



A Message From Our Executive Officer

Study Tour SA

September 8th, Virginia, SA. PCA members Peter Petsios, Quan Nguyen and Andrew Braham hosted an industry tour of their farms to share their expertise and knowledge.

The tour was made up of mostly growers and included industry stakeholders and allied trade who came together to share ideas and learn from their peers.

The tour, outfitted in PPE provided by [Stoller](#), started at the incredible SA Tomato, a facility producing grafted tomato plant stock in a highly automated system. Peter described his farm as a 'Plant Hospital' where young tomato plants are raised and can recover after the delicate grafting process. The system has been developed to produce high quality plants for industry and nursery customers. Peter generously shared the process from seed to stock and showcased the advanced machinery required to achieve his business goals.



Sam Turner • PCA Executive Officer



The group then jumped on the bus, generously sponsored by [Achmea Insurance](#), to travel to Quan Nguyen's property. After a detour down the wrong driveway, the group arrived and were given an in depth explanation on how Quan grows his crops and his unique marketing strategy. Quan spoke about the challenges of growing in Virginia and his recovery from the recent wild weather and resulting damage to his structures. The group was then treated to a gourmet snack of cheese and fresh tomatoes. This allowed the group to trial various heirloom tomato varieties kindly supplied by Salvatore Sacca of Da'Salvatore.



A Message From Our Executive Officer Continued

[Bugs4Bugs](#) hosted lunch and provided an overview of their crop protection products and gave the group a hands on experience with some of their hard working ICP bugs.

The group then headed out to Andrew Brahm's property and was provided with a seminar on the SoilWealth/ICP project, funded by Hort Innovation and presented by RMCG and AUSVEGSA. The group were shown through Braham Produce where Andrew Braham shared his story of boosting soil biology and how to develop healthy soils in a protected cropping environment.

The group ended the tour with a fantastic barbeque and networking function sponsored by [E. E. Muir and Sons](#).

Next Study Tour & AGM

The next study tour is scheduled for the 25th October, hosted by Western Sydney University, to align with the PCA AGM. This tour will showcase the latest R&D developments and seeing different production systems in action. Make sure you save the date, more information will be circulated closer to the day.

Webinars:

Due to popular demand, the PCA webinars are getting back online. There are a number of webinars on various topics on the books, with the first topic being Substrate and Coir replacement. The webinar will take place in mid October with dates and times to be arranged. This will be a great opportunity to ask questions of some of the best minds in the industry.





PCA & Greater Sydney Local Land Services Regional Sydney Farm Tour

SAVE THE DATE

Tuesday 25th October 2022



INCLUDED IN THE DAY:

TALKS & TOUR OF THE NATIONAL VEGETABLE PROTECTED CROPPING CENTRE
AT WESTERN SYDNEY UNIVERSITY

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Sponsorship Prospectus

Cultivating Jobs & Economic Growth in the Clarence Valley

A specialist horticulture farm located in the Northern Rivers region has broken ground marking the commencement of construction of their state-of-the-art glasshouse.

In November last year, Provenance Propagation in Wells Crossing, south of Grafton, became the recipient of a \$900,000 grant provided through the Nationals in NSW Government's Regional Job Creation Fund.

Now reaching its most significant milestone to date, CEO and Managing Director of Provenance Propagation, Dr Jack Mooney, invited Clarence Nationals MP Chris Gulaptis onsite, gold shovel in hand, to mark the commencement of works.

Mr Gulaptis said with advanced climate control technology, targeted irrigation infrastructure and automated growing systems, this state-of-the-art glasshouse will be the largest independent vegetable propagation glasshouse in NSW and the Eastern States of Australia.

"This is cutting edge technology and I'm really thrilled the Nationals in NSW Government is backing such an exciting project that will see the company become a leader in the future of farming whilst giving back to the local community through job creation," Mr Gulaptis said.

"Regional NSW is the engine room of the state and backing local companies like Provenance Propagation stimulates regional economies, boosts livelihoods and increases local employment opportunities.

Having the opportunity to utilise his expertise in plant propagation within a world-leading facility, Dr Mooney is confident that the pioneering Provenance Propagation will quickly become a national supplier of high-quality grafted vegetables, plants and seedlings.

"We're very excited to have commenced construction. This is a first for the Clarence Valley and for the state of NSW, with the project garnering enthusiastic attention from growers," Dr Mooney said.

"We have already engaged a number of local businesses during the building phase and once completed, it has the potential to create 45 new jobs for the region.

