Many small growers have given up and sold their land for residential development or turned to other crops such as blueberries or peaches. Most larger growers are continuing the battle but some now have less acreage than before. Early on, many growers sought the "silver bullet" – that magic solution that would cure the disease and restore productivity. They tried every snake oil and any product that might provide some hope. Growers have mostly given up on those products. Currently, they are maintaining existing trees as best they can. HLB-affected trees suffer from substantial of root loss, so growers compensate by irrigating and fertilizing more frequently at lower rates. Many micronutrients are applied as foliar sprays. Yields are much lower than previously, but in some cases, groves are still profitable. The antibiotics, streptomycin and oxytetracycline, have been registered for use as foliar sprays on citrus in Florida. Many growers are applying them in the desperate hope that they can save their trees. Those products are expensive and to date, there is little evidence that they have provided any relief. Heat treatment, usually as aerated

steam, has been tried for young infected trees. New growth from treated trees is usually symptom-free, but the disease returns after a time and it has not proven to be an economically viable method.

Growers are continuing to plant new groves, albeit not at previous rates. The most effective means has been to plant at high densities. If planted at 550 or more trees per hectare, groves can be profitable in less than 10 years if protected from psyllids with insecticides and other means. There are some experimental rootstocks and some late-maturing selections that seem to suffer less from HLB than the standard ones. Many growers are now using those, but it will take some time to properly ascertain the benefits. Other growers are planting scions that are known to be HLB-tolerant such as lemons and Sugar Belle, a tangerine hybrid. Screened enclosures are also being investigated as a means to prevent psyllid infestations and have been somewhat successful. However, in hurricane-prone Florida, maintenance has proven problematic and expensive. That system may prove to be viable for high-priced fresh fruit varieties.

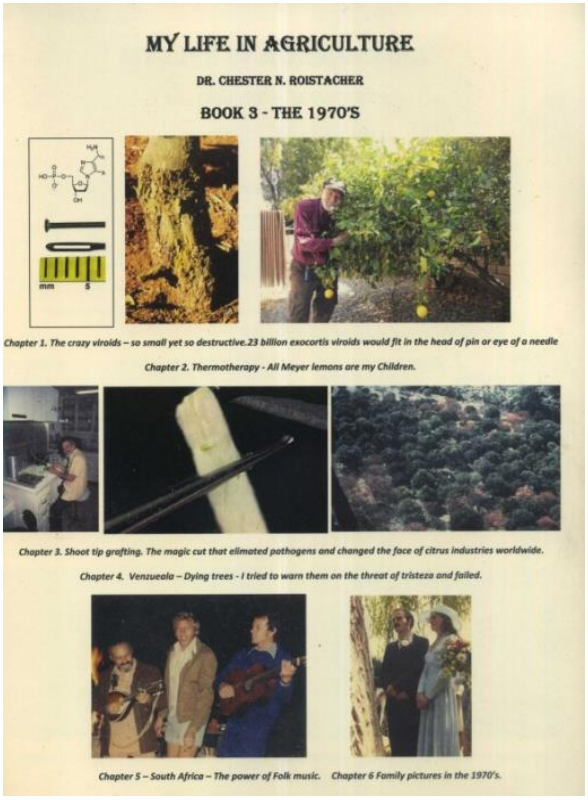
Florida has a very favorable environment for psyllids and populations tend to be higher compared to many other citrus areas. Growers had been able to protect young trees using soil applications of imidacloprid or other neonictinoids for the first two or three years of grove life. Thus, many groves had low rates of infection in the early years. That option has been less viable in recent years due to the development of insecticide resistance. Currently growers are heavily dependent on foliar applications of neonictinoids, dimethoate, pyrethroids, and organophosphates for psyllid control. Citrus Health Management Areas were developed for psyllid management; they involved aerial applications in all properties within an certain area, rotating products to avoid resistance problems. Those were somewhat successful, but are less so now since many growers have reduced or abandoned insecticide applications to reduce costs.

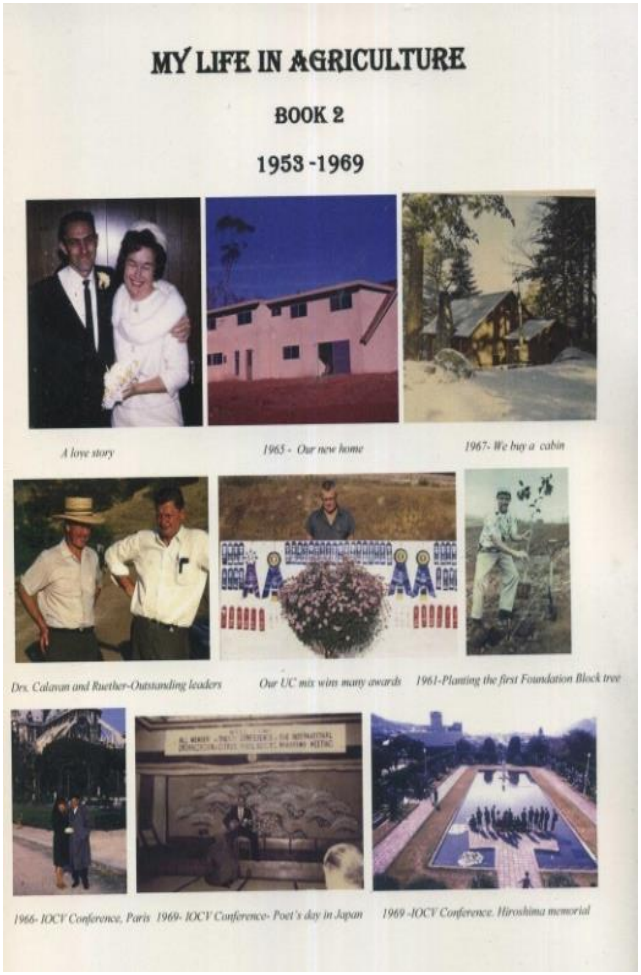
The remaining hope for a “silver bullet” is an HLB-resistant variety. Many very capable investigators worldwide are using traditional breeding and various molecular methods to create such a variety. The release of such a variety doesn’t appear imminent, Thus, the short-term future for the Florida industry does not appear very bright. But, Florida growers will continue battling with the currently available methods.

