

*A publication of the International Society for Horticultural Science*

# Chronica Horticulturae



## **Horticultural highlights**

Conference proceedings vs. journal papers • An introduction to the XXXII International Horticultural Congress in Japan: IHC2026 • European horticulture at the crossroads • Orchid production in Taiwan

## **Symposia and workshops**

Orchid • Irrigation of Horticultural Crops • Pear

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#### Scripta Horticulturae

*Scripta Horticulturae* is a series from ISHS devoted to specific horticultural issues such as position papers, crop or technology monographs and special workshops or conferences.

#### PubHort – crossroads of horticultural publications

PubHort is a service of ISHS as part of its mission to promote and to encourage research in all branches of horticulture, and to efficiently transfer knowledge on a global scale. The PubHort platform aims to provide opportunities not only to ISHS publications but also to other important series of related societies and organizations. The ISHS and its partners welcome their members to use this valuable tool and invite others to share their commitment to our profession. The PubHort eLibrary portal contains over 78,000 downloadable full text scientific articles in pdf format, and includes *The Horticulture Journal*, *Journal of the American Pomological Society*, *Journal of the International Society for Mushroom Science*, *Proceedings of the International Plant Propagators' Society*, *Journal of the Interamerican Society for Tropical Horticulture*, etc.

Additional information can be viewed on the PubHort website [www.pubhort.org](http://www.pubhort.org).

## > Contents

### ● News & Views from the Board

- 3 From the cockpit, *P.J. Batt*
- 4 Action and activity, *F. Laurens, P.J. Batt, L. Bertschinger, Y.-C.A. Chang, T. DeJong, M. Fall, P. Paiva, R. Tao and P. Vanderborght*
- 5 Conference proceedings vs. journal papers, *T. DeJong*

### ● Spotlight on Honoured ISHS Members

- 7 Jill Stanley

### ● Horticultural Science News

- 10 An introduction to the XXXII International Horticultural Congress in Japan: IHC2026, *M. Shigyo*
- 13 European horticulture at the crossroads, *F. Stănică*
- 15 ISHS Young Minds Award winner summaries

### ● The World of Horticulture

- 17 Orchid production in Taiwan, *Y.-C.A. Chang*
- 22 New books, websites

### ● Symposia and Workshops

- 23 IV International Orchid Symposium
- 25 X International Symposium on Irrigation of Horticultural Crops
- 27 XIV International Pear Symposium

### ● News from the ISHS Secretariat

- 29 New ISHS members
- 31 In memoriam
- 32 Calendar of ISHS events
- 36 Available issues of *Acta Horticulturae*

Cover photograph: A piece of art, also a commercial product, using *Phalaenopsis* flowers as canvas. See article p.17.





## > From the cockpit

Peter J. Batt, Editor, *Chronica Horticulturae*



> Peter J. Batt

Depending on where you are in the world, the June solstice heralds either the shortest day or the longest day in the annual calendar. The month also sees us celebrate World Environment Day and in much of the northern hemisphere, it's Fathers' Day – the perfect occasion to kick-off the summer season with a family barbeque or an outdoor activity. However, there's often a difficult decision to make at this time – what do we buy our dad? While Bloomscape recommends carnivorous plants, be careful what you wish for if you're planning a barbeque... However, Yao-Chien Alex Chang provides us with a more elegant, noble and indeed beautiful option – a potted *Phalaenopsis*. Taiwan is one of the world's leading producers of *Phalaenopsis*, both as cut flowers and as potted plants. Tracking the development of the industry over the past 50 years, the emergence of Taiwan as a major orchid producer can be attributed to a favourable climate, the adoption of protected cropping and environmental management systems, and decades of plant breeding and hybridization. However, as the world-renowned economist Michael Porter famously wrote, such advantages are seldom enduring – they're fleeting – readily copied and imitated. Hence, to retain their competitive position in the world market, Taiwanese orchid growers are adopting 'Smart Agriculture 4.0', which includes the development of automated machinery, robotics and the Internet of Things (IoT).

As I indicated in my first editorial, I want to provide ALL conveners with an opportunity to promote their events. In this edition, our colleagues from Japan extend an invitation to join them in Kyoto in August 2026 for the next International Horticultural Congress. With the theme 'Explore the diversity of horticulture', the Organising Committee for IHC2026 has adopted four pillars: innovation and skills; food, health and wellbeing; the sustainability of production systems; and traditional cultural heritage. Having spent six months in Japan as a Rotary Exchange student in 1982, the rich cultural heritage of Japan and the Japanese 'art of living' is something you MUST experience. So even though the event is more than three years away, bookmark it NOW!

Romantic Romania is the venue for the V European Horticultural Congress (EHC2024, previously SHE2024). Organised by the University of Agronomic Sciences in Bucuresti, the congress seeks to provide a platform for beautifying the planet through horticulture and securing a sufficient supply of safe, healthy and sustainably produced food for all. Abstracts are due 30 September.

On behalf of the Board, I want to thank those of you who have taken the time to complete the membership survey. One of the perennial issues that has emerged is the lack of any impact factor for *Acta Horticulturae*, our peer reviewed conference proceedings. In this issue, Distinguished and Emeritus Professor Ted DeJong differentiates between confer-

ence proceedings and peer refereed journal papers. Conference proceedings (*Acta Horticulturae*) are intended to provide a concise written record of what has been presented at a symposium/conference/congress. They are usually quite short, reporting on either on-going research projects, or they provide a mini review of completed work. Journal papers, on the other hand, are generally longer and report scientific findings on a specific topic. Unlike conference proceedings, the validity of the research conducted and/or the research findings presented in journal papers are subject to intense peer review, which often results in the rejection of the manuscript. Conference proceedings, however, are seldom rejected because they simply report on what was presented at the meeting. Hopefully this discourse will provide some clarity on the issue and reinforce the need for members to publish their work in *Acta Horticulturae*.

For this month, the Spotlight falls on Dr. Jill Stanley, Science Group Leader (Fruit Crops Physiology) and Principal Scientist with Plant and Food Research, New Zealand. Recently elected as a Companion of the Royal Society Te Aparangi for outstanding leadership and eminent contributions to promoting and advancing science, Jill highlights how her engagement with ISHS was instrumental in facilitating an international network with leading plant scientists and ultimately her career. Her words of advice for students, graduates and early career researchers are invaluable. ●



## > Did you renew your ISHS membership?

Logon to [www.ishs.org/members](http://www.ishs.org/members) and renew online!

## > Action and activity

François Laurens, President of ISHS, Peter J. Batt, Lukas Bertschinger, Yao-Chien Alex Chang, Ted DeJong, Moctar Fall, Patricia Paiva, Ryutaro Tao and Peter Vanderborcht



> François Laurens

It's been nine months since the election of the new ISHS Board. With the exception perhaps of the membership survey, there is little to show, but behind the scenes, there is a flurry of activity with the Board meeting generally one time per month and as many as four sub-committees meeting monthly in addition to that.

First and foremost we wish to thank those members, both past and present, who have participated in the membership survey. To date, we have received over 700 responses. While we will provide a detailed report in September, it is apparent that our members most value the knowledge and the interactions they have with peers at ISHS symposia and congresses. It is also encouraging to see the benefit that most members receive from *Acta Horticulturae*, although for many, the ability to download only 15 papers per year is also a major constraint.

For our past members, and we particularly want to thank them, financial constraints are the main reason why their membership has lapsed. Others have retired, are no longer in the industry, or they have simply forgotten to renew their membership. While the latter is relatively easy to fix, growing and retaining our membership base will take more time and resources.

The Membership sub-committee is currently exploring a range of new membership categories including corporate and other types

of affiliations, such as partnerships, sponsors and alliances. The survey results have also shown the need to consider a life-long membership and/or a retired member category. The first step here is to look not only at the benefits we currently offer members, but also to explore a range of new benefits. Again, the survey results indicate considerable support for ISHS to facilitate the development of a collaboration centre. Others value the opportunity for ISHS to develop and publish discussion papers on a range of issues including climate change, sustainable food production, biodiversity, water and the consumer acceptance of new technology. With access to some of the best scientific minds, our highly skilled and experienced membership base is well placed to offer independent scientific advice. We are also exploring opportunities to provide professional development and mentoring for early career researchers, and professional training in teaching, curriculum development and research methods. However, such initiatives generally require a large amount of cash, and at some point in time, we will need to prioritise what we can afford to do in the short term.

The Young Minds sub-committee is well advanced in its plans to facilitate the development of a Young Minds Committee. The objective here is to provide younger members of ISHS with an opportunity to contribute to the development of our organisation.

The sub-committee is exploring a range of options to facilitate the development of young professionals through training, mentorships and connections to develop the next generation of leaders. We will explore opportunities to offer a range of year-round activities including webinars, deep-dive meetings, networking and mentorship events to connect the industry, students and early career researchers.

The Publications sub-committee has the daunting task of addressing some of the problems we are currently experiencing with the delays in publishing *Acta Horticulturae* and our two peer refereed journals: *eJHS (European Journal of Horticultural Science)* and *Fruits - The International Journal of Tropical & Subtropical Horticulture*. In the coming months, a number of meetings will be held with members and past editors to explore the options and ways to enhance the impact factors for our journals and improve the efficiency and the quality of the *Acta Horticulturae* review process.

While our budget projections for this financial year do indicate a deficit, with more than 40 symposia planned for 2023, we expect to see a positive change in the near future, for sales and subscriptions to *Acta Horticulturae* are the main source of revenue for the Society. ●



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# › Conference proceedings vs. journal papers

Ted DeJong, ISHS Vice-President in charge of Scientific Programs

Over the past thirty years, there has been considerable commentary about *Acta Horticulturae* (<https://www.actahort.org/>). Many consider *Acta Horticulturae* to be inferior to scientific journals as it does not have an Impact Factor rating, but publication is a requirement if someone wants to present at an ISHS symposium or congress. *Acta Horticulturae* was designed to be a conference proceedings. While scientists in biological fields may not be very familiar with the difference between conference proceedings and journal papers, the distinction between the two types of publication is common knowledge and widely accepted by researchers in other fields such as engineering and computer science.

The purpose of the two types of papers is quite distinct. Conference proceedings are meant to report and provide a concise written record on what was presented at scientific conferences. They are usually quite short, receive a general review for readability, but are not rigorously peer-reviewed for scientific content. They are seldom rejected because they simply report on what was presented at a meeting.

On the other hand, journal papers are generally longer, report scientific findings on a specific topic and are rigorously reviewed for scientific content. The validity of the findings and/or conclusions of the research are often questioned by the reviewers. Therefore, journal papers can be rejected on scientific grounds by referees and thus, the fact that they are accepted and published holds more weight within scientific communities. In general, only a limited percentage of the manuscripts submitted to journals are published, depending on the rigor of the peer review process.

For further clarification of the differences between conference proceedings and journal papers see: <https://www.differencebetween.com/what-is-the-difference-between-journal-and-conference-paper/> <https://writingcenter.unc.edu/tips-and-tools/conference-papers/> <https://www.resurchnify.com/blog/article/what-is-the-difference-between-conference-papers-8>

<https://academia.stackexchange.com/questions/18349/difference-between-conference-paper-and-journal-paper>

The International Society for Horticultural Science (ISHS) is a society essentially built upon scientific conferences. The strength of the Society is that it facilitates the hosting of numerous conferences such as symposia and congresses that generally meet at four-year intervals. These conferences provide an opportunity for scientists from around the world to meet and present their work and exchange ideas on a wide range of topics.

The proceedings derived from these conferences (*Acta Horticulturae*) provide written records of what was presented at the conferences and are especially valuable to current scientists who could not attend the meeting as well as to future scientists who may benefit from the work done by colleagues who precede them. Given the purpose of published proceedings, if one argues that meeting proceedings are not worthwhile and that we should only rely on scientific journal papers for communicating research content, then we must question the value of conferences altogether. As members of academia, we must recognize that what we do is not only for the benefit of what we get out of something, but it should also be for the benefit of others.

A quick review of the literature indicates that almost without exception, journal papers provide an in-depth report on research work that has concluded. Conference papers, on the other hand, mostly report on either ongoing research projects or mini-reviews of completed work that has led to observations which might be useful to pursue in future research. To publish either of these types of papers in regular scientific journals usually requires substantial additional research before it can be published. Conference papers often contain data sets that may be valuable within specific contexts but are not substantial enough for publication as scientific journal papers.

In this discussion it is also valuable to remember that ISHS has a different foundation to many other scientific societies such as the American Society for Horticultural Science or other national societies in specific fields of science. Many of the other societies have one or more well-established scientific journals that they manage and have annual meetings of the whole society. Generally, they place less emphasis on topical conferences. Thus,

their emphasis is on publishing in their journals and extensive conference proceedings are of little value because the annual meetings are not topic specific. ISHS has adopted two general content, scientific journals, but its conferences are all organized around specific topics that are addressed at approximately four-yearly intervals. Thus, for ISHS, the emphasis has been on publishing conference proceedings. Ideally, it would be good for ISHS to build up its journals and the ISHS Board is currently investigating strategies for accomplishing that. On the other hand, ISHS continues to recognize the value of its conferences and is one of the few biologically-oriented societies that emphasizes the value of conferences by regularly publishing conference proceedings. This is a good thing, not a bad thing.

ISHS provides a valuable service by maintaining a permanent repository of conference proceedings in the form of *Acta Horticulturae*. Members of the ISHS scientific community have the benefit of regularly being able to attend scientific meetings in their fields of interest in locations all around the world. In this age of information and accountability, it is very important that the members of our Society are able to account for the opportunities to attend these meetings. *Acta Horticulturae* provides a permanent record of these opportunities. While numerous other groups create conference proceedings that contain abstracts, extended abstracts or short papers, these proceedings are often produced on an *ad hoc* basis and are not readily accessible after attending a meeting.

Some people have complained about the general requirement to write a conference paper for *Acta Horticulturae* if their paper is accepted for presentation at a symposium. First of all, I would suggest that this is the wrong way to look at it. It should be viewed as a privilege to present a paper at a symposium and furthermore, if one is asked to present a paper, it is virtually guaranteed that their contribution will be published with very little hassle, compared to writing a journal paper and responding to the referees' comments on multiple occasions. In my personal experience, writing a paper for *Acta Horticulturae* requires about one-tenth of the time compared to writing a paper

for a good journal. There is also much more freedom to express thoughts in conference proceedings than in journal papers.

For those who prefer to write a journal article, based on their presentation at an ISHS symposia, they do have the option to submit their paper to the ISHS scientific journals eJHS (*European Journal of Horticultural Science*, <https://www.ishs.org/ejhs>) or *Fruits - The International Journal of Tropical & Subtropical Horticulture* (<https://www.ishs.org/fruits>). These papers will then go through the normal scientific review process and be subject to acceptance/rejection like a normal journal paper. Authors need only to indicate that the paper was previously presented at a specific symposium.

From our perspective, we as a Society should embrace *Acta Horticulturae* for the role it provides in our Society as a valuable conference proceedings for all horticulturists to benefit from. We should not try to

make it something it was never designed to be. It greatly enhances the value of our symposia by making the information presented more broadly available.

Upon writing this article, myself and the other ISHS Board members have realized that the current rules for submitting papers to *Acta Horticulturae* are very similar to what is expected for submitting regular, peer-reviewed, scientific journal articles, i.e. "Submission of a manuscript implies: that the work described has not been published before (except in form of an abstract or as part of a published lecture, review or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all co-authors, if any, as well as - tacitly or explicitly - by the responsible authorities at the institution where the work was carried out."