"We are committed to helping develop regional economies such as the Clarence Valley and with plans already underway for Stage 2, the company can continue to cultivate jobs and meet the growing demand for high quality seedlings and grafted plants by Australian farmers."

The Regional Job Creation Fund supports eligible businesses with grants to purchase new equipment, expand facilities, acquire technology, create new production lines or establish businesses in regional NSW. For more information, go to investregionalnsw.com/RJCFund.

Media contacts: Chris Gulaptis – 0418 625 715 Jack Mooney – 0401 713 743



Chris Gulaptis joined with CEO & Managing Director of Provenance Propagation, Dr Jack Mooney and his trusty sidekick, son Henry, to celebrate the start of construction on what will be the largest independent vegetable propagation glasshouse in NSW and the Eastern States of Australia.

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Looking for more advertising opportunities?

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Our Undercover Grower's Newsletter has you covered.

Quarter page advertisements are available or you can purchase a package deal which includes one newsletter advertisement and a commercial e-mailout.

For more information visit our website: protectedcropping.net.au/publications/advertising

or email us at: protectedcropping@asnevents.net.au

[Click here to download copy of newsletter](#)



Sachets for slow-release of predatory mites

Bugs for Bugs will soon launch Californicus, Cucumeris and Montdorensis sachets

Each sachet contains a breeding system that allows for continuous and even release of predatory mites over several weeks.

Field trials are already yielding positive results and we look forward to sharing the benefits of this innovative technology with our valued customers.

**BUGS
FOR
BUGS**

We are grateful to growers like Green Farmers (image above) who have hosted trials and supported the development of our sachets.



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Sponsors of South Australia Regional Tour



The PCA Board would like to extend our warmest welcome and good wishes to our new members.

Individual Members

Peter Bail, Harvest Ant

Chris Best, Student

Michael O'Keefe, Soojik Farms

We look forward to many successful years together!

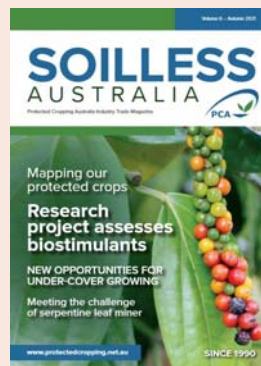
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Protected Cropping Highlighted at the Australian Organic Conference

Protected cropping in organic production systems is always a topic that generates good discussion about how to increase productivity with an efficient use of inputs and minimum impact on the environment. This was one of the topics discussed by a group panel in the session Organic Standards and Innovation at the Australian Organic Conference 2022. Elio Jovicich, Program Leader Protected Cropping with the Queensland Department of Agriculture and Fisheries (DAF), contributed to this panel by discussing current research, development and extension (RD&E) work to increase adoption of environmentally sustainable production systems within protected cropping, with a particular focus on the 'Driving ag-tech adoption across Australia' project.

Elio talked about how DAF's RD&E activities in this area are focused on developing fit-for-purpose technologies and practices to mitigate the effects of climate variability on vegetable production, address value chain issues, develop new products, and facilitate practice change and adoption. Elio highlighted the sustainability aspects of protected cropping and how they align with many of the organic production principles. He also emphasized the interest stakeholders expressed for using protected cropping in organic production systems when he undertook the recent DAF-led consultation process for developing the Australian Protected Cropping Strategy 2021-2030 (<https://protectedcropping.net.au/wp-content/uploads/Australian-Protected-Cropping-Strategy-2021-2030.pdf>). This interest was accompanied by requests for more information about specific agronomic practices and standards for organic certification.

The points raised during the conference discussion, particularly the benefits of protected cropping, struck a chord with organic growers dealing with the aftermath of our recent extreme weather events.

Australian Organic Limited (<https://austorganic.com/>) is the leading peak body protecting and promoting the future of the organic industry in Australia. The Australian Organic Conference was held on 21st and 22nd July 2022 in Brisbane. The conference theme was Embracing Change and Transformation in the organic industry and was attended by over 200 delegates including industry, scientists, and stakeholders.

Driving ag-tech adoption across Australia (AS20007) is a project supporting adoption of technologies such as protected cropping. The project is funded by the Hort Frontiers Advanced Production Systems Fund, part of the Hort Frontiers strategic partnership initiative developed by Horticulture Innovation Australia (Hort Innovation), with co-investment from the Department of Agriculture and Fisheries, Queensland (DAF), grower levy funds with matching contributions from the Australian Government.