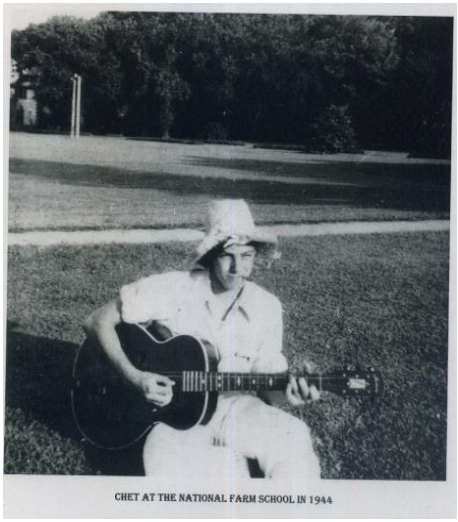
From IOCV Fellow
Dr. Chester Roistacher:

Chester Roistacher has been working diligently on his book series *My Life in Agriculture*, with Book 3 having just been finished. He now begins to work on Book 4 (covering the 1980s) and Book 5 (covering his 26 consecutive years of teaching his wonderful Arab students at IAM-Bari, Italy). He has kindly enclosed the covers for books 1, 2 and 3. For anyone interested, Chester would be pleased to send a CD of any of these books.

Pictures of these books taken at his mountain cabin are as follows:



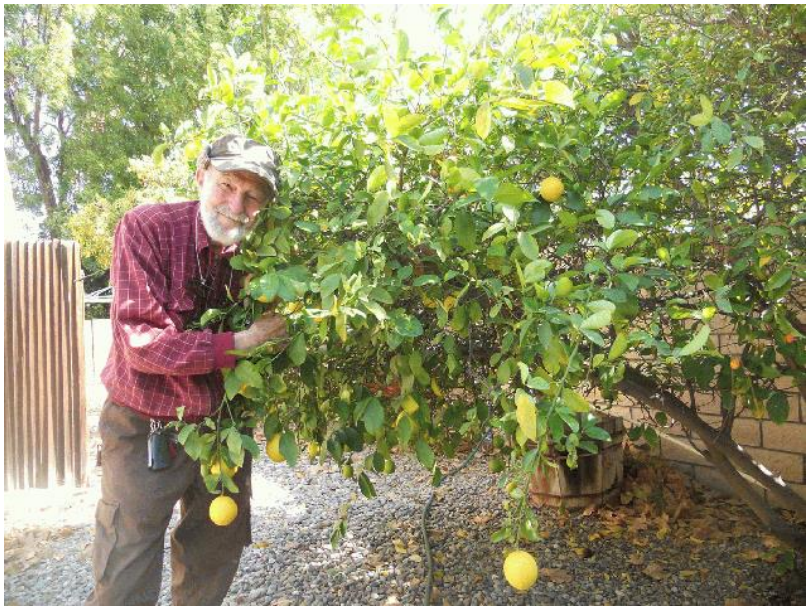




From IOCV Fellow
Dr. Chester Roistacher:

All Meyer Lemons Are My Children

In the early spring of 2015 while walking in my back yard, admiring my garden, feeding birds and looking at my fruiting citrus trees, I noticed that the fruit on my Meyer lemon tree was glowing with its winter coat of yellow. I stopped, looked this tree and realized there is a story about this tree that I should write. The thought occurred that for the past 40 plus years, all Meyer lemon trees grown in California and probably throughout the world are my children. They came from a single budstick that I had treated with moist-hot air to rid it of its viruses. The resulting virus-free Meyer lemon was named "The Certified Improved Meyer Lemon".



In Book 3 of *My Life in Agriculture* I tell the story of the research leading to how we gave a fever to a Meyer lemon budstick similar to when your body temperature rises to rid it of virus or bacteria. In this same way, viruses in the Meyer lemon budstick were eliminated. Of interest, the technology for this thermotherapy came from a Chinese scientist, Professor Lin Kung-hsiang, and by my honoring him during a lecture given in Wuhan China in 1982 and where I gave him due credit for his pioneering research on thermotherapy, I did not realize that by doing this I had liberated him and his family from the difficult suppression during days of the 'Cultural Revolution' in China where he had suffered much during that period. This is my story.