We believe that these requirements have created some of the confusion that current-

ly exists between *Acta Horticulturae* conference papers and scientific journal papers. Given that the character and purpose of conference papers is different to scientific journal papers, we are proposing to change the stated rules for submitting papers to *Acta Horticulturae* to the following:

"Submission of a manuscript to *Acta Horticulturae* does not preclude aspects of the work that are contained in a proceedings manuscript from being published in a manuscript prepared for a peer-reviewed scientific journal. However, authors must be aware that some scientific journals may have restrictions on publication of material that is very similar to material that has been published in conference proceedings. Publication in *Acta Horticulturae* must be approved by all co-authors, if any, as well as - tacitly or explicitly - by the responsible authorities at the institution where the work was carried out." ●

## > About the author



> Ted DeJong

Ted DeJong is an emeritus professor who worked as a fruit tree crop physiologist in the Department of Plant Sciences at the University of California, Davis, USA, from 1981 to 2016. He had a split appointment in teaching, fundamental and application-oriented research and extension. His research program mainly focused on understanding tree physiology and orchard management factors that control the carbon balance/budgets and productivity of fruit and nut trees. He has co-authored ~300 scientific papers, taught fundamental pomology

courses and mentored numerous graduate students, post-docs and visiting international scientists. He received the title of Distinguished Professor at UC Davis in recognition of his academic achievements and service. Dr. DeJong is a Fellow of ISHS and ASHS and is Vice-President in charge of Scientific Programs of ISHS. E-mail: [tmdejong@ucdavis.edu](mailto:tmdejong@ucdavis.edu)

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Spotlight  
on Honoured  
ISHS Members

# > Jill Stanley

## Position

Science Group Leader (Fruit Crops Physiology) and Principal Scientist

## ISHS honour

ISHS Honorary Member

## Your involvement with ISHS (roles/positions)

When I started my career in 1981 as a research technician, my boss encouraged me to join ISHS, but it wasn't until 1990 that I attended my first ISHS event, the International Horticultural Congress (IHC) in Florence, Italy. What an amazing introduction! I was exposed to so much horticultural science and met so many interesting people. After that, I started attending symposia relevant to my fields of expertise and have attended many over the subsequent years, publishing papers in *Acta Horticulturae*, and being a keynote speaker on several occasions.

In 1998, I was invited to become one of the New Zealand representatives on the ISHS Council. My New Zealand colleague, Ian Warrington, was keen to encourage greater diversity on the Council to include more women and younger representatives. This was a great opportunity to contribute to the direction of ISHS and to meet researchers and leaders from around the world. I held this role for 16 years. In the meantime, I served on the organising committee for several symposia and on the editorial board for several *Acta Horticulturae* volumes.

The next big opportunity arose when I was invited to be part of the bidding team for Australia and New Zealand to jointly host the IHC in Brisbane. We were successful on our second attempt and I became Vice-President of IHC2014 in charge of the scientific programme. This was a huge job over eight years, in which I planned the scientific structure, identified the symposia conveners, and co-ordinated the programme. This consisted of four plenary sessions with two speakers each, 40 scientific symposia involving 1209 oral and 1206 poster presentations, 25 workshops, and three collaborative medicinal and aromatic plants symposia. Subsequently, I oversaw the submission of 30 *Acta Horticulturae* volumes that were published from the Congress.

In 2014, I was nominated to serve on the ISHS Board of Directors, and I was honoured when



> The 2014-2018 ISHS Board meeting in Kyoto, Japan, in December 2014.

Council voted me in during the elections. During this term, I was Secretary in charge of membership, awards and communication. I also took on the role of Editor of *Chronica Horticulturae* for four years. I initiated the Young Minds Awards at all symposia and included brief summaries on the winners in *Chronica Horticulturae*. I also started up Spotlight on Honoured Members, never imagining that I would be writing one of the articles! I also worked with the Vice-President, Prof. Silvana Nicola, to re-organise the scientific structure of ISHS.



> Jill Stanley in a DSIR Controlled Environment Room in Palmerston North in the early 1980s, assessing the effect of environment and soil types on the performance of grasses.

In 2018, I was re-elected for a second four-year term and became Vice-President, responsible for the scientific activities of the Society, and Chair of the Executive Committee. This was an extremely challenging term, with COVID-19 preventing all international travel. A huge thanks must go to all those conveners who agreed to organise on-line symposia.

After eight years on the Board, I have stepped away from formal positions within ISHS. I have passed my position on the Council to younger New Zealand delegates to give them opportunities. I am still involved in ISHS, however, serving on scientific committees and organising committees. I was humbled to be awarded an Honorary Membership in 2021.

## What encouraged you to select horticulture as a career?

When I finished school, I wasn't sure what I wanted to do, but I enjoyed science so I started a general science degree at the university closest to my home, Waikato University, in Hamilton, New Zealand. During my first year there, the boyfriend of another student was studying horticultural science at Massey University in Palmerston North, 400 km south of Hamilton. When he visited Hamilton, he told us about this exciting, interesting course he was doing. I knew right away that this was what I wanted to do, so I moved to Palmerston North the following year and changed my course to study for this four-year degree. As well as the course work, we had to complete 48 weeks of practical experience, writing a report about each place where we worked. This was really fun, and gave me hands-on experience in a range of horticultural industries.



› Jill Stanley meets apple growers in Shaanxi Province, China, during the field trip prior to the ISHS I International Apple Symposium, October 2016.

### Highlights of your career

I started out as a technician doing environmental plant research in the controlled environment rooms at the Department of Scientific and Industrial Research (DSIR) in Palmerston North. The research was incredibly varied, understanding environmental effects on a range of horticultural and arable crops, and even understanding frost tolerance of young *Pinus radiata*. I intended to stay only a couple of years, but I found out how much I loved doing research. I progressed from technician to technical officer, then scientist, team leader and finally science group leader. So even though the organisation has changed several times, my role has changed and I've worked in different locations in New Zealand and overseas, essentially I never left my first job and it's now 42 years later!

I began carrying out field research alongside the controlled environment research, mainly on apple, kiwifruit and grape. After I transferred to another research centre, I diversified into physiology of berryfruit and sustainable production of sphagnum moss. However, for the past decade, my focus has been on stonefruit. My main passion has been applied research that has benefits for growers, and I have great satisfaction in seeing our work being taken up in commercial orchards.

Because of the moss projects I was leading, I was contacted by the environmental manager of a large copper and gold mine in West Papua. They wanted advice on how to speed up the revegetation of the overburden rock dumps on their mine. Having noted that mosses were the first plants to establish, this was the beginning of a fascinating project over several years, which subsequently led to

a similar project on the coal mine dumps on the West Coast of New Zealand.

I've had the opportunity to travel widely, to attend conferences, to carry out consultancies and to attend ISHS meetings in various roles. I spent six months at the Glasshouse Crops Research Institute in the UK, researching chrysanthemum floral initiation with Dr. Ken Cockshull, and four years in Barcelona, Spain, based with IRTA. Shifting to Barcelona, a large city where they spoke a different language, was a huge change for my whole family, but we all rose to the challenge and had an amazing time.

I was very lucky that my husband was willing to be a stay-at-home dad, so I could continue to work. I am also fortunate that I have had great colleagues who encouraged and mentored me, and fantastic teams that I worked with to make our research centre a really fun and rewarding place to be.

As well as getting involved in ISHS, I also played several roles in the New Zealand professional society, the NZ Institute of Agricultural and Horticultural Science, serving on the Council for many years and as President. I have been lucky to have people who mentored and encouraged me, so I wanted to help and support other researchers. When I became a science group leader, together with the Organisational Development Leader I developed a mentoring programme for interested members of my group. This was such a success that it was rolled out to other science groups within The New Zealand Institute for Plant and Food Research Limited (Plant & Food Research). The programme subsequently won the New Zealand Human Resources Award for Learning and Development Capability. In 2022, I was honoured to be elected Companion of the Royal Society

Te Apārangi, in recognition of outstanding leadership and eminent contributions to promoting and advancing science.

### How your participation in ISHS has facilitated/encouraged your career

Being a member of ISHS and participating in ISHS activities have both played a major role in my career and life in general. Attending ISHS symposia and congresses gave me the opportunity to learn about the latest results and scientific thinking on relevant topics. And congresses were a great place to attend presentations on topics I might not ordinarily be able to listen to, but which led me to think about novel ideas to apply to my own research.

However, the biggest benefit has been connecting with a wide range of researchers from around the world, particularly in my own field of interest, crop physiology. This has led to collaborations and the opportunity to visit different research groups to see what they are doing. And being part of ISHS has resulted in some wonderful, enduring friendships.

Having the opportunity to be part of the ISHS organisational structure has given me further opportunities, but for me there is an even bigger benefit. Contributing to ISHS makes me feel happy that I could give back to a professional society that has helped me. I hope that I have been able to improve ISHS a little so that more researchers can gain value from being members.

### What words of advice do you have for students/graduates/early career researchers?

I recommend that those starting out in their career should look for mentors who will challenge them to think about where they are



› Jill Stanley measuring cherry fruit quality in the field using a Felix F-750 spectrometer at the Clyde Research Centre, Plant & Food Research. Photo by Craig Robertson, Plant & Food Research.



going, and what steps they need to take to get there. Certainly, a supervisor or line manager can fill that role to some extent. However, it is really useful to look for at least one other person who is slightly outside your immediate team and who has different perspectives and connections. Be brave and ask someone who you think would be a good fit, and suggest trying it for a set period of time and then you can both decide if you wish to continue.

My second suggestion is for you to look for opportunities to step out of your comfort zone. Talk to that famous researcher who wrote your university textbook when you see them at a symposium, volunteer to be on that committee, go to that overseas lab for three months, or put your hand up to be the convener of a symposium. You might surprise yourself at what you can achieve, and it will open doors. But remember to be humble at the same time: ask for help and appreciate and acknowledge the contribution of others. And lastly, choose an area of horticultural science that you really enjoy and feel passionate about, because you spend a great deal of time at work. You have chosen a great profession: make sure you appreciate your choice. 🍓



➤ Jill Stanley was elected Companion of the Royal Society Te Apārangi in 2022. Photo courtesy of the Royal Society Te Apārangi.







# > An introduction to the XXXII International Horticultural Congress in Japan: IHC2026

Masayoshi Shigyo



[www.ihc2026.org](http://www.ihc2026.org)



■ Figure 1. Kyoto International Conference Center.

the world to the Kyoto International Conference Center in August, 2026 (Figure 1). This location holds deep personal memories for me and no doubt, after your attendance at the Congress, you too will have many fond memories of Japan.

Japan is honored to host the XXXII International Horticultural Congress (IHC2026). IHC2026 will provide an outstanding opportunity to share and exchange knowledge and culture related to horticultural science and the environment across the globe. Over one week, IHC2026 will bring together thousands of participants. The backbone of the Congress will be a series of plenary sessions and symposia. In addition, through workshops, business meetings, side events and student placements, IHC2026 participants will “Explore the Diversity of Horticulture”.

I am delighted to announce that I have been appointed Chair of the Publications Committee for the forthcoming International Horticultural Congress (IHC2026). The International Society for Horticultural Science (ISHS) has been very kind to me over many years, and it is with great pleasure that I have accepted this role.

Looking back, I was a master's student at the previous International Horticultural Congress in Japan, in 1994. I remember Prof. Akira Sugiura from Kyoto University, who was the president of the Japanese Society for Horticultural Science (JSHS) at that time, greeting the participants at the reception. I also remember the Japanese taiko drum performance, especially when the Congress participants joined the performers on stage to beat the drums. Although I was not yet able to present my own research in English, I had the pleasure of meeting and conversing with the great agronomist, Lesley Currah from Warwick in England, who conducted research similar to mine. These happy memories are forever etched in my mind.

Although almost 30 years have passed, our Planning Committees are now looking forward to welcoming scientists from all over



■ Figure 2. Kyoto, a fascinating city that attracts many international tourists.



IHC2026 will address key horticultural topics and issues under four main pillars:

- Innovation and skills in the horticultural sector
- Food, health and well-being
- Sustainability of production systems
- Traditional cultural heritage

This world-class Congress will provide a unique opportunity to discover the ancient capital of Japan, Kyoto (Figure 2), and the surrounding region through a rich program of social events (Figure 3) and, after the Congress, through a variety of professional excursions and tours (Figure 4) to introduce participants to the Japanese “art of living”, or “Washoku” (Figure 5).

In preparing for IHC2026, we have established a number of Committees (Figure 6). The Executive Committee consists of our President (Dr. Ryutaro Tao, Kyoto University), Vice Presidents (Dr. Katsuhiko Shiratake, Nagoya University; Dr. Tadahisa Higashide, Institute of Vegetable and Floriculture Science; and Dr. Akiko Ito, Institute of Fruit Tree and Tea Science), our Treasurer (Dr. Takeshi Takasaki-Yasuda, Kobe University) and Secretary (Dr. Chitose Honsho, University of Miyazaki). We also have an Advisory Board consisting of two past presidents of the Japanese Society for Horticultural Science, Dr. Yoshinori Kanayama (Tohoku University) and Dr. Saneyuki Kawabata (University of Tokyo). Approximately 18 months out from the Congress, a series of articles especially written for *Chronica Horticulturae* will provide an overview of horticulture in Japan and highlight some of our unique methods and achievements. The editorial team, consisting of myself, Masayoshi Shigyo (Yamaguchi University), Dr. Shinya Kanzaki and Dr. Megumi Ishimaru (Kindai University), Dr. Kazuyoshi Nada (Mie University), Dr. Kunio Yamada (Gifu University), Dr. Takeshi Kurokura (Utsunomiya University), Dr. Tomoya Esumi (Shimane University), Dr. Takuya Tetsumura (University of Miyazaki) and Dr. Shungo Otagaki (Meijo University), will work with a broad range of scientists and technical experts to provide these reviews.

In the words of our President, Professor Ryutaro Tao, compared to other agricultural and plant science fields, horticultural science is the field of science that focuses on a great diversity of plants from domesticated to wild plants. Horticulture covers a wide range of fields from social sciences to medical sciences, and a wide range of professions including scientists, growers, distributors, and marketers.

The theme of IHC2026 is to “Explore the Diversity of Horticulture”, to respect the diversity of horticulture and to apply it to enrich future human life. We would like to invite all of you to explore with us the inte-



■ Figure 3. A social visit to the traditional beauty of Japan. A. Zen meditation, B. Tea ceremony, C. Kyoto artisans.



■ Figure 4. Technical tours with intensive and unique ways of horticultural production in Japan, like plant factories, transgenic blue roses and intensive cultivation of fruit crops.