A group panel discussed the use of protected cropping in organic production among other topics in the session Organic Standards and Innovation at the Australian Organic Conference 2022.

Traceability Hub Launch

Thursday, 20 October 2022, 10am-1pm, Tatura SmartFarm



Join us for the launch of the Agriculture Victoria Traceability Information Hub! This free event includes networking over lunch and morning tea, a showcase of the digital Hub and an in-orchard demonstration by researchers developing practical traceability tools.

Traceability is the ability to share information about, and follow the movement of, a product through all or part of its supply chain, across the stages of production, processing and distribution. It is an emerging capability for the Australian agricultural sector. The Hub will provide information for food and fibre businesses about how a traceability system can work along their supply chain to:

- support compliance and regulation
- assist in building and establishing Australian brands in global markets
- enhance production and business efficiencies.

The free event will showcase Agriculture Victoria's investment in digital traceability for growers, technology providers and supply chain businesses to harness the many benefits of traceability.

AGRICULTURE  VICTORIA

RSVP HERE



To find out more about our specialist protected cropping programs contact:

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e: m.mak@westernsydney.edu.au, m: 0410657260, ph: 0245701376

<https://www.westernsydney.edu.au/future/study/courses/postgraduate/graduate-diploma-in-protected-cropping>



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Education and Training for Protected Cropping

WESTERN SYDNEY UNIVERSITY



BACHELOR OF SCIENCE (AGRIFOOD)

Within this comprehensive program, several elective units in protected cropping are available.

- Protected Cropping Technology
- Plant Production
- Soils and Substrates
- Agricultural Biosecurity
- Agricultural Technology



GRADUATE CERTIFICATE (6m FTE) or GRADUATE DIPLOMA (12m FTE) IN PROTECTED CROPPING

This course will enable students and current employees of the protected cropping industry to choose different sets of subjects to complement their existing business skills and, science and technology knowledge.

Features:

Flexible online learning modules with intensive on-site workshops

Flexible step-in and step-off points

Flexible upgrade for continued study pathway

Semester	Protected Cropping Subjects	Protected Cropping Subjects	Work Integrated Projects	Business Subjects
Autumn (Mar - Jun)	Greenhouse Control Systems	Greenhouse Crop Production	Industry Project	Business Operations and Logistics
Spring (Aug - Nov)	Plant-Climate Interactions in Controlled Environments	Advanced Greenhouse Technology	Industry Project Extended	Strategic Business Management
Onsite Workshops	Crop and Produce Management	Integrated Pest Management	Fertigation Systems	Climate control Systems

HIGHER DEGREE PROGRAMS

- Masters of Science, major Greenhouse Horticulture
- Master of Research (M.Res)
- Masters of Philosophy (M.Phil)
- Master of Business Administration (MBA)
- Doctor of Philosophy (PhD)



Protected Cropping Masterclass Provides a Welcome Skills Boost to Growers

The Queensland Department of Agriculture and Fisheries (DAF) hosted a week-long masterclass in protected cropping at Gatton in early September. This training was aimed at building much-needed capacity in protected cropping in the horticulture industry by improving knowledge of existing members as well as new entrants. The 25 participants included 14 growers from the Lockyer Valley, Redlands, Sunshine Coast, Bundaberg, Bowen and interstate (Western Australia, Victoria and Tasmania), as well as input and service providers wishing to gain better understanding of their protected cropping clients' needs.

Learning about crop opportunities for protected cropping in Queensland from Heidi Wiggerhauser.

Classroom-style training was combined with interactive practical sessions and a commercial greenhouse tour to give participants an immersive learning experience. Facilitating the course was renowned protected cropping expert, Graeme Smith, who has 12 years of experience in delivering such training in Australia and overseas, assisted by Mahya Tavan, a researcher specialising in sustainable food production systems. The DAF team of protected cropping researchers and technical staff (Elio Jovicich, Heidi Wiggerhauser, Melinda Perkins, Edward Mugamba and Leisa Bradburn) were on hand to share their knowledge. Elio presented learnings from his 13-year RD&E journey investigating protected cropping systems suitable for Queensland and warm climates in Australia. Heidi shared her experiences of growing specialty melons in DAF's retractable roof research greenhouse in Ayr.

Participants also had the opportunity to hear from ag-tech providers offering solutions to improve greenhouse management efficiency, as part of a technology showcase and BBQ dinner sponsored by Cravo, Priva, Powerplants and AIS Greenworks. BumperCrop, a crop management software platform company, joined the group with a presentation from New Zealand.