(In the picture: Chet in his garden admiring his Meyer lemon and contemplating his fatherhood)

FROM IOCV MEMBERS

From Dr. Mengji Cao:

Dr. Xueyuan Zhao Published the Book of *Research Review on Citrus HLB Prevention and Control*

In 2017, the Book *Research Review of Citrus HLB Prevention and Control* written in Chinese by Dr. Xueyuan Zhao, IOCV Fellow and former Deputy Director of Citrus Research Institute, CAAS, was officially published by China Agriculture Press. With vivid description of positive and negative cases and reliable data, it systematically reviews the history of occurrence and research on HLB over the past century in China, and contains his over 50 years of experience in exploring the prevention and treatment of HLB.

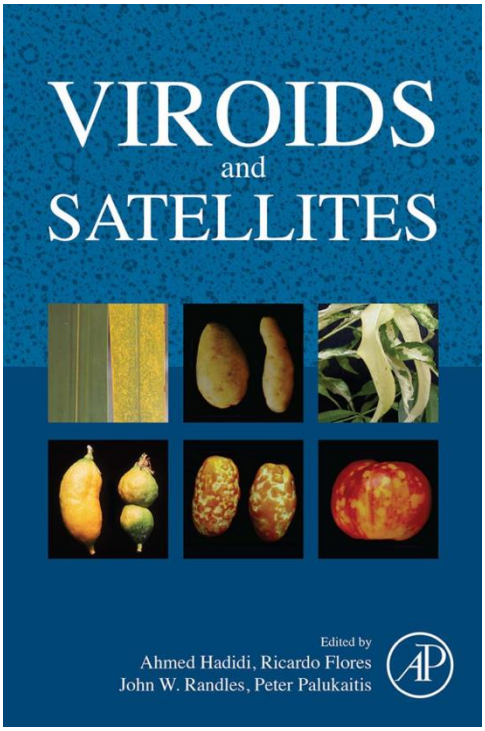
Dr. Zhao is a pioneer on HLB research. He began to study HLB in1959 and has devoted throughout his career to it. During decades of research, he spent a lot of time in communities, accumulating a wealth of hands-on experience and collecting a large amount of literature on this field. These documents provide quite detailed records of the findings, research progress, prevention of HLB in different stages and suggestions for further work as well.

This book has eight chapters, including occurrence history, symptomology, diagnosis methods, pathogenic agents, hosts, vectors, epidemiology, prevention and control measures. Representative opinions on each part are listed in a chronological order and followed by summary and discussions. We plan to translate it into English version in the near future, which should be of value to IOCV colleagues.

From Dr. Ricardo Flores:

The book "Viroids and Satellites" (edited by Ahmed Hadidi, Ricardo Flores, John Randles & Peter Palukaitis) has been recently published by Academic Press/ Elsevier. Along 716 pages divided into 63 chapters, the book deals with these subviral agents of plant disease that replicate autonomously (viroids) or depending on a helper virus (satellites). While addressing their economic impact, this volume discusses various state-of-the-art methods for their detection and control, their molecular and biological properties, interactions with host plants, pathogenesis, and RNA silencing pathways.

The editorial team has assembled expert contributors on both viroids and satellites. This book is an essential source of information for students, professors, researchers and regulators alike.



The volume's key features are:

-Coverage of the diseases caused by all viroids and satellites

-Integrated treatment of economics, transmission, geographical distribution, epidemiology, molecular structure, detection and control

-Organization using current taxonomic classification

Citrus viroids are covered specifically in two chapters, number 16 dealing with "Citrus exocortis viroid" by Nuria Duran-Vila, chapter 23 dealing with Other apscaviroids infecting citrus trees" by Matilde Tessitori, and chapter 26 dealing with "Other cocadviroids" by Irene Lavagi, Jaroslav Matousek and Georgios Vidalakis.

From Dr. Nerida Donovan:

Australian citrus update

Citrus is one of Australia's major horticultural crops, despite only being a small proportion of the global market, and exports are crucial for industry viability. The Australian citrus industry enjoys a relatively high health status and, to date, major diseases like huanglongbing (HLB) have not been reported here. However, we still face a number of serious local graft-transmissible diseases. Industry and government work to maintain our high health status via our quarantine system, surveillance in high risk areas (the Northern Australian Quarantine Strategy), and through the supply of health-tested material to industry (National Citrus Repository Program and the Auscitrus Propagation Scheme). Recently funds were secured to build insect-proof structures to protect the Auscitrus budwood supply trees. But more work still needs to be done to safeguard the industry; for example making it mandatory to use health-tested propagation material from Auscitrus.

The 11th conference of the International Society of Citrus Nurserymen was held in Australia from 24-28th July 2017. The conference was in Mildura located in the Sunraysia citrus growing region, and optional tours were run in other growing areas. Industry experts from around the world attended the conference.

The citrus pathology team at the New South Wales Department of Primary Industries' Elizabeth Macarthur Agricultural Institute (NSW DPI EMAI) near Sydney continued their work on a range of endemic and exotic citrus pathogens and hosted a number of international visitors during 2017. In November we met with a delegation of government officials from the People's Republic of China, including Minister Wang Wei (Executive Office of the Three Gorges Project Construction Committee State Council), and with the Chinese Consul for Science and Technology, Mr Lu Ping. The Chinese export market is of increasing importance to the Australian citrus industry with a significant export market share.