■ Figure 5. Numerous Japanese foods available near Kyoto.

grated science of horticulture, combining social science, natural science, the best in agricultural practices, and the latest technological advances in robotics and genetics. From small household operations for local farmer's markets to large scale integrated supply chains for global production, IHC2026

will bring the latest horticultural findings, practices and future directions to you. We are currently working on the planning of the plenary sessions and various symposia, and we will spare no effort in welcoming you to Kyoto in the summer of 2026. ●

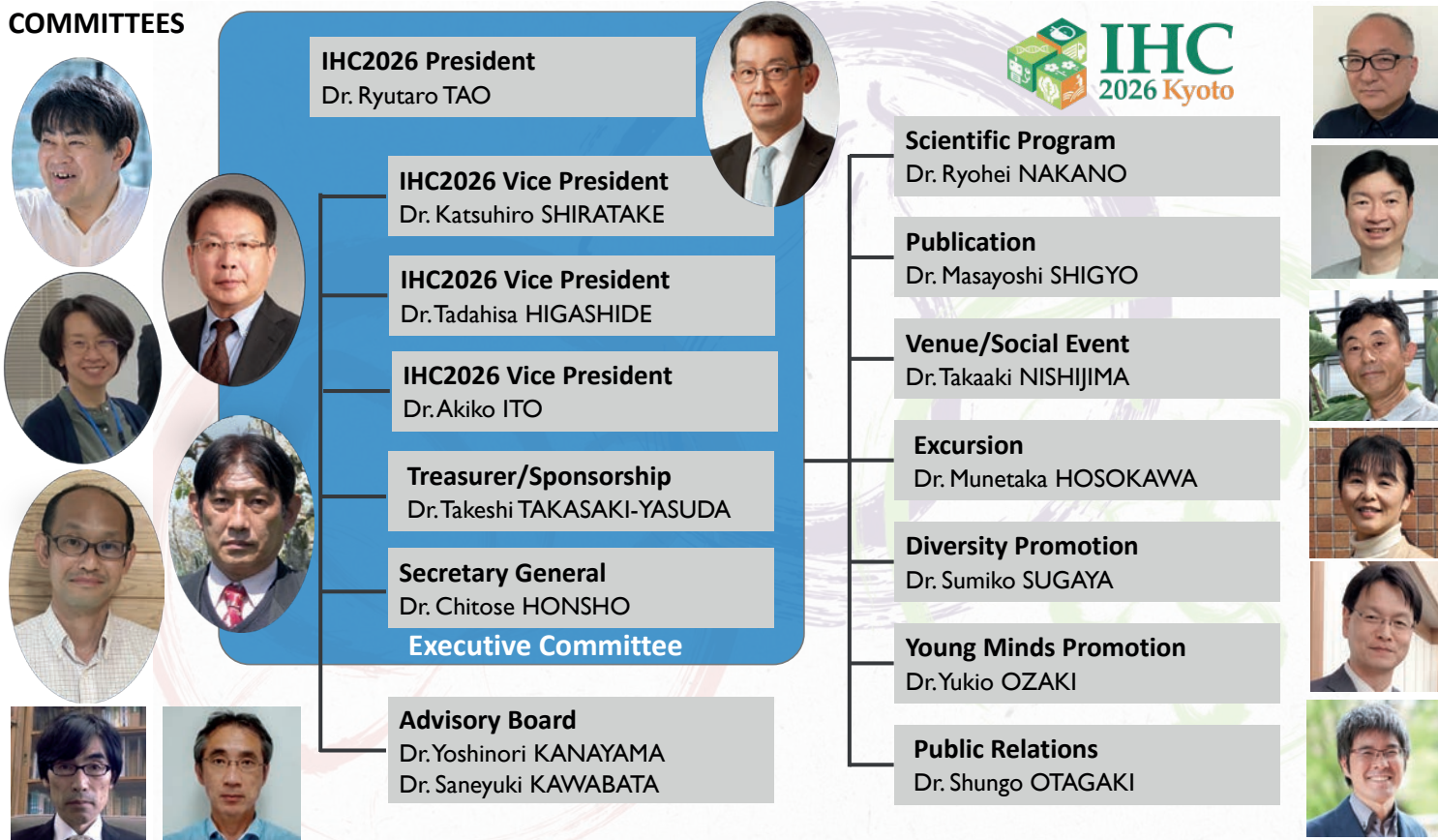
### > About the author



> Masayoshi Shigyo

Masayoshi Shigyo, Plant Geneticist (D. Ag), is professor at Yamaguchi University, Japan (<https://www.yamaguchi-u.ac.jp/english/index.html>), and Chair of the IHC2026 Publication Committee. As a plant breeder of vegetable crops, he is particularly interested in biotic stress tolerance and innovative omics approaches. In recent years, he has also focused on research on the cultivation of vegetables in plant factories. E-mail: shigyo@yamaguchi-u.ac.jp

### COMMITTEES



■ Figure 6. Committees for IHC2026.



# > European horticulture at the crossroads

**EHC**  
12-16 May 2024  
Bucharest, Romania

**EUROPEAN  
HORTICULTURE  
CONGRESS**

Florin Stănică, President of EHC2024, and the Organizing Committee

Welcome to the V European Horticultural Congress (EHC2024, previously SHE2024) to be held in Bucharest, Romania, on May 12-16, 2024. The title of our congress, Horticulture at the Crossroads, is a reflection of the current realities facing horticulture in these turbulent times. Climate change, the energy crises, war, market fluidity, competition, the scarcity of labour, new pests and diseases, and environmental pollution are only some of the current challenges that we need to face and address. Sustainability, resilience, biodiversity, agroecology, the circular economy, green cities, genetic resistance, robotics, mechanization and production efficiency are the buzz words that define the wide spectrum of fields in which we currently work.

Within the ten symposia that are planned for this congress, science and innovation will meet industry and nature in an open dialogue about why, when and how we can and need to work together for the sustainable development of European and indeed global horticulture. The ten symposia will provide an opportunity for horticulturists to present the results of their research work, innovative methods and multidisciplinary cross-cutting views:

1. History of Horticulture in Europe
2. Sustainable Vegetable Production from Seed to Health Booster Sources
3. Fruit Production Systems for a Sustainable and Resilient Development
4. Viticulture and Winemaking between Tradition and Innovation
5. Berries in Europe between Opportunities and Challenges



> The Parliament Palace, venue of EHC2024.

6. Ornamental Horticulture at the Service of the European Society
7. Urban Horticulture: from Vertical Farming to Planting Design
8. Genetic Resources in Horticulture: Screening, Propagation, Use, and Conservation
9. Robotics, Mechanization and Smart Horticulture
10. Postharvest and Horticultural Products Quality

During the congress you will also have the opportunity to participate in many side events:

- The Senate Garden of the Parliament Palace will host the 20<sup>th</sup> Bucharest Horticulture Days with producer exhibitions, tasting horticultural products, and field demonstrations of horticultural equipment and machinery;
- A large exhibition area for companies from the horticultural industry will be organized in the indoor congress area within the Palace;



> Exhibition hall in the Parliament Palace.



> Bucharest city center.





> Romania's touristic attractions.

- Separate workshops will be conducted by our sponsors and industry representatives;
- Ten half-day professional tours will be organised for each symposium.

Known for its wide, tree-lined boulevards, glorious Belle Époque buildings, and reputation for the high life, for which in the 1900s it earned its nickname of "Little Paris", Bucharest is Romania's capital and largest city.

We invite you to join us for the V European Horticultural Congress at Parliament Palace, one of the most controversial buildings in Romania, identifying with Buckingham Palace in London and the Palace of Versailles in France. Nicknamed by the architects of the time as the "Little Phenian", the building has an eclectic style and is loaded with contradictory elements. The building occupies 365,000 m<sup>2</sup> and holds the Guinness World Record for the largest administrative building (for civil

use). It is also one of the heaviest and most expensive buildings in the world.

We welcome you to a country of captivating stories, unique sites, beautiful scenery and amazing personalities. Seven Romanian landmarks are declared UNESCO world heritage sites, from the Danube Delta, to the painted churches in the north of Moldavia, the Dacian Fortresses in the Orăştie Mountains, the historic centre of Sighişoara, the Horezu Monastery, the fortified churches in Transylvania, and the wooden churches in Maramureş. Participants will have five post-congress tours to choose from.

We look forward to welcoming you to Romania and as our guests, to sharing our knowledge and experience, our culture, cuisine and our wines, and our collaborative efforts to impact the future development of horticulture in Europe. ●

> About the author



> Florin Stănică

Prof. Florin Stănică is Vice-Rector of the University of Agronomic Sciences and Veterinary Medicine of Bucharest, and corresponding member of the Romanian Academy, Section Agricultural and Forestry Sciences. He is member of the Academy of Agricultural and Forestry Sciences, and Vice-President of the Section Horticulture. Prof. Stănică is Professor of Pomology at the Bucharest Faculty of Horticulture, and expert on fruit growing technologies, including planting systems, canopy and organic orchard management. He is senior researcher on new fruit species, breeder of kiwifruit, jujube, pawpaw, peach and apricot. Since 2006, he is the Romanian representative on the European Fruit Research Institutes Network (EUFRI) Board and he used to be EUFRIN Secretary and President. Prof. Florin Stănică is the Chair of ISHS Working Group Peach Culture and the Romanian representative in the ISHS Council. He is the President of the V European Horticultural Congress (EHC2024) that will be held in Bucharest. E-mail: flstаница@yahoo.co.uk

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# › ISHS Young Minds Award winner summaries

Below is a selection of research summaries from winners of ISHS Young Minds Awards for best oral and poster presentations at ISHS symposia. To view other exciting research summaries by other winners, please visit [www.ishs.org/young-minds-award](http://www.ishs.org/young-minds-award).

## The bulb morphological traits of Croatian garlic (*Allium sativum* L.) genetic resources



› Iva Bažon Zidarić

Garlic (*Allium sativum* L.) is an important crop in the diet of many countries. It has a characteristic alliaceous smell and taste and has a beneficial impact on human health. Wide variability is known in garlic morphological traits. The source of traits of interest for breeding is based on an evaluation of the diversity of plant genetic resources. To date,

the morphology of Croatian garlic has not been understood. The aim of this research was to analyse 77 garlic accessions using bulb qualitative and quantitative morphological traits, to understand the relationship among traits, and to define possible groups of accessions in the collection. Garlic was planted in autumn using a completely random design and harvested in mid-June. Ten bulbs per accession were sampled and analysed two months after harvest using ECPGR descriptor for Alliums. Skin colour of the clove and bulb structure type had a strong association with all other qualitative traits studied: shape of mature dry bulb, shape of mature garlic bulb, outer skin colour of compound bulb, shape of the compound bulb in horizontal section and the ability to flower. A weak relationship was found between the shape of the mature garlic bulb, with shape of the compound bulb in horizontal section and the ability to flower. The bulb weight, diameter and height were positively correlated. A low negative correlation was found between number of cloves and diameter, height and weight. Based on morphological

traits, garlic accessions were classified into two distinct morphotypes. Garlic accessions from the first group had yellow and light brown cloves, irregular structure, elliptic shape and no ability to flower. Garlic from the second group had violet cloves, regular structure, circular shape and an ability to flower. These results present a detailed report on Croatian garlic morphology, which may contribute to the effective preservation and management of the collection.

Iva Bažon Zidarić won the ISHS Young Minds Award for the best oral presentation at the VIII International Symposium on Edible Alliums, which was held virtually in Croatia in May 2022.

### › Contact

Iva Bažon Zidarić, OPG Vina Bažon - Bažon Wines, Marcani 130b, 52403 Gračiče (Istria), Croatia, e-mail: [ivabazon@outlook.com](mailto:ivabazon@outlook.com)

## Etiology and management of black rot on 'Forelle' pears in the Western Cape



› Martin-John Richard

This study was conducted due to an increase in black rot reports in stored South African pears. This disease is not well documented and studied in South Africa. It has been reported that *Diplodia seriata* and *Botryosphaeria*

*dothidea* are the main causal organisms. This study was performed to: 1) determine the distribution and presence of the disease in the Western Cape region of South Africa; 2) to confirm the main causal organism(s); and 3) to test the effectiveness of immersing fruit in currently registered and applied post-harvest fungicides such as fludioxonil and pyrimethanil. To determine the incidence of black rot disease, a survey was conducted in 11 orchards in the Western Cape with 500 'Forelle' pears being harvested from each orchard over two production seasons. The fruit was stored at -0.5°C under regular atmosphere conditions for three months. Black rot was confirmed in all sampled areas with a mean incidence of 1.7% and a maximum incidence of 9.2%. Fungal cultures collected from black rot pears were identified using species specific primers. The main causal organism for black rot was determined to be *D. seriata*. Isolates were collected in regions previously thought to be free of this patho-

gen. Notably, no *Botryosphaeria dothidea* cultures were collected from the survey. The fungicide trials using fludioxonil and pyrimethanil were performed with 'Forelle' pears inoculated with *D. seriata*. Results showed that a fludioxonil application was effective in controlling black rot at the registered dosage of 300 mg L<sup>-1</sup>. Conversely, pyrimethanil did not effectively control black rot even at double the recommended dosage of 1000 mg L<sup>-1</sup>. Martin-John Richard won the ISHS Young Minds Award for the best oral presentation at the XIV International Pear Symposium in South Africa in January 2023.

### › Contact

Martin-John Richard, Department of Plant Pathology, Stellenbosch University, 7600 Stellenbosch, South Africa, e-mail: [20714580@sun.ac.za](mailto:20714580@sun.ac.za)

## Data driven irrigation scheduling to reduce irrigation requirements in an Australian cool climate 'Cabernet Sauvignon' vineyard



> Rochelle Schlank

As part of my PhD at the University of Adelaide in South Australia, my research has largely focused on vineyard irrigation management and vine physiology. I have a special interest in optimising irrigation scheduling to improve water use efficiency (WUE) for winegrapes, particularly with the use of plant sensors. Irrigation scheduling strategies can be broadly described by four main categories: approaches based on historical applications/personal experience (typically non-data driven), evapotranspiration (i.e.

crop evapotranspiration,  $ET_c$ , data-driven approach), and plant and soil water sensing (data driven approaches). However, there is no consensus on the ideal scheduling strategy to improve WUE. To investigate optimisation of vineyard irrigation scheduling, an irrigation trial was carried out in a premium 'Cabernet Sauvignon' vineyard located in the Coonawarra region of South Australia. Conventional means of irrigation scheduling (i.e. based on experience/historical knowledge) were compared alongside data-driven approaches in order to improve WUE. Over three growing seasons (2018/2019, 2019/2020 and 2020/2021), leaf gas exchange, vine water potential, and light interception were measured throughout the growing season, and yield components and pruning weight were determined following harvest, in addition to an analysis of berry composition. WUE metrics were also calculated using leaf, vine and fruit scales (intrinsic WUE,  $WUE_i$ ), crop yield ( $WUE_c$ ), and carbon isotope ratio ( $\delta^{13}C$ ). Compared to conventional approaches, irrigation scheduling following measurements of  $ET_c$  and the use of plant water status thresholds resulted in irrigation reductions of up to 60%. This was associated with small

improvements to  $WUE_c$ , in addition to  $WUE_i$  and  $\delta^{13}C$  metrics. Despite the large reduction in water, there were no significant differences in berry composition between treatments, indicating that data-driven treatments could achieve a similar berry quality to standard grower practices for this premium vineyard. Overall, the data from this study suggest that data-driven irrigation scheduling is recommended over non data-driven approaches. Rochelle Schlank won the ISHS Young Minds Award for the best poster presentation at the X International Symposium on Irrigation of Horticultural Crops in South Africa in January-February 2023.

### > Contact

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Check out [www.ishs.org/ejhs](http://www.ishs.org/ejhs) and [www.ishs.org/fruits](http://www.ishs.org/fruits) for more details.



# > Orchid production in Taiwan

Yao-Chien Alex Chang

## Introduction

In oriental cultures, orchids symbolize “nobility”, “beauty” and “elegance”. Hence within much of Asia, orchids are used as gifts or decorations for important occasions.

Taiwan is a major orchid exporter and is known for producing high-quality orchids. Consequently, Taiwan is often referred to as the “Kingdom of Orchids”. In particular, Taiwan is famous for the production of orchids from the genus *Phalaenopsis*.

Taiwan is a subtropical island, located on the west side of the Pacific Ocean. With the Tropic of Cancer passing through the island, there is an abundance of rainfall. The main production area for orchids is in the south of the island, where it’s warm, humid, and sunny. Around 750 ha are currently used for orchid production, which is just 5% of the total production area of floricultural crops in Taiwan. However, the export value of orchids is high, around USD 210 million annually (Council of Agriculture, Taiwan, 2022).



■ Figure 1. Taiwan Orchid Plantation (Taiwan Orchid Technology Park).

## History of orchid industry in Taiwan

The modern orchid industry in Taiwan started in the 1980s. In the 1950s, orchids were largely cultivated by amateur growers. As a bottle of tissue cultured seedlings was very expensive, the main customers were doctors, lawyers, teachers and other upper-class professionals. However, as Taiwan’s economy

boomed in the 1960s to 1980s, the production scale of *Phalaenopsis* expanded, with new greenhouses being erected in various districts.

In the 1980s, Taiwan’s orchid industry entered an emerging phase with help from Professor Nean Lee from the National Taiwan University. She introduced Dutch Venlo greenhouses and assisted a government-owned enter-



■ Figure 2. Taiwan International Orchid Show in 2023.





■ Figure 3. Vertical farming techniques for *Phalaenopsis* production in a greenhouse at Symon Agricultural Biotech, Taiwan.



■ Figure 4. Automated storage and retrieval system in a greenhouse at Symon Agricultural Biotech, Taiwan.

prise, Taiwan Sugar Corporation, to establish a standard cultivation process for orchids. They used automatic environmental control facilities and created a template for the large-scale production of orchids.

With the success of the Taiwan Sugar Corporation, many other large companies followed and invested in orchid production with improved greenhouses. Gradually, orchids were transformed from a high-priced, rare, luxury item to a mass-produced, popular commodity. The government also established the Taiwan Orchid Plantation (Figure 1) in Tainan in 2004 to assist the development of the orchid industry. It is currently the largest orchid greenhouse cluster in the world. The Taiwan International Orchid Show (Figure 2) is held at the Plantation in early March every year, where high-quality orchids and eye-catching displays attract numerous foreign buyers and orchid enthusiasts.

In 2004, an agreement was signed with the U.S. to allow Taiwan to export *Phalaenopsis* in growing media. Before that, *Phalaenopsis* could only be transported with bare roots, and the plants were easily stressed and damaged. Not only did it take considerable time for them to recover, but the quality of the flowers was also reduced. In addition to saving a large amount of cultivation time and cost to buyers, the growth in export value rose significantly, creating unprecedented prosperity for Taiwan's orchid industry.

### Taiwan's orchid cultivation model

Greenhouse construction techniques in Taiwan are very mature and sophisticated. Greenhouses for orchid production are equipped with modern environmental control systems that work effectively to facilitate growth and control pests and diseases. The official inspection standards for exporting *Phalaenopsis* plants in growing media to

the U.S. are very strict. However, there are 118 growers in Taiwan that are able to meet the inspection standards, with 221 greenhouses in total (U.S. Department of Agriculture, 2023). Inspection standards include: all external ventilation openings in the greenhouse must be equipped with insect-proof nets, double-layer or airtight doors that can be opened automatically, the greenhouse floor must be clean and free of cracks, and the legs of benches must be equipped with copper sheets to prevent climbing by mollusks. Quarantine must be approved no less than 30 days before export.

Currently, a high-level standardized operation is applied to most greenhouses in Taiwan. Greenhouses are equipped with environmental control facilities that regulate the

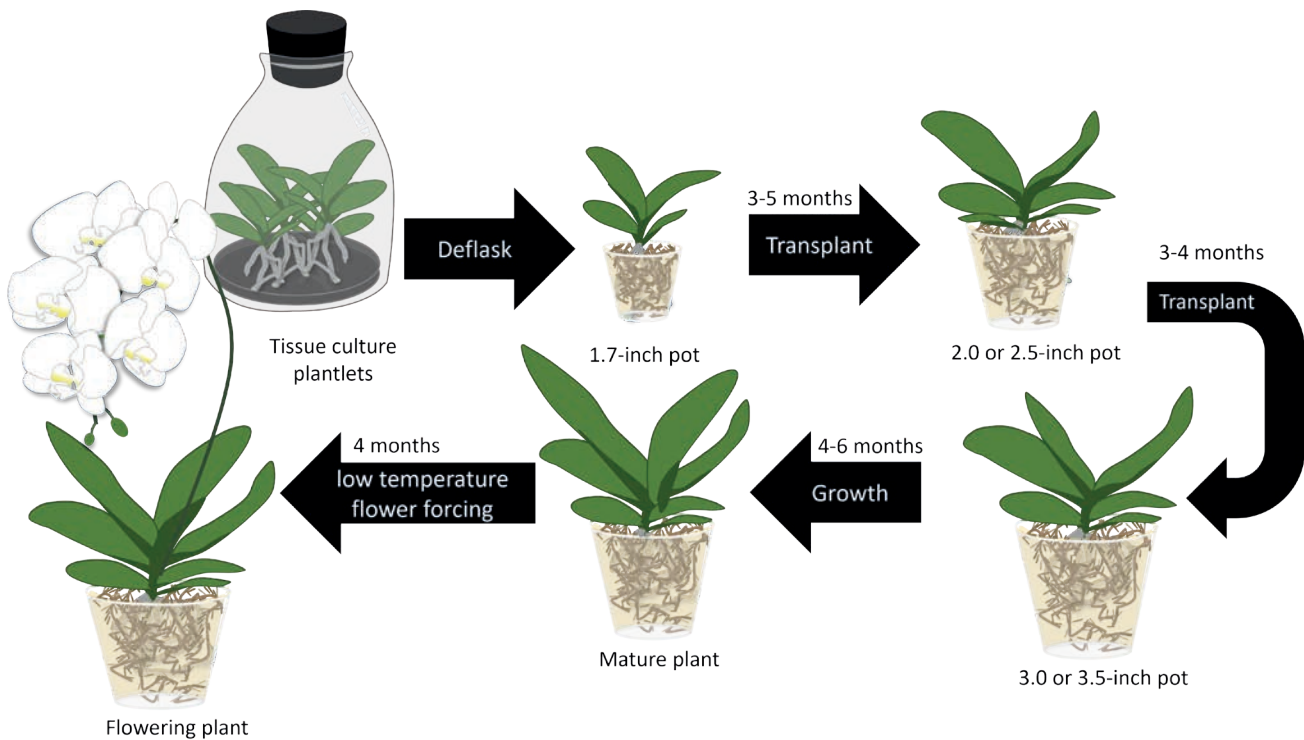
light intensity and temperature. In summer, when the light intensity and temperature are high, the plants are protected by a shade net. Most greenhouses also contain a pad and fan cooling system or air conditioning. During the winter months, heating is provided using heat pumps.

To further improve environmental control, sustainability and production efficiency, the Taiwan government is now executing the "Smart Agriculture 4.0 Project", which includes the development of automated machinery and labor-saving facilities, utilizing the Internet of Things (IoT) to monitor production. In recent years, the industry has gradually moved toward smart agriculture and sustainable management. For example, the Symon Agricultural Biotechnology Co.



■ Figure 5. Ground self-propelled automatic watering machine in a greenhouse of I-Hsin Biotechnology, Taiwan.





■ Figure 6. *Phalaenopsis* production system in Taiwan.

Ltd., which produces *Phalaenopsis* cut flowers, was established in 2014. To utilize the space effectively, vertical farming techniques were introduced to orchid greenhouses (Figure 3). The greenhouse environmental monitoring system was combined with the IoT, and a large amount of data was sent to the cloud, which allowed for real-time control of temperature, air humidity, light intensity, and the application of water and fertilizers to the growing substrate. Greenhouses were equipped with an automated storage and retrieval system (Figure 4) to move benches and an automatic trough irrigation system was applied to save labor associated with watering.

Recently, I-Hsin Biotechnology Inc. has begun to use a robotic irrigation sprinkler system (Figure 5). The sprinklers can be adjusted to face different directions so that water can be delivered widely and evenly to each pot.

From breeding, tissue culture, small plants, medium plants, large plants and flowering plants, each stage of *Phalaenopsis* production takes place in greenhouses with different specifications by different specialized companies. Production takes from 14-20 months (Figure 6).

### Orchid breeding in Taiwan

Breeding is an important part of the orchid industry in Taiwan. There are about 200 professional *Phalaenopsis* breeding companies in Taiwan. There are about 2500 cultivars available in Taiwan for buyers to choose from, and hundreds of new cultivars are released to the market every year.



■ Figure 7. Three novel fragrant *Phalaenopsis* cultivars bred by the Hualien District Agricultural Research and Extension Station, Taiwan: A) *Phalaenopsis* Hualien Sunflower 'Hualien Gold', B) *Phalaenopsis* Kenneth Schubert 'Hualien Blue Wave', and C) *Phalaenopsis* Hualien Arco Rosa 'Hualien Rosa'.

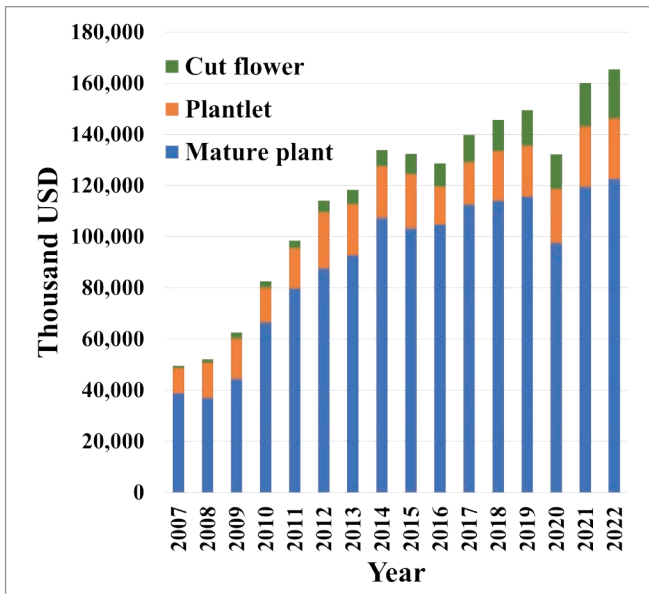
There are two indigenous *Phalaenopsis* species in Taiwan, both of which are important breeding resources. One is *Phalaenopsis aphrodite*, which was first discovered and collected in 1897. There are more than 23,000 registered hybrids from *Phalaenopsis aphrodite*, and it is the most important parent for breeding large-flowering cultivars.

Another important indigenous species is *Phalaenopsis equestris*, which is a smaller plant with more than 20 flowers on an inflorescence. It is the most important parent of small, multi-flowered cultivars, with more than 14,000 registered hybrids. In addition to these two important native species, almost all the important germplasm for *Phalaenop-*

*sis* can be found in Taiwan due to the large number of resources collected by breeders in the early years.

In addition to novelty and aesthetics, commercial breeding also requires other characteristics, such as disease resistance, storage tolerance, fast growth and flowering time. The breeding of an elite *Phalaenopsis* cultivar usually takes decades because the genetic composition of *Phalaenopsis* is complex and it takes 2-3 years from seeding to flowering.

The aroma is also an important sensory experience. Today, many Taiwanese breeders are devoting themselves to breeding fragrant cultivars. There are some novel fragrant



■ Figure 8. Export values of different *Phalaenopsis* products from Taiwan (Customs Administration, Taiwan, 2022).



■ Figure 9. The most popular *Phalaenopsis* cultivar produced in Taiwan, *Phalaenopsis Sogo Yukidian 'V3'*.

cultivars such as *Phalaenopsis* Hualien Sunflower 'Hualien Gold' and *Phalaenopsis* Hualien Arco Rosa 'Hualien Rosa', which have a rose fragrance, and *Phalaenopsis* Kenneth Schubert 'Hualien Blue Wave' with a fruity fragrance (Figure 7).

### Taiwan's orchid export status

While the production area of orchids only accounts for 5% of all floricultural crops in Taiwan, the export value of orchids accounts for 90% of the value (Council of Agriculture, Taiwan, 2022). The main products are *Phalaenopsis*, *Oncidesa*, *Dendrobium*, *Cymbidium*, and slipper orchids, but mature *Phalaenopsis* plants are the most important, accounting for more than half of the orchid

export value (USD 123 million annually) (Figure 8).

For cut flower, the export value of *Oncidesa*, which was once the dominant species, has also been overtaken by *Phalaenopsis*. Here, the main cultivar is *Phalaenopsis Sogo Yukidian 'V3'* (Figure 9).

Orchids are an important ornamental plant. In the Netherlands, which is perhaps the most important flower market in the world, *Phalaenopsis* accounted for 63% of the wholesale value of indoor plants in 2020 (Royal Flora Holland, 2020). In the potted flower wholesale market in the U.S., orchids are responsible for one third of sales, with most of them imported from Taiwan (U.S. Department of Agriculture, 2021). In Japan,

potted orchids are the most important indoor plant, with sales approaching USD 310 million a year (Portal Site of Official Statistics of Japan, 2021). In 2022, Taiwan exported more than 7.9 million plants to Japan, which was six times greater than that of Vietnam (Plant Protection Station, Japan, 2022).

While the environmental conditions for growing orchids in Taiwan are very favorable, the growth in export value is attributed to very creative breeding programs and modern cultivation techniques. The development of these techniques has been powered by research from universities and research institutes. Today, Taiwan is the leading country for *Phalaenopsis* research and innovation. According to the Web of Science, from 1945



■ Figure 10. Symon Agricultural Biotech's A) customized dyed potted flowers and B) creative dyed cut flowers.



to 2022, 602 scientific papers on *Phalaenopsis* have been published. One third of them (213 papers) were published by Taiwanese researchers.

### Concluding comments

The orchid industry in Taiwan has achieved great success. While much of this is attributed to a favorable climate, the collection of important germplasm, state-of-the-art breeding, fundamental research and development on cultivation techniques, and a standardized production process have all contribut-

ed. Although Taiwan's orchid export volume continues to increase, the export market seems to have reached a plateau, with many neighboring countries emerging as potential competitors. Orchid producers in Taiwan are exploring new markets and creating new novelty products, such as customized dyed flowers (Figure 10), to expand the customer base. Furthermore, to reduce labor costs and to increase quality and production efficiency, government and growers are jointly promoting smart agriculture to secure and hold Taiwan's share of the international market. ●

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### About the author



Yao-Chien Alex Chang

Yao-Chien Alex Chang is a professor at National Taiwan University, Taiwan. His research focuses are plant physiology, plant nutrition, flowering control, post-harvest, and tissue culture of orchid crops. He is currently a Board Member of ISHS and also a Board Member of the Taiwan Society for Horticultural Science. He started his orchid growing at the age of 11, and then he developed his professional track in orchid research and extension. His research has been awarded several times by the American Society for Horticultural Science and Taiwan Society for Horticultural Science. He also earned the Award of Outstanding Teaching (Top 1%) by National Taiwan University. He will be the convener of the 23<sup>rd</sup> World Orchid Conference, which will be held on February 25-28, 2024 in Tainan, Taiwan. E-mail: alexchang@ntu.edu.tw

# Leaf Area

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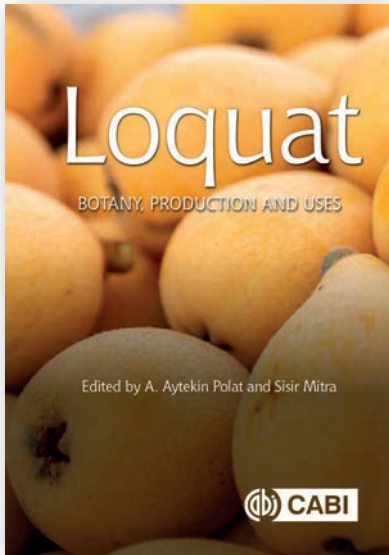
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## > New books, websites

### Book reviews

The books listed below are non-ISHS-publications. For ISHS publications covering these or other subjects, visit the ISHS website [www.ishs.org](http://www.ishs.org) or the *Acta Horticulturae* website [www.actahort.org](http://www.actahort.org)



Aytekin Polat, A., and Mitra, S., eds. (2022). *Loquat: Botany, Production and Uses* (Wallingford, Oxfordshire, UK; Boston, MA, USA: CAB International), pp.352. ISBN 978-1-80062-097-1 (hardback) / 978-1-80062-098-8 (ePDF) / 978-1-80062-099-5 (ePub). £135.00 / \$180 / €155.