In July, Professor Georgios Vidalakis (University of California, Riverside and Director of the Californian Citrus Clonal Protection Program (CCPP)) visited

EMAI; providing valuable feedback to the team and progressing their collaborative work, mainly on citrus viroids. Professor Vidalakis also met with Dr Adrian Dinsdale and other pathologists at the Federal Department of Agriculture and Water Resources (DAWR) post-entry quarantine station near Melbourne in Victoria.

Dr Deborah Pagliaccia (Managing Director, California Agriculture and Food Enterprise CAFE, University of California, Riverside) also met with EMAI scientists in July to explore potential opportunities for collaboration.

From Dr. Mustapha Zemzami and Dr. El Guilli Mohammed:

Recrudescence of Citrus Blast in the Mediterranean Basin

Citrus Blast is caused by the bacterium *Pseudomonas syringae* pv *syringae*. A bacterial species affecting a wide host range among annual and perennial plant species, woody and herbaceous.

During the last few years, we have noticed a recrudescent trend in the seasonal outbreaks of Citrus Blast on citrus throughout the Mediterranean Basin, from east to west. The global warming witnessed in the recent years has provided favorable conditions for the development of Citrus Blast during the beginning of autumn, and at the end of winter, when high relative humidity is coupled with warm day temperature above 15°C.

In Morocco, the disease starts to show up in mid-autumn after the first rain, mainly on sucker-shoots on the outer top of the canopy. Tender twigs exhibit a die-back with leaf-drying which progresses from the top downwards on 10 to 40 cm. The affected part of the branch rarely exceeds half a meter in length. Bark in affected parts turns dark-brown and leaves dry but remain attached to the branch for several days before falling.

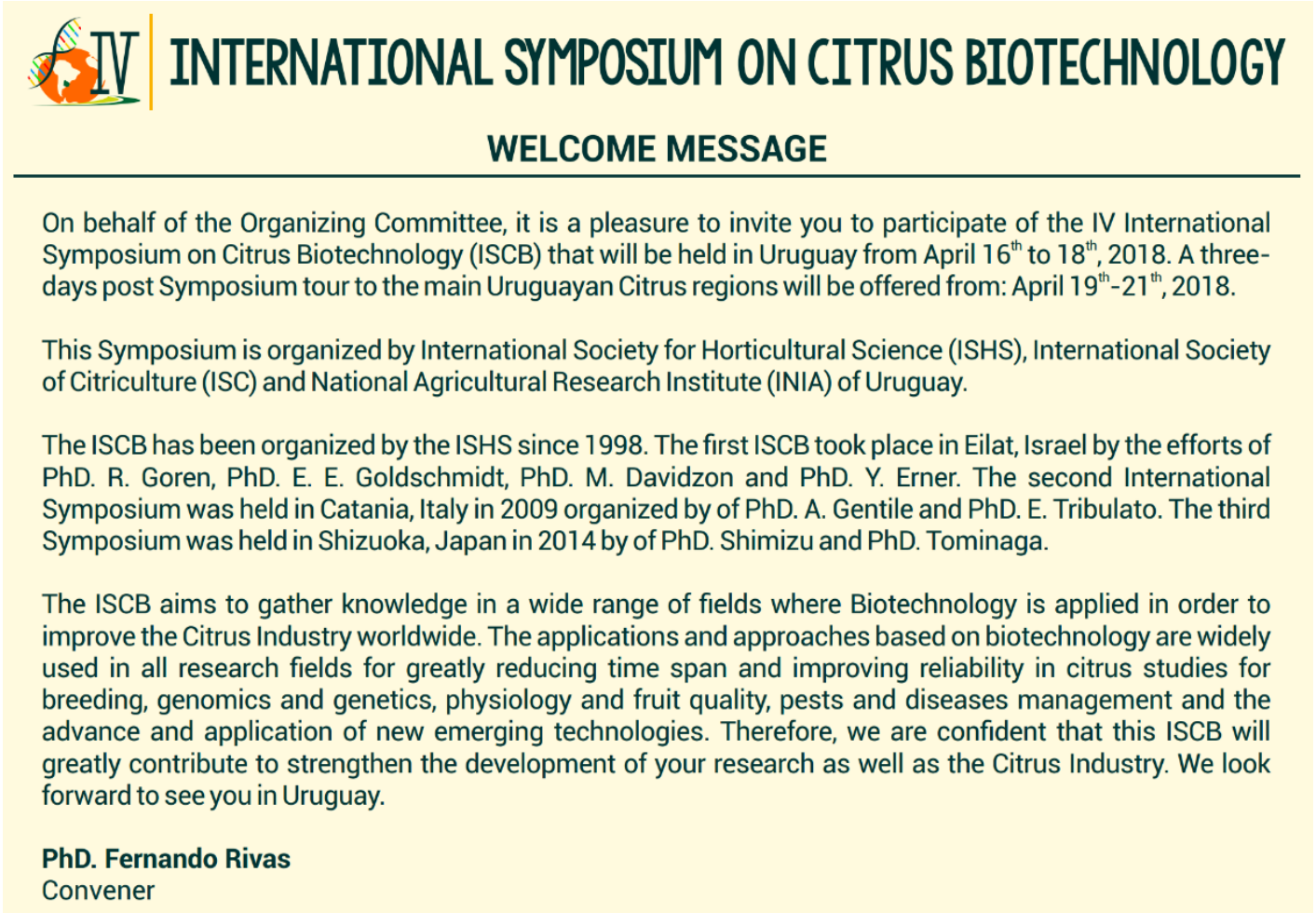
In Morocco, the effect of the disease is limited to young twigs; flowers and fruits are not affected because flowering and fruit-set occur at a time when

temperature is high and humidity too low for the disease to develop. Varieties with high sensitivity to Citrus Blast include most cultivars of Navel Orange and Nules and Clemenluz cultivars of clementine. Valencia and local cultivars of clementine are less sensitive.