A 25% discount will be received by entering the code "CCSOC25" when ordering through <https://www.cabidigitallibrary.org/doi/book/10.1079/9781800620988.0000>

Loquat (*Eriobotrya japonica* Lindl.) belongs to the *Rosaceae* family and *Pomoideae* subfamily. It is believed to have originated in southwest China where the majority of the fruit is currently produced. It is a subtropical evergreen fruit tree that blooms in fall and early winter. Its unique reversed annual

cycle enables the species to adapt well in the Mediterranean basin and to other subtropical climates. In recent years, the worldwide cultivation of loquat has intensified due to the excellent organoleptic characteristics of the fruit, its high nutritional value as well as reduced phytosanitary problems. Today, loquat are distributed worldwide in various regions of the Asian continent, the Mediterranean and across the Americas. In addition to producing fruit, the loquat's medicinal properties and applications in the food industry have also received the attention of many researchers in various countries, encouraging extensive research.

This loquat book, edited by Professor Aytekin Polat (Hatay Mustafa Kemal University) and retired Professor Sisir Mitra (State Agricultural University, Mohanpur, West Bengal, India) aims to provide a review of the current state of knowledge concerning the cultivation of loquat. This book, which is comprised of 16 chapters, has been written by eminent loquat researchers around the world.

Chapter 1 provides information regarding the origin of loquat and production volumes in the main producing countries. Notably, China accounts for 94% of world production. However, around only 8% of the total production is currently being traded internationally, of which the majority (83%) comes from Spain. The taxonomy of the crop and its botanical characteristics (root system, flowering, fruit formation) are described in Chapter 2. The nutritional properties and the bioactive content of loquat as well as its uses are described thoroughly in Chapter 3. An integral part of the book is a description of breeding programs and cultivar development programs (Chapter 4) undertaken by the late

Maria Badenes and her colleagues. The varietal resources of loquat have been greatly enriched through the comprehensive use of various breeding techniques and selection, with special attention given to polyploidy breeding strategies to produce seedless genotypes. Chapter 5 focuses on the need to fully sequence the loquat genome and to develop saturated gene maps with codominant and transferable markers, while Chapter 6 deals with loquat physiology, spanning from flowering to fruit set, development, and ripening. Environmental requirements, propagation techniques, orchard establishment and management are presented thereafter (Chapters 6-10). Nutrition and irrigation needs are presented in Chapters 11 and 12, respectively. Chapters 13-15 deal with the incidence of physiological disorders (most notably purple spot), pest and disease management. Considering the high perishability of loquat fruit, special attention is given to its postharvest management and storage (Chapter 16).

Overall, this book provides a comprehensive review of loquat growing from a scientific and horticultural perspective covering different issues including origin, history, production and processing, taxonomy, botany and plant development, propagation, biotechnology, orchard management, flowering and fruit set, fruit growth, development and ripening, pests and diseases, and postharvest management. The information provided will prove useful for researchers, students, advisers and industry support personnel.

*Reviewed by George Manganaris,  
Vice-Chair ISHS Division Temperate  
Tree Fruits*



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# IV International Orchid Symposium

Division Ornamental Plants

#ishs\_dorn

Division Plant Genetic Resources and Biotechnology

#ishs\_dbio

Orchids are among the most diverse of the flowering plant families. They are prized for their beautiful long-lasting flowers that exhibit an incredibly diverse range of sizes, shapes, and colours. The trade of orchids, which originated historically in local markets, has now evolved to where they constitute approximately 8% of the world's floricultural trade.

From December 16 to 17, 2022, the IV International Orchid Symposium was held in Guangzhou, Guangdong, China, under the aegis of the International Society for Horticultural Science (ISHS). The symposium was organized by the Institute of Environmental Horticulture, Guangdong Academy of Agriculture Science, Guangdong Key Lab of Ornamental Plant Germplasm Innovation and Utilization, National Bulk Vegetable Industry Technology System Guangzhou Flower Comprehensive

Test Station, the Orchid Branch of the China Flower Association, the Orchid Branch of the Chinese Botanical Society, Guangdong Horticultural Society, Kunpeng Institute of Modern Agriculture at Foshan, and the Guangdong Orchid Association.

The theme of the symposium was "Orchid fragrance, create ecological civilization". The convener was Dr. Genfa Zhu, and Dr. Fengxi Yang from the Institute of Environmental Horticulture, Guangdong Academy of Agriculture Science, led the scientific committee. The symposium was organized in a hybrid format with 150 in-person and virtual participants from 11 countries. During the symposium, participants presented their research in six sessions on Orchid germplasm resources and ecological evolution, Molecular biology of orchid, Orchid breeding technology, Tissue culture and rapid propagation, Com-

prehensive control of diseases and pests, and Protected cultivation of orchid and intelligent agriculture.

In the first invited lecture "Functional molecules and industrial use of orchids: secondary metabolites, efficacy and biotechnology", Dr. So-Young Park spoke about plant cell and tissue culture technology. The desired substances from orchids can be increased or decreased by the use of this powerful tool.

The second invited lecture, "Molecular mechanisms of morphogenesis and nutrient supply of orchids" by Dr. Siren Lan, demonstrated the molecular mechanism underlying the development of vegetative organs such as roots and leaves and reproductive organs, together with their nutrient supply, especially during the growing stages from partial to full mycoheterotrophy with mycorrhizal fungi.



> Group photo of on-site participants.





> Opening ceremony: A) Prof. Ganjun Yi, Vice President of Guangdong Academy of Agricultural Sciences, B) Prof. Youjun Zhang, Chief Scientist of National Bulk Vegetable Industry Technology System at the Institute of Vegetables and Flowers, Chinese Academy of Agricultural Sciences.

The third invited lecture “Orchid industry and research in China: past and future” was given by Dr. Genfa Zhu. Dr. Zhu demonstrated that Chinese orchids (*Cymbidium goeringii*, *C. faberi*, *C. sinense*, *C. ensifolium*, *C. tortisepalum* var. *longibracteatum*, *C. tortisepalum*, *C. kanran*) have been domesticated for a long time, allowing orchid enthusiasts to develop some unique Chinese characteristics with “fragrance, purity, elegance, silence and harmony”. China is currently the largest orchid producer in the world.

At the closing ceremony, Dr. Margherita Beruto, Chair of ISHS Division Ornamental Plants, presented a certificate of honor to Dr. Genfa Zhu, the convener of the symposium. Dr. Jie Gao from the Guangdong Academy of Agriculture Science, Guangdong, China, received the ISHS Young Minds Award for the best oral presentation entitled “Novel translational and phosphorylation modification regulation mechanisms of *Cymbidium sinense* leaf variegation”. Mr. Haruka Kondo from Chiba University, Japan, received the ISHS Young Minds Award for the best poster presentation entitled “Intergeneric hybridization and unilateral compatibility caused by pollen tube growth in *Epidendrum* (*Epidendriaceae*)”. During the business meeting, it was confirmed that the V International Orchid Symposium will be held in Nepal. 🟢

Jie Gao

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> Dr. Haruka Kondo, winner of the ISHS Young Minds Award for the best poster presentation.



> Prof. Fengxi Yang (left) presenting the ISHS Young Minds Award for the best oral presentation to Jie Gao (right).



> Keynote lectures: A) Prof. Genfa Zhu, B) Prof. So-Young Park.



# › X International Symposium on Irrigation of Horticultural Crops

Division Physiology and Plant-Environment Interactions of Horticultural Crops in Field Systems

#ishs\_dphy

Division Protected Cultivation and Soilless Culture

#ishs\_dpro

Division Temperate Tree Fruits

#ishs\_dfri

Division Vegetables, Roots, and Tubers

#ishs\_dveg

Division Vine and Berry Fruits

#ishs\_dvin



› The 147 symposium participants from 17 countries. Photo: Netafim South Africa.

The X International Symposium on Irrigation of Horticultural Crops was held at the STIAS Conference Centre in Stellenbosch, South Africa, from 29 January to 2 February 2023. The symposium conveners were Prof. Stephanie Midgley, Dr. Nicky Taylor and Dr. Carlos Poblete-Echeverría, ably supported by a local organising committee including Dr. Phumudzo Tharaga, Dr. Sebinasi Dzikititi, Dr. Elmi Lötze, Prof. John Annandale, Ms. Eunice Avenant, Dr. Theresa Volschenk and Dr. Karin Hannweg. Ms. Deidre Cloete from Conf et al. and her team assisted the local organising committee with the logistical arrangements for the symposium. The ISHS Divisions involved in the symposium included: Physiology and Plant-Environment Interactions

of Horticultural Crops in Field Systems; Protected Cultivation and Soilless Culture; Temperate Tree Fruits; Vegetables, Roots, and Tubers; and Vine and Berry Fruits. The symposium fell directly under ISHS Working Group Irrigation and Water Relations led by Prof. Bartolomeo Dichio.

The platinum sponsor for the symposium was Netafim, with gold sponsorship from Campbell scientific Africa, the Water Research Commission of South Africa and the Western Cape Department of Agriculture. Additional sponsorship for local students to attend the symposium was provided by the South African Table Grape Industry, Fruitways and the Southern African Society for Horticultural Science. Landbouweekblad, a

local weekly agricultural publication, was the official media partner for the event.

The symposium received more than 140 abstracts, with 57 oral and 62 poster presentations over the four days.

The symposium started on 30 January, with a welcoming address by Prof. Stephanie Midgley and Prof. Luca Corelli Grappadelli, the ISHS representative at the symposium. This was followed by an official welcome to the Western Cape by the Minister of Agriculture of the Western Cape Province, Dr. Ivan Meyer, followed by messages from Netafim and Campbell Scientific Africa representatives.

The scientific program started with a keynote address from Prof. Sylvester Mpandeli (Research Manager: Water Utilisation in



› Prof. Sylvester Mpandeli, one of the keynote speakers and representing the Water Research Commission, a Gold sponsor of the symposium. His talk was entitled “Advances in water research: enhancing sustainable water use in irrigated agriculture in South Africa”. Photo: Netafim South Africa.

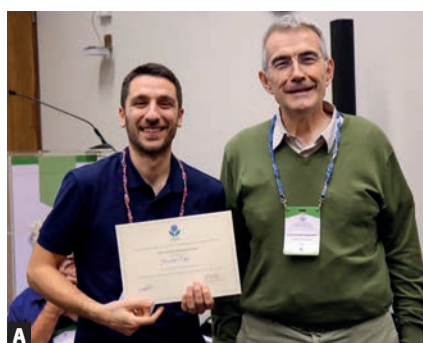


› Participants attending the field day at Arborlane in the Koue Bokkeveld. Photo: Netafim South Africa.

Agriculture at the Water Research Commission). This was followed by other papers discussing topics from viticulture and fruit production to vegetable production and protected cultivation, utilising different irrigation techniques and systems. At the end of each session, there were 3-minute flash poster presentations, with posters available throughout the symposium as e-posters. The day concluded with a COST workshop led by Prof. Brunella Morandi, which was followed by gin tasting and canapés in the beautiful gardens at STIAS.

The field excursion took place on the following day and included visits to apple and pear orchards and a table grape vineyard. The first stop was at Arborlane Estate in the Koue Bokkeveld, close to the town of Ceres. The bus drive to the farm passed through some of the most scenic landscapes in the Western Cape. At Arborlane, there were three stations for demonstrating strategies for irrigating apples and pears on poor soils, with steep slopes and scarce water resources. The visit was organised by Netafim.

The second farm visited was Laborans, which produces table grapes and is situated close to the town of Wellington. The visit was hosted by the Agricultural Research Council Nietvoorbij team, who explained their trials on precision irrigation of table grapes according to grapevine water potential measurements. The main challenge at this site was scarce water resources, with increasing competition from urban and industrial needs. Lunch was eaten under the grapevines and consisted of traditional South African boerewors rolls and freshly harvested table grapes.



› The ISHS Young Minds Award winners Giacomo Palai (best oral presentation) (A) and Rochelle Schlank (best poster) (B) with Prof. Luca Corelli Grappadelli representing the ISHS. Photos: Netafim South Africa.



On Wednesday 1 February, Prof. Samuel Ortega-Farias presented his keynote address entitled “Evaluation of two-source patch model to estimate olive orchard and vineyard water requirements using high-resolution thermal images acquired by unmanned aerial vehicle (UAV/drones)”. This was followed by sessions focusing on new technologies for irrigation management, modelling of evapotranspiration and water use under protected cultivation. The ISHS Business meeting was held at the end of the day, where it was decided that the next symposium will be held in Tatura in Victoria, Australia. Prof. Stephanie Midgley was elected as the new chair of ISHS Working Group Irrigation and Water Relations. The gala dinner was also held that night and was sponsored by Hortgro, represented by Prof. Wiehann Steyn. The gala dinner was held at Vadas Restaurant at the Spier Wine Estate. Good food and good wine were enjoyed by all the participants.

The final day of the symposium started with a virtual keynote address from Prof. Elias Fereres with a presentation entitled “Recent innovations in irrigation management of fruit trees”. Talks on remote sensing and deficit irrigation topics dominated the day. The last session of the day started with a summary of the symposium by Prof. Bartolomeo Dichio, followed by a panel discussion chaired by Prof. Wiehann Steyn. The panel consisted of scientists and local irrigation consultants. The panel was tasked with debating whether or not theory was being adequately translated into practice. The ISHS Young Minds Award for the best oral presentation by a young scientist was awarded to Giacomo Palai from the University of Pisa, Italy for his talk “Berry aroma characteristics are affected by the timing and degree of water deficit in ‘Sangiovese’ grapevines”. The ISHS Young Minds Award for the best poster was awarded to Rochelle Schlank



from the University of Adelaide, Australia, with a poster entitled “Data driven irrigation scheduling reduced irrigation requirements in a cool Australian climate ‘Cabernet Sauvignon’ vineyard.”

Overall, the symposium was well attended, with 147 participants from 17 countries. Participants and presenters were able to engage in lively debate during sessions, coffee breaks and lunch. ●

*Tharaga Phumudzo Charles and  
Stephanie Midgley*

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# › XIV International Pear Symposium

Division Temperate Tree Fruits  
Division Physiology and Plant-Environment Interactions  
of Horticultural Crops in Field Systems

#ishs\_dfru

#ishs\_dphy

The XIV International Pear Symposium (22-26 January 2023) was held at the Wallenberg Research Centre in Stellenbosch, South Africa, under the aegis of the International Society for Horticultural Science. The symposium was hosted by the University of Stellenbosch and attracted 110 delegates from 18 countries. During the week, sustainability, production and economic aspects, sensory quality, breeding, cultivar and rootstock evaluation, reproductive biology and growth regulation, eco-physiological aspects in stress biology, disease management and postharvest quality of pear were discussed in 37 oral and 10 poster presentations.

Sustainability and how to address current challenges was the major theme of the symposium and the status of pear indus-



› Stefano Musacchi explaining ‘Abate Fetel’ bearing and crop load. Photo by Bradley Orion.



› Participants of the symposium. Photo by Zelda Coetzee.

tries worldwide was touched on. Cultivar innovation is crucial to address consumer expectations, while environmental growing conditions are becoming more difficult due to climate change. Increased tree density and smaller trees enable more fruit to be harvested from the ground to reduce labour costs. Early cropping is essential to break even as production costs have increased dramatically. Phytosanitary resistant rootstocks as well as pathogen identification and disease management were highlighted in various presentations. A session on consumer preferences noted that the consumption of pears is declining mainly due to the perception of older cultivars and the inability of fruit to ripen at the right time with the right texture and appearance. Defining desirable sensory traits for pear breeding is essential and addressing the postharvest supply chain for current markets to ensure fruit sensory



quality is delivered were highlighted in a case study.

Innovation in pear production management techniques amidst climate change was another major focus of the Pear symposium. This included fruit set physiology and the role of growth regulators, as well as the effect of mitigators like drape nets and photovoltaic arrays on crop yields and fruit quality. The effect of pear texture and porosity changes due to light quality and interception, as well as superficial scald prediction related to temperature and yield, highlighted the effect micro-climate had on postharvest quality. Precision data driven decision making tools were presented by various research groups, with other discussions focusing on field heating and cooling and water use efficiencies. New technologies to predict fruit quality and maturity using neural networks and deep learning, as well as more objective sensors to measure fruit quality were presented. Post-harvest storage techniques as well as fruit physiology and biochemistry during anaerobic conditions and its link with ethylene production in storage were discussed. In addition, the value of tertiary education and research was highlighted in attracting both the interest of early career researchers and for the long-term viability of the industry. The field day started from Stellenbosch, the gateway to the major deciduous fruit growing regions in South Africa. Through the rugged mountainous topography, the technical tour explored the rich history of pear produc-



> Visit to Ceres Fruit Growers (Pty) Ltd packhouse. Photo by Bradley Orion

tion in South Africa and showcased orchards applying the latest trends and technologies in pear cultivation and postharvest handling. Orchards growing high yielding ‘Packham’s Triumph’ under net, ‘Forelle’, ‘Cape Rose’ (Cheeky™) and ‘Abate Fetel’ were visited. Guests were especially impressed by the yield and fruit quality obtained in the warm Bokkeveld region around the town of Ceres. Ceres Fruit Growers (Pty) Ltd packhouse started as a growers’ co-operative in January 1923. Cheeky™ was being sorted on a grading line that was built in 2022. The line has a wet dump and air jets, which enables pears to be lifted from the water and transferred to the sorting line. Each fruit is rolled and imaged with GREEFA Performance Plus Technology, which grades it according to external quality, weight and colour. Fruit are hand packed into cartons or re-binned if a grade is not currently being packed. All empty cartons are folded on site. An automated palletizer (built by Gossamer in Strand, South Africa) helps with palletizing the finished cartons. All fruit are stored on site.

The field day closed off with a wine pairing experience hosted by Stellenbosch Wine Routes at the Department of Horticultural Sciences in Stellenbosch.

The gala dinner was a celebration of magnificent food and wine from the Stellenbosch region at the wine farm Clos Malverne.

The ISHS Young Minds Award for the best oral presentation determined by an international independent panel was awarded to Martin John Richard for his research entitled “Etiology and management of black rot on ‘Forelle’ pears in the Western Cape, South Africa”. Martin John is an MSc student in the Department of Pathology, Stellenbosch University. The ISHS Young Minds Award for the best poster presentation was awarded to Liza-Mari Dippenaar for her research entitled “Mealiness development as a factor of pre-harvest shading time”. Liza-Mari is completing her MSc in the Department of Horticultural Sciences, Stellenbosch University. We wish to congratulate Luis Asin (IRTA, Spain), the convener of the XV International Pear Symposium, and we wish to sincerely thank fellow editors, the organising committee, session chairs, keynote speakers, oral and poster presenters, sponsors and the attending delegates. ●

*Elke Crouch and Karen Theron*

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> Prof. Luca Corelli Grappadelli, Chair ISHS Division Temperate Tree Fruits (left) and François Laurens, ISHS President (second from right) presenting the ISHS Young Minds Awards to Martin John Richards for the best oral presentation (second from left) and Liza-Mari Dippenaar for the best poster (right). Photo by Elke Crouch.



> Elke Crouch (A) and Karen Theron (B), symposium conveners. Photos by Bradley Orion.





From the  
Secretariat

# > New ISHS members

ISHS is pleased to welcome the following new members:

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## > In memoriam

### Dr. Bernadine Strik (1962-2023), Former Chair, ISHS Division Vine and Berry Fruits



We are greatly saddened by the passing of our dear friend and colleague Dr. Bernadine Strik, on 14 April 2023. She left us all too soon. She is survived by her husband, Neil Bell, and her two daughters, Shannon and Nicole.

Dr. Strik was a woman of the world. She was born in The Hague, The Netherlands. As she was growing up, her family moved to South Australia, and then to British Columbia, Canada. Her family were thoroughly engaged in horticulture. Her paternal grandfather was a vegetable and strawberry grower in the Netherlands, and her maternal grandfather sold fresh produce at his specialty stores. Her father designed a golf course, and her mother started a landscape maintenance business. Eventually, the two opened a large retail nursery, where the young Bernadine worked and began to grow ornamentals.

She obtained her B.S., with honors, from the University of Victoria, B.C., Canada, in 1983, and her Ph.D., with distinction, in 1987, from the University of Guelph, Ontario, Canada. She began her position of Extension Berry Specialist in the Department of Horticulture at Oregon State University (OSU) later that year. Her goal was, “to teach and do research, but also work with growers because that was my background. I wanted to help farmers be more profitable so they can pass their legacy on to their kids.” Although Dr. Strik’s initial appointment didn’t include teaching or research, she considered them priorities for her work and she was allowed to add these responsibilities to her position. She was promoted to full professor in 1997.

During Dr. Strik’s 34 years at OSU, blueberry plantings in Oregon jumped from 1,200 to 15,000 acres with large changes in production systems based on her research. Her landmark 14-year project on planting methods, fertilization, mulching, cultivar adaptation and weed control saw the acreage of organic blueberry production in Oregon increase from 2% in 2006 to 20% in 2020.

Her scientific accomplishments include authoring or co-authoring 150 peer-reviewed journal articles, 72 extension publications, 24 book chapters, and more than 300 publications for *Acta Horticulturae*, trade, and newsletters. Her extension publications have served as production guides on berries, kiwifruit and grapes for multiple audiences. She has produced nutrient management guides and production cost studies for commercial growers.

During her career, she gave 16 invited keynote addresses, 98 presentations at scientific conferences and more than 480 talks at regional, national, and international academic and industry meetings. In addition, Dr. Strik organized 48 highly attended workshops and 59 field days for the general public. Her tradition included hosting separate annual strawberry, blueberry and caneberry field days for researchers and growers at the North Willamette Research and Extension Center, of OSU. During her academic career, Dr. Strik supervised 22 graduate students and 7 undergraduate honor’s theses. Most of her students are now in academia working on fruit crops or have industry positions in berry companies. She taught three credit courses, Berry and Grape Physiology (HORT 452/552); Ecampus Berry Crop Physiology (HORT 456/556) and the berry crop and grape portion of HORT 251. She developed and taught separate online instruction sets including 5 pruning modules for berry, kiwifruit and table grapes, and a 6-week commercial online blueberry physiology and production systems course. In fall 2020, 284 students from 28 countries enrolled in her highly popular online blueberry physiology and production systems course. The students ranged in age from 21 to 77 and rated this class as 4.8/5. The impact of the production/physiology berry crops research program that she led has been estimated at \$10 million per year (evaluation by OSU economist 5 years ago) to the berry industries in Oregon.

In 2019, Bernadine was invited to Chile by the Catholic University as the main speaker of the third Chilean Berry Congress. In that meeting she presented talks on blueberry culture and physiology. She not only taught

growers, field managers and students (undergraduate and graduate), but also researchers and professors from various universities. In those talks her deep knowledge on the various topics, and her wisdom in designing experiments, implementing treatments, and collecting and analyzing data were evident to everyone. Indeed, the world berry industry was very fortunate in having Dr. Bernadine Strik as a researcher, extension specialist, and professor for over 35 years. Her scientific accomplishments on blueberries showed that:

- High density plantings (0.75 to 1 m spacing) produced 50% more fruit during establishment years and continued that productivity as mature bushes compared to plantings with wider spacing.
- A simple T-bar trellis with two wires improved hand or machine harvest efficiency. Without trellis, 20-24% of the fruit production was lost on the ground.
- Pruning practices that left 30 flower buds per plant in the second year after planting increased yield. Previously, bushes were unharvested until after 3 years.
- Weed mat with sawdust increased yield up to 10% because of the higher soil temperature. Weed mat also led to fewer herbicide sprays for conventional growers per year and quickly paid for itself.
- Yield was dramatically improved if plants were grown on raised beds versus on flat ground.
- Organic growers could reduce the amount of fish fertilizer that was being applied by half and obtain increased yield on ‘Duke’. Fish meal added more potassium than was needed.

As a compilation of much of these findings, she co-published new nutrient requirements, leaf tissue standards, and new options for fertigation of northern highbush blueberries.

Many groups and societies recognized Dr. Strik for her educational and scientific achievements: the OSU Alumni Association’s Distinguished Professor Award; the Fellow Award for the American Society for Horticultural Science (ASHS) (2007); the Outstanding Graduate Educator Award, ASHS (2015); North American Raspberry and Blackberry Growers’ Association Distinguished Service Award (2018); the Duke Galletta Award for excellence in horticultural research, North American Blueberry Council (2021); the International Society for Horticultural Science Fellow Award (2021); The American Pomological Society Chad Finn Ambassador Award (2021); Lifetime Achievement Award – recog-

nizing the Oregon Blueberry Industry's Friend (2022); and the United States Department of Agriculture B.Y. Morrison Memorial Lecturer Award (2022).

Dr. Strik was always gracious, witty and humble. Yet, her thought provoking, industry standard shattering findings catapulted her to great heights of global scientific respect and admiration.

"... all I ever wanted: to make the berry industries and growers more successful and profitable," Dr. Strik said, "[and] to know I made a difference."

Bernadine, your boundless energy, ethical principles, precise scientific protocol and numerous presentations have changed the world. You have been a guiding star for us all. Shine on!

*Kim Hummer, ISHS Council member,  
Former ISHS Board member  
Nahla Bassil, Molecular Geneticist,  
Past President American Pomological Society  
Jorge Retamales, Former Chair,  
ISHS Division Vine and Berry Fruit*

## > Calendar of ISHS events

For updates and more information go to [www.ishs.org](http://www.ishs.org) > calendar of events. For a comprehensive list of meetings in each Division or Working Group use the "science" option from the website navigation menu. To claim reduced registration for ISHS members, your personal membership number is required when registering - ensure your ISHS membership is current before registering. When in doubt sign in to your membership account and check/renew your membership status first: [www.actahort.org](http://www.actahort.org) or [www.ishs.org](http://www.ishs.org)

### Year 2023

- June 6-8, 2023, Almeria (Spain): **X International Symposium on Soil and Substrate Disinfestation**. Info: Dr. Miguel de Cara, IFAPA-Centro La Mojonera, Camino San Nicolás, 1, 04745. La Mojonera, Almería, Spain. Phone: (34)671532026, Fax: (34)950558055, E-mail: franciscom.cara@juntadeandalucia.es Web: <http://sdalmeria2023.com>
- June 11-14, 2023, Potsdam (Germany): **VII International Symposium on Applications of Modelling as an Innovative Technology in the Horticultural Supply Chain - Model-IT 2023**. Info: Dr. Pramod Mahajan, Leibniz-Institut für Agrartechnik und Bioökonomie e.V. (ATB), Max-Eyth-Allee 100, D-14469 Potsdam, Germany. E-mail: pmahajan@atb-potsdam.de or Dr. Martin Geyer, Inst. for Agricultural Eng. and Bioeconomy, Dept. Horticultural Engineering, Max-Eyth-Allee 100, D-14469 Potsdam, Germany. Phone: (49)3315699610, Fax: (49)3315699849, E-mail: mgeyer@atb-potsdam.de or Dr. Manuela Zude-Sasse, Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Max-Eyth-Allee 100, 14469 Potsdam-Bornim, Germany. Phone: (49)3315699612, Fax: (49)3315699849, E-mail: mzude@atb-potsdam.de E-mail symposium: [model-it2023@atb-potsdam.de](mailto:model-it2023@atb-potsdam.de) Web: <https://model-it2023.atb-potsdam.de>
- June 11-15, 2023, Zhengzhou, Henan (China): **VII International Symposium on Cucurbits**. Info: Liu Wenge, Zhengzhou Fruit Research Institute, Chinese Academy of Agricultural Science, South of No.63 Middle School, Hanghai East, 450009 Zhengzhou, Henan Province, China. E-mail: [lwgwm@163.com](mailto:lwgwm@163.com) E-mail symposium: [ISHSCucurbits@caas.cn](mailto:ISHSCucurbits@caas.cn) Web: <http://www.cucurbits2023.cn>
- June 11-15, 2023, Quebec City (Canada): **I International Symposium on Growing Media, Compost Utilization and Substrate Analysis for Soilless Cultivation**. Info: Prof. Dr. Jean Caron, Dep Soil Sciences and Ag Engineering, Université Laval, Pavillon Envirotron, 2480 Boul Hochelaga, Quebec, QC G1V 0A6, Canada. Phone: (1)4186562131, Fax: (1)4186563723, E-mail: [jean.caron@fsaa.ulaval.ca](mailto:jean.caron@fsaa.ulaval.ca) or Prof. Dr. Jacynthe Dessureault-Rompré, 2480 boul Hochelaga, Quebec, Canada. E-mail: [jacynthe.dessureault-rompre@fsaa.ulaval.ca](mailto:jacynthe.dessureault-rompre@fsaa.ulaval.ca) Web: <http://www.re3-quebec.org/en>
- June 12-15, 2023, Oslo (Norway): **IV International Symposium on Plant Cryopreservation**. Info: Dr. Dag-Ragnar Blystad, NIBIO, Norwegian Institute of Bioeconomy Research, Division of Biotechnology and Plant Health, Høgskoleveien 7, NO-1431 Ås, Norway. Phone: (47)90872588, E-mail: [dag-ragnar.blystad@nibio.no](mailto:dag-ragnar.blystad@nibio.no) or Dr. Zhibo Hamborg, NIBIO, Norwegian Institute of Bioeconomy Research, Division of Biotechnology and Plant Health, Høgskoleveien 7, NO-1431 Ås, Norway. Phone: (47)94-257170, E-mail: [zhibo.hamborg@nibio.no](mailto:zhibo.hamborg@nibio.no) Web: <https://nibio.pameldingssystem.no/cryo-2023>
- June 12-16, 2023, Grenoble (France): **IX International Symposium on Walnut and Pecan**. Info: Dr. Fabrice Lheureux, CTIFL, 28, route des nebots, 24130 Prignonrieux, France. Phone: (33)553580005, E-mail: [fabrice.lheureux@ctifl.fr](mailto:fabrice.lheureux@ctifl.fr) or Delphine Sneedse, SENURA, 38160, France. E-mail: [mpouchard@senura.com](mailto:mpouchard@senura.com) or Ms. Eloïse Tranchand, Experimental Station Creysse, Perrical, 46600 Creysse, France. Phone: (33)6 82 75 13 47, E-mail: [e.tranchand@stationcreysse.fr](mailto:e.tranchand@stationcreysse.fr) E-mail symposium: [contact@francenut2023.com](mailto:contact@francenut2023.com) Web: <https://francenut2023.com/en/>
- June 18-21, 2023, Zagreb (Croatia): **V Balkan Symposium on Fruit Growing**. Info: Prof. Dr. Boris Duralija, University of Zagreb Faculty of Agriculture, Department of Pomology, Svetosimunska 25, 10 000 Zagreb, Croatia. Phone: (385)12393726, Fax: (385)12393630, E-mail: [bduralija@agr.hr](mailto:bduralija@agr.hr) or Prof. Dr. Martina Skendrovic Babojelic, Faculty of Agriculture University of Zagreb, Department of Pomology, Svetosimunska 25, 10000 Zagreb, Croatia. Phone: (385)1 23 94 070, Fax: (385)1 23 93 630, E-mail: [miskendrovic@agr.hr](mailto:miskendrovic@agr.hr) E-mail symposium: [info@5bsfg.com](mailto:info@5bsfg.com) Web: <https://www.5bsfg.com/>
- June 26-29, 2023, Lugo (Spain): **VII International Chestnut Symposium**. Info: Prof. Santiago Pereira-Lorenzo, Universidad de Santiago de Compostela, Escola Politécnica Superior de Ingeniería, Avda. Benigno Ledo sn, 27002 Lugo (Galicia), Spain. Phone: (34)982823128, E-mail: [santiago.pereira.lorenzo@usc.es](mailto:santiago.pereira.lorenzo@usc.es) E-mail symposium: [chestnutlugo23@gmail.com](mailto:chestnutlugo23@gmail.com) Web: <http://chestnutsymposium.com/>
- June 26-28, 2023, Almería (Spain): **International Symposium on Models for Plant Growth, Environments, Farm Management in Orchards and Protected Cultivation - HorchiModel2023**. Info: Prof. Dr. Francisco Domingo Molina Aiz, Universidad de Almería, CITE II-A, Despacho 1.07, Carretera Sacramento s/n, 04120 Almería, Spain. Phone: (34)950015449, Fax: (34)950015491, E-mail: [fmolina@ual.es](mailto:fmolina@ual.es) or Dr. Lorenzo Leon, IFAPA Centro "Alameda del Obispo", Avda. Menendez Pidal s/n, E-14004, Córdoba, Spain. Phone: (34)671532697, Fax: (34)957016043,