In other countries of the Mediterranean area, Grape Fruit and Lemon are as sensitive as Navel Orange and Nules clementine. In some countries, Citrus Blast may affect young shoots, as well as flowers and fruits, and may be highly severe on a wide part of the canopy and extensive leaf drop.

Control of this disease relies on one preventive foliar application of cupper before the rainy season. Cupper spray, pruning and burning of affected twigs are necessary to stop disease spread.

From Dr. Fernando Rivas:



IV INTERNATIONAL SYMPOSIUM ON CITRUS BIOTECHNOLOGY

WELCOME MESSAGE

On behalf of the Organizing Committee, it is a pleasure to invite you to participate of the IV International Symposium on Citrus Biotechnology (ISCB) that will be held in Uruguay from April 16th to 18th, 2018. A three-days post Symposium tour to the main Uruguayan Citrus regions will be offered from: April 19th-21th, 2018.

This Symposium is organized by International Society for Horticultural Science (ISHS), International Society of Citriculture (ISC) and National Agricultural Research Institute (INIA) of Uruguay.

The ISCB has been organized by the ISHS since 1998. The first ISCB took place in Eilat, Israel by the efforts of PhD. R. Goren, PhD. E. E. Goldschmidt, PhD. M. Davidzon and PhD. Y. Erner. The second International Symposium was held in Catania, Italy in 2009 organized by of PhD. A. Gentile and PhD. E. Tribulato. The third Symposium was held in Shizuoka, Japan in 2014 by of PhD. Shimizu and PhD. Tominaga.

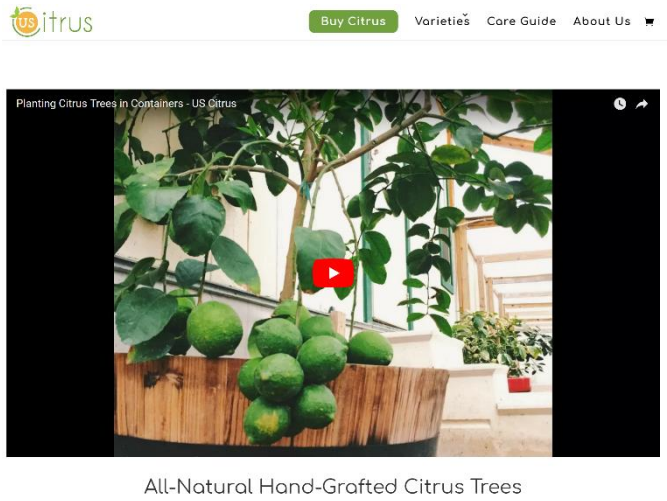
The ISCB aims to gather knowledge in a wide range of fields where Biotechnology is applied in order to improve the Citrus Industry worldwide. The applications and approaches based on biotechnology are widely used in all research fields for greatly reducing time span and improving reliability in citrus studies for breeding, genomics and genetics, physiology and fruit quality, pests and diseases management and the advance and application of new emerging technologies. Therefore, we are confident that this ISCB will greatly contribute to strengthen the development of your research as well as the Citrus Industry. We look forward to see you in Uruguay.

PhD. Fernando Rivas
Convener

From Dr. Mani Skaria:

To introduce myself, I am a retired Citrus pathologist and professor (Texas A&M University-Kingsville), now in private business as the Founder and CEO of US Citrus. We are bringing a New Outlook for Citrus Production as in The New Outlook for Citrus (https://www.youtube.com/watch?v=rayIwpHlx5Q).

Please visit us at www.uscitrus.com video.



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AROUND THE WORLD

From Dr. Xuefeng Wang:

China Sets up National Collaborative Innovation Alliance for Integrated Prevention and Control of HLB

On June 26 and 27, 2017, the Founding Conference of National Collaborative Innovation Alliance for Integrated Prevention and Control of HLB and On-site Exchange Meeting were held in Ganzhou, Jiangxi Province. Governors, experts and industry representatives from more than 60 units attended the event, which has united agriculture-related colleges and universities, also agricultural departments and enterprises.

Integrated prevention and control HLB is one of the 20 key tasks of National Agricultural Science and Technology Innovation Alliance (NASTIA) in 2017. The HLB control alliance provides a national platform for the collaborative innovation, integrated demonstration, and R&D of HLB.