- E-mail: lorenzo.leon@juntadeandalucia.es E-mail symposium: horchimodel2021@ual.es Web: <http://www2.ual.es/horchimodel2021/>
- June 27 - July 1, 2023, Guangzhou (China): **VII International Symposium on Lychee, Longan and Other Sapindaceae Fruits.** Info: Prof. Dr. Xuming Huang, College of Horticulture, South China Agricultural University, Guangzhou 510642, China. Phone: (86)2085283086, Fax: (86)85282107, E-mail: huangxm@scau.edu.cn Web: <https://yy.scau.edu.cn/7thLLsym/>
  - July 2-5, 2023, Genoa (Italy): **XXVII International EUCARPIA Symposium Section Ornamentals - From Nature to Culture: Breeding Ornamentals for Sustainability.** Info: Prof. Mauro Mariotti, DISTAV, University of Genoa, Corso Europa 26, 16132 Genova, Italy. Phone: (39)3538139, E-mail: m.mariotti@unige.it or Dr. Margherita Beruto, Vicolo Barbarossa, 13, 18038 San Remo (Imperia), Italy. Phone: (39) 0184670781, E-mail: margheberuto@gmail.com E-mail symposium: eucarpia2022.gbh@unige.it Web: <https://gbh.eucarpia27.unige.it/>
  - July 3-7, 2023, Bari (Italy): **I International Symposium on Plant Propagation, Nursery Organization and Management for the Production of Certified Fruit Trees.** Info: Prof. Salvatore Camposeo, Università di Bari, Dipt. di Scienze Agro-Ambientali e Territor, Via Amendola 165/a, 70126 Bari, Italy. Phone: (39)0805442982, Fax: (39)0805442982, E-mail: salvatore.camposeo@uniba.it or Prof. Dr. Tiziano Caruso, Department of Agricultural & Forest Science, University of Palermo, Viale delle Scienze, Edificio 4 ingresso H, 90128 Palermo, Italy. Phone: (39) 09123861207, E-mail: tiziano.caruso@unipa.it or Prof. Vito Nicola Savino, University of Bari - Microbiologia Applic., Dip. Protezione delle Piante, Via Amendola 165a, 70126 Bari, Italy. Phone: (39)0805443069, Fax: (39)0805443608, E-mail: viton.savino@gmail.com E-mail symposium: info@certfruit2020.org Web: <http://www.certfruit2020.org>
  - July 10-14, 2023, Hangzhou, Zhejiang Province (China): **III International Symposium on Fruit Culture along Silk Road Countries.** Info: Prof. Dr. Yuanwen Teng, Dept. Of Hort., College of Agric.& Biotech., Zhejiang University, Zijingang Campus, Hangzhou 310058, China. Phone: (86)571-88982803, Fax: (86)571-88982803, E-mail: ywteng@zju.edu.cn or Prof. Dr. Zhen-Hai Han, Institute for Horticultural Plants, China Agricultural University, No. 2 Yuanmingyuanxilu, 100193 Beijing, China. Phone: (86)1062732467, Fax: (86)1062734391, E-mail: rschan@cau.edu.cn or Prof. Dr. Xingjiang Qi, No. 298 Desheng Middle Road, Hangzhou, China. E-mail: qixj@zaas.ac.cn Web: <http://www.silkroad2021.org/>
  - July 16-21, 2023, Portland, OR (United States of America): **XIII International Rubus and Ribes Symposium.** Info: Assoc. Prof. Lisa DeVetter, WSU, 16650 Washington 536, Mount Vernon, WA 98273, United States of America. E-mail: lisa.devetter@wsu.edu or Dr. David Bryla, USDA ARS, Horticultural Crops Research Unit, 3420 NW Orchard Ave, Corvallis, OR 97330, United States of America. Phone: (1)541-738-4094, Fax: (1)541-738-4025, E-mail: david.bryla@usda.gov Web: <https://cvent.me/71bzGL>
  - August 14-20, 2023, Weiyuan, Neijiang City, Sichuan Province (China): **VII International Symposium on Fig.** Info: Prof. Dr. Huiqin Ma, China Agricultural University, Yuan Ming Yuan Xi Lu No. 2, Beijing, China. E-mail: hqma@cau.edu.cn or Lei Sun, 42 Wenhua East Road, Jinan, 250014, Shandong Academy of Forestry Sciences, 250014 Jinan, China. Phone: (86)053188557776, E-mail: happyjiaming@126.com Web: <http://www.fig2023.org.cn>
  - August 21-24, 2023, Cappadocia (Turkey): **XIII International Conference on Grapevine Breeding, Genetics and Management.** Info: Assoc. Prof. Arif Atak, Bursa Uludağ University, Faculty of Agriculture, Department of Horticulture, 16059 Bursa, Turkey. Phone: (90) 224 2941578, E-mail: arifat@uludag.edu.tr E-mail symposium: secretariat@gbg2023.org Web: <https://www.gbg2023.org/>
  - August 28-31, 2023, Tokyo (Japan): **IV Asian Horticultural Congress - AHC2023.** Info: Prof. Dr. Saneyuki Kawabata, Inst. Sustainable Agro-Ecosystem Services, The University of Tokyo, 1-1 Midori-cho, Nishitokyo, Tokyo 188-0002, Japan. Phone: (81)7064429499, Fax: (81)424644393, E-mail: skawabata@g.ecc.u-tokyo.ac.jp E-mail symposium: ahc2023@jtbcom.co.jp Web: <https://ahc2023.org>
  - September 5-9, 2023, Bucharest (Romania): **IX South-Eastern Europe Symposium on Vegetables and Potatoes.** Info: Assoc. Prof. Marian Bogoescu, Bucharest, Intrarea Binelui, No.1A, Sector 4, Cod. Postal 042159, Romania. Phone: (0040)214610706, Fax: (0040)214600725, E-mail: bogoescumarian@gmail.com or Assist. Prof. Viorica Lagunovschi-Luchian, University of Agricultural Sciences, Horticulture, 59 Marasti Bld., Sector 1, 011464 Bucharest, Romania. Phone: (40)745254406, E-mail: vluchian@hotmail.com or Prof. Dr. Nazim Gruda, University of Bonn, INRES Horticultural Sciences, Auf dem Hügel 6, 53121 Bonn, Germany. E-mail: ngruda@uni-bonn.de E-mail symposium: simp.pota2023@asas.ro Web: <https://symp.2023-vegetpota.asas.ro/>
  - September 10-14, 2023, Davis, CA (United States of America): **IX International Olive Symposium.** Info: Dr. Giulia Marino, Department of Plant Sciences, University of California, Davis, 1 Shields Ave., Davis, CA 95616, United States of America. Phone: (1)5303044509, E-mail: giumarino@ucdavis.edu or Dr. Selina Wang, Department of Food Science and Technology, University of California, Davis, 1 Shields Ave., Davis, CA 95616, United States of America. Phone: (1)5307525018, E-mail: scwang@ucdavis.edu or Prof. Reza Ehsani, Department of Mechanical Engineering, University of California, Merced, 5200 N. Lake Road, Merced, CA 95343, United States of America. Phone: (1)2092283613, Fax: (1)2092284047, E-mail: rehsani@ucmerced.edu Web: [https://ucanr.edu/sites/2021\\_Olive\\_Symposium/](https://ucanr.edu/sites/2021_Olive_Symposium/)
  - September 11-16, 2023, Dresden-Pillnitz (Germany): **XVI EUCARPIA Symposium on Fruit Breeding and Genetics.** Info: Prof. Dr. Henryk Flachowsky, Pillnitzer Platz 3a, 01326 Dresden, Germany. E-mail: henryk.flachowsky@julius-kuehn.de or Dr. Jiri Sedláč, Res. & Breeding Inst. of Pomology Holovousy, Holovousy, 50801 Horic, Czech Republic. Phone: (420) 435 692 821, Fax: (420) 435 69 33, E-mail: sedlak@vsuo.cz Web: <https://eucarpia-fruit2023.julius-kuehn.de/>
  - September 24-28, 2023, Bucharest (Romania): **VI International Jujube Symposium.** Info: Prof. Dr. Florin Stanica, University of Agronomic Sciences, Faculty of Horticulture, B-dul Marasti, 59, Sector 1, 011464, Bucuresti, Romania. Phone: (40)722641795, Fax: (40)213182888, E-mail: flstanica@yahoo.co.uk or Prof. Dr. Mengjun Liu, Research Center of Chinese Jujube, Agricultural University of Hebei, Baoding, Hebei, 71001, China. Phone: (86)312754342, Fax: (86)3127521251, E-mail: lmj1234567@aliyun.com E-mail symposium: jujube@usamv.ro Web: <http://www.jujube.usamv.ro>
  - September 25-29, 2023, Almería (Spain): **VI International Symposium on Papaya.** Info: Prof. Dr. Julian Cuevas González, University of Almería, La Cañada de S. Urbano s/n, 04120 Almería, Spain. Phone: (34)950015559, Fax: (34)950015939, E-mail: jcuevas@ual.es E-mail symposium: papaya2023@ual.es Web: <http://www2.ual.es/VI-symposium-on-papaya/>
  - September 29 - October 3, 2023, Malaga (Spain): **XIII International Mango Symposium.** Info: Dr. J. Ignacio Hormaza, EE. La Mayora - CSIC, 29750 Algarrobo-Costa, Malaga, Spain. Phone: (34)952552656, Fax: (34)952552677, E-mail: ihormaza@eelm.csic.es or Dr. Víctor Galán Saucó, Isaac Albéniz 17, 38208 La Laguna, Tenerife, Canary islands, Spain. Phone: (34)922261647, E-mail: vgalan46@gmail.com E-mail symposium: mango2020@ihsm.uma-csic.es Web: <https://en.mango2023.es/>
  - October 2-5, 2023, York (United Kingdom): **III International Symposium on Carrot and Other Apiaceae.** Info: Ms. Coral Russell,

BGA House, Nottingham Road, LN110WB Louth, United Kingdom. Phone: (44)7792893336, E-mail: pauline.sutton@britishgrowers.org or Rosemary Collier, Warwick Crop Centre, School of Life Science, The University of Warwick, Wellesbourne, United Kingdom. E-mail: rosemary.collier@warwick.ac.uk E-mail symposium: info@carrotsymposium.com Web: http://www.carrotsymposium.com

- October 9-12, 2023, Palermo (Italy): **International Symposium on Tropical and Subtropical Horticulture in Mediterranean Climate**. Info: Prof. Vittorio Farina, Università degli Studi di Palermo, Dipartimento Scienze Agrarie, Alimentari e Forestali, viale delle Scienze edif 4 - 90128 Palermo, Italy. Phone: (+39)09123896090, E-mail: vittorio.farina@unipa.it or Dr. Giuseppe Sortino, Department of Agricultural & Forest Science, University of Palermo, Viale delle Scienze, Edificio 4 ingresso H, 90128 Palermo, Italy. Phone: (39)09123861234, E-mail: giuseppe.sortino@unipa.it E-mail symposium: info@tropmed2020.it Web: http://www.tropmed2020.it
- October 22-27, 2023, Cancun (Mexico): **GreenSys2023: International Symposium on New Technologies for Sustainable Greenhouse Systems**. Info: Dr. Irineo Lopez Cruz, Postgrado en Ingeniería Agrícola, Universidad Autónoma Chapingo, KM 38.5 Carretera Mexico Texcoco, 56230 Chapingo, Mexico. Phone: (52)5959521551, Fax: (52)5959521551, E-mail: ilopez@correo.chapingo.mx or Prof. Dr. Efrén Fitz-Rodríguez, Universidad Autónoma Chapingo, Ing. Mecánica Agrícola/ Posgrado IAUIA, km 38.5 Carretera México-Texcoco S/N, Texcoco, Edo. de México C.P. 56230, Mexico. Phone: (52)5959521500x6252, E-mail: efitzr@taurus.chapingo.mx E-mail symposium: greensys2023@gmail.com Web: https://www.greensys2023.org/
- October 22-27, 2023, Cancun (Mexico): **IV International Symposium on Organic Greenhouse Horticulture**. Info: Dr. Irineo Lopez Cruz, Postgrado en Ingeniería Agrícola, Universidad Autónoma Chapingo, KM 38.5 Carretera Mexico Texcoco, 56230 Chapingo, Mexico. Phone: (52)5959521551, Fax: (52)5959521551, E-mail: ilopez@correo.chapingo.mx or Prof. Dr. Efrén Fitz-Rodríguez, Universidad Autónoma Chapingo, Ing. Mecánica Agrícola/Posgrado IAUIA, km 38.5 Carretera México-Texcoco S/N, Texcoco, Edo. de México C.P. 56230, Mexico. Phone: (52)5959521500x6252, E-mail: efitzr@taurus.chapingo.mx or Prof. Martine Dorais, Centre de recherche & d'innovation-végétaux, Laval University, Environtron Bldg, Room 2120, Quebec G1K 7P4, Canada. Phone: (1)418-6562131, Fax: (1)418-6563515, E-mail: martine.dorais@fsaa.ulaval.ca E-mail symposium: greensys2023@gmail.com Web: https://www.greensys2023.org/
- October 31 - November 3, 2023, Rotorua (New Zealand): **XII International Workshop on Sap Flow**. Info: Dr. Michael Clearwater, Department of Biological Sciences, University of Waikato, Private Bag 3105, 3240 Waikato Hamilton, New Zealand. Phone: (64)7-8384613, Fax: (64)78384324, E-mail: m.clearwater@waikato.ac.nz E-mail symposium: sapflow2023@confer.co.nz Web: https://confer.eventsair.com/sapflow2023
- November 8-10, 2023, Aracaju, Sergipe (Brazil): **III International Symposium on Moringa**. Info: Arthur Begliomini, chacara 11 Núcleo CAUB I, 71884-690 Brasília-DF, Brazil. Phone: (55)61999990031, E-mail: ahh.agro@outlook.com or Prof. Dr. Gabriel Francisco da Silva, Rua Pastor Jason Oliveira dos Anjos, 435, 49046090 Aracaju-SE, Brazil. Phone: (55)7931946556, Fax: (55)7931946556, E-mail: gabrieldasilva1961@gmail.com Web: https://ism2023.com/
- December 3-8, 2023, Tatura, Victoria (Australia): **II International Symposium on Precision Management of Orchards and Vineyards**. Info: Dr. Mark O'Connell, DJPR, Agriculture Victoria, 255 Ferguson Road, Tatura, VIC 3616, Australia. Phone: (61)354831101, Fax: (61)358335299, E-mail: mark.oconnell@agriculture.vic.gov.au E-mail symposium: bradley@ccem.com.au Web: https://ccem.eventsair.com/pm2023/

## Year 2024

- January 16-19, 2024, Bologna (Italy): **VertiFarm2024: III International Workshop on Vertical Farming**. Info: Dr. Francesco Orsini, University of Bologna, Viale fanin, 44, Bologna 40127, Italy. Phone: (39)0512096677, Fax: (39)0512096241, E-mail: f.orsini@unibo.it or Dr. Giuseppina Pennisi, University of Bologna, Viale Giuseppe Fanin 44, 40127 Bologna, Italy. E-mail: giuseppina.pennisi@unibo.it E-mail symposium: vertifarm2024@unibo.it Web: https://site.unibo.it/vertifarm2024/
  - February 11-15, 2024, Sde Boker (Israel): **II International Symposium on Reproductive Biology of Fruit Tree Species**. Info: Prof. Avi Sadka, ARO, The Volcani Center, Department of Fruit Trees Sciences, 68 HaMaccabim Rd., P.O. Box 15159, Rishon LeZion 7528809, Israel. Phone: (972)3-9683343, Fax: (972)3-9669583, E-mail: vhasadka@volcani.agri.gov.il or Prof. Noemi Tel-Zur, Ben-Gurion University of the Negev, Beersheba, Israel. E-mail: telzur@bgu.ac.il Web: https://www.reproductive-biologyfruittree.org.il/
  - February 20-24, 2024, Mount Maunganui (New Zealand): **XI International Symposium on Kiwifruit**. Info: Dr. Sarah Pilkington, 120 Mt Albert Road, Mt Albert, 1025 Auckland, New Zealand. Phone: (64)21-809645, E-mail: sarah.pilkington@plantandfood.co.nz or Dr. Juliet Ansell, 400 Maunganui Road, Mt Maunganui, 3116 Tauranga, New Zealand. E-mail: juliet.ansell@zespri.com Web: https://events.zespri.com/ishs-kiwifruit2024
  - February 26 - March 1, 2024, Marrakech (Morocco): **V All Africa Horticultural Congress - AAHC2024**. Info: Prof. Dr. Abdelhaq Hanafi, 14 Residence Naama, Agadir 80100, Morocco. Phone: (1)7866781552, E-mail: hanafi.abdelhaq1@gmail.com E-mail symposium: secretariat@aahc2024.com Web: https://www.aahc2024.com/
- Symposium at AAHC2024:**
- February 26 - March 1, 2024, Marrakech (Morocco): **III International Symposium on Jackfruit and Other Moraceae**. Info: Prof. Dr. Sisir Kumar Mitra, B-12/48, Kalyani, Nadia, West Bengal 741235, India. Phone: (91)9432174249, Fax: (91)3325828460, E-mail: sisirm55@gmail.com or Prof. Dr. Abdelhaq Hanafi, 14 Residence Naama, Agadir 80100, Morocco. Phone: (1)7866781552, E-mail: hanafi.abdelhaq1@gmail.com E-mail symposium: secretariat@aahc2024.com Web: https://www.aahc2024.com/
  - April 14-17, 2024, Warsaw (Poland): **XIV International Symposium on Flower Bulbs and Herbaceous Perennials**. Info: Dr. Dariusz Sochacki, Warsaw University of Life Sciences, Dept of Ornamental Plants, Nowoursynowska 166, 02-787 Warsaw, Poland. E-mail: dariusz\_sochacki@sggw.edu.pl E-mail symposium: info@flowerbulb2024.pl Web: http://www.flowerbulbs2024.pl
  - April 21-25, 2024, Matsue, Shimane (Japan): **V International Symposium on Woody Ornamentals of the Temperate Zone**. Info: Prof. Dr. Nobuo Kobayashi, Faculty of Life and Environmental Science, Shimane University, Nishikawatsu, Matsue 690-8504, Japan. Phone: (81)852-32-6506, Fax: (81)852-32-6506, E-mail: nkobayashi@life.shimane-u.ac.jp or Dr. Takashi Handa, Meiji University, School of Agriculture, Higashimita 1-1-1, Tama-ku, Kawasaki, 214-8571 Kanagawa, Japan. Phone: (81)449347814, Fax: (81)449347814, E-mail: thanda@meiji.ac.jp Web: http://wotz2024.jshs.jp/
  - April 23-26, 2024, Brasília, DF (Brazil): **VII International Symposium on Tomato Diseases**. Info: Prof. Eduardo Mizubuti, Departamento de Fitopatologia, Universidade Federal de Viçosa, 36570-900 Viçosa-MG, Brazil. Phone: (55) 31 3899 1090, E-mail: mizubuti@ufv.br or Dr. Alice Kazuko Inoue-Nagata, Embrapa Vegetables Km 09, BR060, 70275970 Brasília-DF, Brazil. Phone: (55)6133859053, E-mail: alice.nagata@embrapa.br or Prof. Dr. Nadson Pontes, BR 153, km 633. CP 92, Zona Rural, 75650-000 Morrinhos-GO, Brazil. Phone: (55)64-34137900, E-mail: nadson.pontes@ifgoiano.edu.br E-mail symposium: 71std@71std.com



**NEW** ■ April 23-25, 2024, Avignon (France): **I International Symposium on Apricot and Plum**. Info: Jean-Marc Audergon, INRA Centre PACA, UR1052 GAFL, Domaine St Maurice - 67 Allée des Chênes, CS60094, F84143 Montfavet, France. Phone: (33)4.32722668, Fax: (33)4.32722702, E-mail: jean-marc.audergon@inrae.fr or Dr. Bénédicte Quilot-Turion, INRAE, GAFL, Allée des Chênes, 84143 Montfavet, France. E-mail: benedicte.quilot-turion@inrae.fr

**NEW** ■ May 12-16, 2024, Bucharest (Romania): **V European Horticultural Congress - EHC2024 (SHE2024)**. Info: Prof. Dr. Florin Stanica, University of Agronomic Sciences, Faculty of Horticulture, B-dul Marasti, 59, Sector 1, 011464, Bucuresti, Romania. Phone: (40)722641795, Fax: (40)213182888, E-mail: flstanica@yahoo.co.uk E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

#### Symposia at EHC2024:

**NEW** ■ May 12-16, 2024, Bucharest (Romania): **International Symposium on History of Horticulture in Europe**. Info: Ms. Ana Cornelia Butcaru, Sector 3, str.Branduselor nr.9, bl.G4, Bucharest, Romania. E-mail: anabutcaru@gmail.com or Dr. Michael Blanke, Institut Obstbau Bonn, Auf dem Hugel 6, 53121 Bonn, Germany. Phone: (49)228735142, Fax: (49)228735764, E-mail: mmlanke@uni-bonn.de or Dr. Luca Dondini, Università di Bologna, Dip. Scienze e Tecnologie Agro-Alimentari, Via Fanin 46, 40127 Bologna, Italy. Phone: (39)0512096400, Fax: (39)0512096401, E-mail: luca.dondini@unibo.it E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

**NEW** ■ May 12-16, 2024, Bucharest (Romania): **International Symposium on Sustainable Vegetable Production from Seed to Health Booster Sources**. Info: Prof. Dr. Silvana Nicola, University of Turin, Dept. of Agric., Forest and Food Sciences, Leonardo Da Vinci 44 (L.Paolo Braccini, 2), 10095 Grugliasco (TO), Italy. Phone: (39)0116708773, Fax: (39)0112368773, E-mail: silvana.nicola@unito.it or Prof. Dr. Yüksel Tüzel, Ege University, Agriculture Faculty, Department of Horticulture, 35100 Bornova Izmir, Turkey. Phone: (90)2323111398, Fax: (90)2323881865, E-mail: yuksel.tuzel@ege.edu.tr or Prof. Dr. Vasile Stoleru, Iasi, M. Sadoveanu 6, Romania. E-mail: vstoleru@uaiasi.ro E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

**NEW** ■ May 12-16, 2024, Bucharest (Romania): **International Symposium on Fruit Production Systems for a Sustainable and Resilient Development**. Info: Prof. Dr. Florin Stanica, University of Agronomic Sciences, Faculty of Horticulture, B-dul Marasti, 59, Sector 1, 011464, Bucuresti, Romania. Phone: (40)722641795, Fax: (40)213182888, E-mail: flstanica@yahoo.co.uk or Prof. Luca Corelli Grappadelli, Department of Agricultural Sciences, Università di Bologna, Via Fanin 46, 40127 Bologna, Italy. Phone: (39)0512096434, Fax: (39)0512096401, E-mail: luca.corelli@unibo.it or Prof. Dr. Mekjell Meland, Nibio Ullensvang, Norwegian Institute of Bioeconomy Research, N-5781 Lofthus, Norway. E-mail: mekjell.meland@nibio.no E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

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Info: Prof. Dr. Adrian Asanica, Faculty of Horticulture Bucharest, Bd Marasti 59 sector 1, 011464 Bucharest, Romania. E-mail: asanica@gmail.com or Prof. Dr. Bruno Mezzetti, Dip.Sci. Agrarie, Alimentari ed Ambientali, Università Politecnica delle Marche, Via Brecce Bianche, Ancona 60100, Italy. Phone: (39)0712204933, Fax: (39)0712204856, E-mail: b.mezzetti@univpm.it or Prof. Dr. Nesibe Ebru Kafkas, Department of Horticulture, Faculty of Agriculture, TR-01330 Adana Balcali, Turkey. Phone: (90)5365227774, E-mail: ebruyasakafkas@gmail.com E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

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**NEW** ■ May 12-16, 2024, Bucharest (Romania): **International Symposium on Postharvest and Horticultural Products Quality**. Info: Prof. Dr. Liliana Aurelia Badulescu, Bd Marasti nr 59, 011464 Bucharest Bucharest, Romania. Phone: (40)745368989, E-mail: liliana.badulescu@usamv.ro or Dr. Dirk Köpcke, Chamber of Agriculture in Lower Saxony, Fruit Research Station Jork (OVA), Moorende 53, 21635 Jork, Germany. Phone: (49) 4162 6016 120, E-mail: dirk.koepcke@lwk-niedersachsen.de or Dr. Krzysztof Rutkowski, Research Institute of Horticulture, Konstytucji 3 Maja 1/3, 96-100 Skierniewice, Poland. Phone: (48) 468345363, E-mail: krzysztof.rutkowski@inhort.pl E-mail symposium: secretariat@ehc.usamv.ro Web: <https://ehc.usamv.ro/>

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Acta Number	Acta Title	Price (EUR)
1365	International Symposium on Quality Seeds and Transplants for Horticultural Crops and Restorative Species	52
1364	International Symposium on Postharvest Technologies to Reduce Food Losses	107
1363	VI International Symposium on Postharvest Pathology: Innovation and Advanced Technologies for Managing Postharvest Pathogens	79
1362	XXXI International Horticultural Congress (IHC2022): International Symposium on Breeding and Effective Use of Biotechnology and Molecular Tools in Horticultural Crops	141
1361	XXXI International Horticultural Congress (IHC2022): International Symposium on Natural Colorants from Plants	64
1360	XXXI International Horticultural Congress (IHC2022): III International Symposium on Mechanization, Precision Horticulture, and Robotics: Precision and Digital Horticulture in Field Environments	88
1359	XXXI International Horticultural Congress (IHC2022): International Symposium on In Vitro Technology and Micropropagated Plants	78
1358	XXXI International Horticultural Congress (IHC2022): International Symposium on Medicinal and Aromatic Plants: Domestication, Breeding, Cultivation and New Perspectives	87
1357	XII International Vaccinium Symposium	94
1356	XXXI International Horticultural Congress (IHC2022): International Symposium on Urban Horticulture for Sustainable Food Security (UrbanFood2022)	105
1355	XXXI International Horticultural Congress (IHC2022): International Symposium on Agroecology and System Approach for Sustainable and Resilient Horticultural Production	108
1354	III International Organic Fruit Symposium and I International Organic Vegetable Symposium	95
1353	XXXI International Horticultural Congress (IHC2022): International Symposium on Integrative Approaches to Product Quality in Fruits and Vegetables	88
1352	X International Peach Symposium	142
1351	XVI International Symposium on Processing Tomato	77
1350	V International Jujube Symposium	86
1349	V International Symposium on Pomegranate and Minor Mediterranean Fruits	150
1348	IV All Africa Horticultural Congress - AAHC2021: Transformative Innovations in Horticulture	83
1347	XIV International Protea Research Symposium	54
1345	VIII International Conference on Landscape and Urban Horticulture	110
1344	XIV International Symposium on Plant Bioregulators in Fruit Production	71
1343	X International Congress on Cactus Pear and Cochineal: Cactus - the New Green Revolution in Drylands	135
1342	I International Symposium on Reproductive Biology of Fruit Tree Species	91
1341	EUFRIN Fruit Thinning Working Group Symposium	39
1340	V International Conference on Postharvest and Quality Management of Horticultural Products of Interest for Tropical Regions	71
1339	IX International Scientific and Practical Conference on Biotechnology as an Instrument for Plant Biodiversity Conservation (physiological, biochemical, embryological, genetic and legal aspects)	113
1337	IX International Symposium on Light in Horticulture	103
1336	V Asia Symposium on Quality Management in Postharvest Systems	96
1335	IX International Symposium on Irrigation of Horticultural Crops	159
1334	II International Symposium on Tropical and Subtropical Ornamentals	97
1332	X International Symposium on Kiwifruit	109
1331	IV International Symposium on Woody Ornamentals of the Temperate Zone	85
1329	VIII International Symposium on Human Health Effects of Fruits and Vegetables - FAVHEALTH 2021	62
1328	V International Humulus Symposium	61
1327	IV International Symposium on Horticulture in Europe - SHE2021	186
1326	VII South-Eastern Europe Symposium on Vegetables and Potatoes	86
1325	V International Symposium on Postharvest Pathology: From Consumer to Laboratory-Sustainable Approaches to Managing Postharvest Pathogens	92
1323	IV International Symposium on Postharvest Pathology: Next Generation Innovation and Commercial Solutions for Postharvest Pathology to Reduce Losses, Enhance Quality, and Ensure Product Safety	57
1322	XII International Symposium on Plum and Prune Genetics, Breeding and Pomology	93
1321	III International Symposium on Soilless Culture and Hydroponics: Innovation and Advanced Technology for Circular Horticulture	81
1320	VIII South-Eastern Europe Symposium on Vegetables and Potatoes	92
1319	IV International Conference on Fresh-Cut Produce: Maintaining Quality and Safety	75
1318	VIII International Symposium on Walnut, Cashew and Pecan	71
1317	II International Symposium on Growing Media, Soilless Cultivation, and Compost Utilization in Horticulture	95
1316	VI International Symposium on Tomato Diseases: Managing Tomato Diseases in the Face of Globalization and Climate Change	67
1315	I International Conference and X National Horticultural Science Congress of Iran (IrHC2017)	152
1314	International Symposium on Precision Management of Orchards and Vineyards	109
1313	International Symposium on Horticultural Therapies: Past, Present and Future	44
1312	III Asian Horticultural Congress - AHC2020	135
1311	VI International Symposium on Applications of Modelling as an Innovative Technology in the Horticultural Supply Chain Model-IT 2019	125

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