Dr. Changyong Zhou, IOCV Chairman and Vice President of Southwest University, has been elected as the Chairman of this Alliance. China Agricultural Technology Extension Service Center, Institute of Plant Protection (IPP) of Chinese Academy of Agricultural Sciences (CAAS), Citrus Research Institute of CAAS, Huazhong Agricultural University, South China Agricultural University, Jiangxi Academy of Agricultural Sciences, and Guangxi Academy of Specialty Crops were elected as Vice-Chairman Institutions. Dr. Xuefeng Wang, Deputy Director of Citrus Research Institute, CAAS, was elected as Secretary-General of the Alliance.

Besides, more than 50 institutions including CAAS Biotechnology Research Institute were chosen as committee institutions.

Chairman Zhou introduced the background of establishing the alliance, the status quo of HLB prevention and control, and the work plan of the alliance. On behalf of the Alliance, he signed Cooperation Agreements with prefecture-level agricultural departments located in superior citrus belts. He also presented the Book of *Research Review of Citrus HLB Prevention and Control* to the members. At the meeting, the Directors of Plant Protection Institute of CAAS, Jiangxi Academy of Agricultural Sciences, Plant Quarantine Station of Sichuan Provincial Department of Agriculture and other institutions reported their progress in HLB research, prevention and control.

Citrus is known to be the largest fruit with planting scale in China, nearly 2.5 million hectares, which ranks the first in the world. It is an important crop in agricultural supply-side structural reform in the hilly regions of Southern China and plays a key role in promoting agricultural efficiency and increasing farmers' incomes. On the other hand, HLB is devastating in citrus cultivation areas around the world, which has been causing heavy losses to Chinese citrus industry as well. The formal establishment of this Alliance marks that China is carrying out collaborative innovation in tackling this global problem.

From Dr. Xuefeng Wang:

The 5th International Research Conference on Citrus HLB Held in America

From March 14 to 17, 2017, the 5th International Research Conference on Citrus HLB was held in Florida. Experts, scholars and citrus industry representatives attended the conference, on which 3 keynote speeches and 116 reports were made.

On the morning of March 15, Associate Professor Paul D. Mitchell from Department of Agricultural and Applied Economics, University of Wisconsin, Madison delivered a keynote speech titled "Black Swans, Dragons and the Phoenix: Rebuilding Citrus after HLB". After that, sub-forums on "Pathogen" and "Agricultural Control" were held respectively. A total of 13 reports were made on the two sub-forums.

In the afternoon, sub-forums on the topics of "Host Pathogen", "Vector Control", "Pathogen Detection" and "Infection Consequences" witnessed the delivery of 27 reports.

On the morning of March 16, 24 reports were made on sub-forums themed

“Host Pathogen”, “Agricultural Control”, “Pathogen Detection” and “Host”.

In the afternoon, Dr. Ryan McAllister, Chief economist of behavioral economics at the Commonwealth Scientific and Industrial Research Organization (CSIRO), gave a keynote speech “The Social Side of Australian Biosecurity: Coordination and/or Collaboration in Emergency Response”. Subsequently, altogether 16 subjective reports were made at sub-forums themed “Epidemiology” and “Vector Control”.

On the morning of the last day, sub-forums on “Epidemiology”, “Host-Vector Interaction”, “Pathogen” and “Vector/Pathogen Vector” were held, with a total of 28 oral presentations delivered.

In the afternoon, the 5thIRCHLB V Business Meeting was held. The venue for the next session was determined. Then Neil McRoberts, associate professor of plant pathology at the University of California, gave a keynote speech titled "Integrating Growers’ Preferences and Insights from Economics into Strategic Planning for Future Management of HLB”. The keynote speech was followed by 8 special reports made at sub-forums on “Vector/Pathogen Vector” and “Host”.

From Dr. Xiaochun Zhao and Dr. Mengji Cao:

The 11th International Society of Citrus Nurserymen Held in Australia

From July 24 to 28, 2017, the 11th International Society of Citrus Nurserymen's (ISCN) Congress was held in Mildura, Australia. Post-congress visits were organized from July 29 to August 3. The congress brought together more than 140 delegates from 14 countries, including Australia, China, the United States, Brazil, South Africa, Italy, Argentina, Chile, India and Japan.

On July 24, after the registration and opening ceremony, 9 reports were delivered by Experts, including Fred Gmitter and Tim Herrmann, on "Citrus HLB and Its Control in Florida", "Australian Citrus Industry, Nursery, Scion and Rootstock Disease Quarantine", "Evaluation, Protection and Commercialization of New Varieties", "Breeding Protection Strategies and Seedling Detection Technology of Californian Citrus", and "Organic Cultivation".

On July 25, 12 reports were given by experts, including Graham Barry and Kim Bowman, on topics of "Global Variety Trends and Rootstock Breeding", "Chilean Citrus Industry", "The Role of Light and Chemical Treatment in Promoting the Growth of Grafted Seedlings", "Effect of Rootstock on Substrate PH and EC", "Nursery Management in Pakistan", "Greenhouse Citrus Management", and "Brazilian Citrus Seedling Certification System". After that, an interactive workshop session on the topic of "Citrus Nursery Nutrition" was held.

On July 26, field trips to Australian Citrus Propagation Association (Auscitrus), NSW Department of Primary Industries, and Victorian Citrus Farms (VCF) were arranged. Auscitrus, which is a national non-profit farming agency, provides healthy, disease-free seeds and scion varieties to citrus growers and nurseries across Australia.

On July 27, Roger Smith, Manager

of Tree Source Citrus Nursery in California, was elected as the next ISCN chairman on the ISCN Members General meeting. Consensus was also reached that the next ISCN conference would be held in Chile. On the same day, technical sessions were held on “Citrus Industry in South Africa”, “Citrus Seedling Nursery”, “Propagation of Cutting Stocks”, “Stock Resistance Evaluation”, “Biological Control of Pests”, “The Impact of Inter Stock on Scion Growth”, with a total of 8 reports delivered by Paul Fourie, Kim Bowman and other experts. After that, an interactive workshop session on the topic of “Nursery Management Structures” was held.

On July 28, field trips to Chislett Farms, nurseries and Boundary Bend Estate’s olive oil processing plant were organized.

From July 29 to August 3, the delegates visited the Costa Farm in South Australia, Ian Tolley (private citrus field gene banks and nurseries), Lyndoch Lavender Farm in Barossa Valley, SEPPELTSFIELD, JACOB’S CREEK, Australian company Powerplants (soilless culture of tomato) and other places.




From Dr. Ying Wang and Dr. Xiaochun Zhao:

The 6th Asian Conference on Plant Pathology Held in South Korea

From September 12 to 17, 2017, the 6th Asian Conference on Plant Pathology (ACPP), organized by the Korean Society of Plant Pathology, was held at International Convention Center of Jeju in South Korea. With the theme of "Translation from Genomes to Disease Management", the conference received 573 plant pathologists and students from 20 countries and regions, including South Korea, China, Japan, Thailand, Singapore, the Philippines, Vietnam, Iran, India, Bangladesh, Pakistan, Malaysia, Indonesia and Australia. The participants included Greg Johnson, President of the International Society for Plant Pathology , and the chairman of plant pathology society of China, Japan, South Korea, etc.

A total of 12 invited reports, 12 reports on national disease occurrence and control, and 32 sub-venue reports were presented. The experts conducted in-depth exchanges and discussions on the latest developments of disease epidemic, disease investigation, pathogen-host interaction, disease control and other topics.

During the conference, a meeting of AASPP Representative Committee was held to discuss and review the preparations for the 6thACPP, the list of candidates for the 6thAASPP Representative Committee, candidates for the 6thAASPP Executive Committee, and the venue for the 7thACPP. It was finally decided that the 7thACPP will be held in Japan in 2020. The Chairman of the 6thExecutive Committee is Professor Yong-Hwan Lee from South Korea. Dr. Mattew Tan from Singapore is the Treasurer, and Dr. Sund-Hwan Yun from South Korea, the Secretary-General. One of the Vice Chair of the Executive Committee is a member of the Phytopathological Society of Japan, the host of the next ACPP, and another is Professor Youliang Peng, Chairman of the Chinese Society for Plant Pathology.

Citrus is the largest fruit crop in Korea, accounting for 27.1% of the total fruit production. Jeju province dominants the citrus production (99.7% of total production). Citrus contributes 60% (0.9 billion $) of agricultural income in Jeju. In 2013, citrus orchards covered an area of 21,000 hectaresand produced 683kt citrus fruits, among which Satsuma mandarin

account for 90% and mandarin hybrid 9.1%. The major diseases are: Citrus tristeza virus (CTV)，Citrus tatter leaf virus (CTLV)，Satsuma dwarf virus (SDV)，Citrus mosaic virus (CiMV)，citrus melanoses, citrus canker and citrus scab disease.

From Dr. Mengji Cao and Miss Yanting Wu:

Base for Introducing Talents of Sustainable Managements of Citrus Major Diseases and Insect Pests included in China's national "111 Project"

On January 12, 2018, China's Ministry of Education and State Administration of Foreign Experts Affairs released the list of projects selected for the 2018 Expertise-Introduction Project for Disciplinary Innovation of Universities (the "111 Project"). Base for Introducing Talents of Sustainable Managements of Citrus Major Diseases and Insect Pests in Southwest University (SWU) was on the list.

The base focuses on three major research fields and aims to improve the resistance of citrus to main diseases and insect pests. IOCV Chairman Prof. Changyong Zhou is one of the three academic leaders for this base, who is incharge of the pathogenic mechanism of major citrus pathogens and their sustainable management

The planned building period of the base is 5 years and the annual funding will be no less than 1.8 million RMB. The base will strive to promote the integration of overseas high-level talents and domestic scientific research backbones, enabling them to jointlyset up academic teams, promote high-level cooperation and research, trainhigh-level personnel, and exchange high-quality academic achievements. The purpose is to further enrich and develop theories and practices of citrus disease and insect pest management in China, enhance the original innovation and integrated innovation ability of China in citrus disease and insect pest control

Since its launch in 2006, the "111 Project" has been focusing on promoting the construction of world-class universities and first-class disciplines. Taking aim at the forefronts of international disciplines and on the basis of national key disciplines, the Project will introduce more than 1,000 talents from the world's top 100 universities and research institutes and build high-level research teams. Besides, about 100 world-class bases for introducing innovation talents.

CONFERENCES / MEETINGS

1. 21st IOCV Conference - 2019 USA, Riverside - California

Preparations for the 21st IOCV Conference are progressing.
IOCV is in close collaboration with the IRCHLB committee.
The first announcement of the joint HLB-IOCV meeting will be released soon.
Link: http://iocv.org/

2. International Congress of Plant Pathology (ICPP) 2018, Boston, July 29-August 3, 2018, Plant Health in A Global Economy. Leading experts from around the world will present the latest advances and innovations, celebrate progress, and set a vision for assuring plant health in a global economy. The vision of the Congress – An engaged world community of plant health scientists advancing knowledge for a safe, affordable, secure supply of food, feed, and fiber for a growing population – reflects the broad and unique position of plant pathology holds within the international community of scientists.
Link: http://www.icpp2018.org/Pages/default.aspx

3. International Conference on Viroids and Viroid-Like RNAs

Viroid-2018: International Conference on Viroids and Viroid-Like RNAs
Place and dates: Valencia (Spain), 5-7 July 2018
Conference venue: Institute for Molecular and Cellular Plant Biology, IBMCP (joint research center of the Spanish Research Center, CSIC and the Polytechnical University of Valencia)
News: Information on registration, abstract submission and accommodation will be soon announced
Link: http://www.ibmcp.upv.es/viroid-2018/

4. The International Society for Citrus Huanglongbing and Liberibacter Pathosystems (IS-CHLP)

IS-CHLP is a non-profit association in the field of citrus Huanglongbing (also called citrus greening) and other Liberibacter pathosystems. We connect, sponsor, organize events related to Liberibacter pathosystems and provide platforms for interactions and information exchanges for relevant stakeholders.

Theme: Cooperation and action

Organizer: Gannan Normal University, University of Florida, Southwest University of China.

Time: March 9-12, 2018. Registration will be open on March 9.

Location: Ganzhou, Jiangxi, China

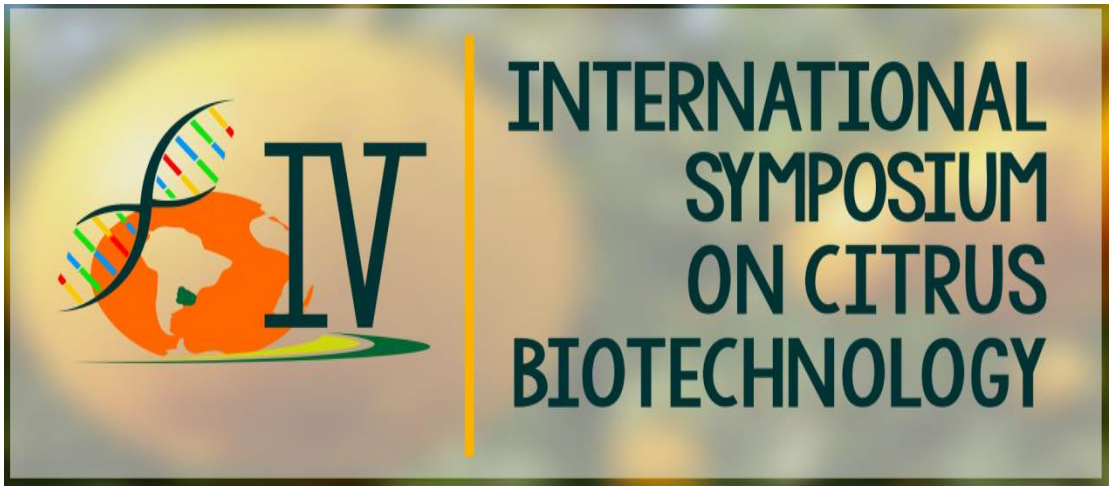
Link: http://www.ischlp.org

5. International Symposium on Citrus Biotechnology

Place and dates: INIA Las Brujas Experimental Station, Montevideo, Uruguay, 16th to 18th, April 2018

Organizer: International Society for Horticultural Science (ISHS), International Society of Citriculture (ISC) and National Agricultural Research Institute (INIA) of Uruguay.

Link: https://www.citrusbiotechnology2018.uy/



FOR IOCV MEMBERSHIP

The website:

http://journalofcitruspathology.com/iocv_membership.html

Where members can pay online.

IOCV Membership Form (next page)

Membership Application in the

INTERNATIONAL ORGANIZATION OF CITRUS VIROLOGISTS

The International Organization of Citrus Virologists (IOCV) is an independent, non-profit association for the promotion of excellence and advancement of research with virus and virus-like diseases of citrus. In addition, membership is open to anyone who is interested in the exchange of information on diseases of citrus in general (see also *Journal of Citrus Pathology*).

A membership fee of $60.00 US, payable to IOCV is required for a three-year period between IOCV Conferences. Student fee is $30.00. Optional donations to the Schwartz Award for the support of young scientists participation to the IOCV Conferences are encouraged and welcomed.

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Payments can be made by **PayPal** or **Credit Card**.

Other options for payment are by Bank Transfer (information below) or International money order or International draft payable to: *INTERNATIONAL ORGANIZATION OF CITRUS VIROLOGISTS*

Payments by checks ONLY on US banks.
Cash payments in USD will be accepted directly but should not be mailed.

If you have any questions contact Robert Krueger, Treasurer, IOCV (Robert.Krueger@ucr.edu) with a copy to the IOCV Secretary (iocvsecretary@gmail.com).

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Account number: 24607-00971
Swift code: BofA US 3N

Bank address: Bank of America
5225 Canyon Crest Dr. #83
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