Participants seeing technology in action with Graeme during the commercial glasshouse tour.

Throughout the week, Melinda ran short surveys and a discussion session to gather participant feedback and identify future training needs. Growers were resoundingly positive in their feedback, rating the course 9/10 in terms of the level of new knowledge it gave them and 9/10 in terms of their likelihood of implementing practice change as a result of attending the course. Future training events in protected cropping are already being planned, in light of the high demand received for this course and its overall success.



Minsoo sharing his knowledge on long-season production of high-quality tomatoes in the Lockyer Valley.

Protected Cropping Masterclass Provides a Welcome Skills Boost to Growers Continued



Participants getting hands-on practise assembling a NFT hydroponic system under the guidance of Graeme Smith.

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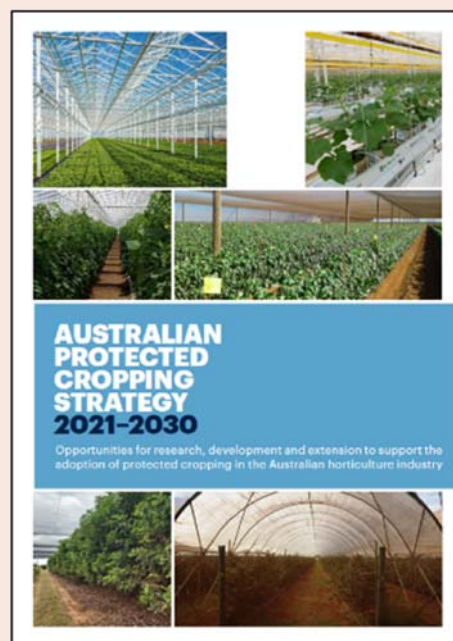


Hydroponic tomato producer Minsoo Choe welcoming the group to his high-tech glasshouse at Allegro Farm.

On behalf of the organisers, thanks to all those who took part in this event and to Protected Cropping Australia, Lockyer Valley Growers Association, Hort Innovation and the DAF Agribusiness Development Officers for spreading the word. Special thanks to Allegro Farm owner Minsoo Choe for giving participants the opportunity to visit his glasshouse and learn about the tools and technologies he relies on to produce premium quality tomatoes. The training course was sponsored by project Driving ag-tech adoption across Australia (AS20007) funded by the Hort Frontiers Advanced Production Systems Fund, part of the Hort Frontiers strategic partnership initiative developed by Horticulture Innovation Australia, with co-investment from DAF.

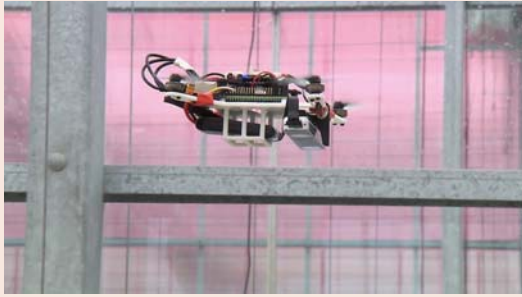
This and future training events are the next step in DAF's ongoing support of protected cropping in Australia. DAF recently led the national effort to develop the Australian Protected Cropping Strategy 2021-2030. The Strategy identifies a need for increased capacity building activities to support adoption of updated technologies. The Strategy can be accessed in the Protected Cropping Australia website: <https://protectedcropping.net.au/wp-content/uploads/Australian-Protected-Cropping-Strategy-2021-2030.pdf>.

Contact for additional information. Elio Jovicich, Program Leader – Protected Cropping, Queensland Department of Agriculture and Fisheries (DAF), email: elio.jovicich@daf.qld.gov.au



The Australian Protected Cropping Strategy provides horticulture growers, businesses and industry stakeholders with a clear direction and priorities for investment in research, development, and extension (RD&E) to benefit vegetable, berry, nursery and tree-fruit value chains.

Buzz without Bees for Glasshouse Pollination



The drones have off-the-shelf hardware but algorithms that allow them to measure and predict production outcomes. (ABC Landline)

Honey bees struggle in covered environments and bumblebees, the gold standard for glasshouse pollination in the northern hemisphere, are not allowed to be imported into Australia.

Singapore company Polybee is testing its drones at the University of Western Sydney and with the South Australian company Perfection Fresh in trials funded by Hort Innovation as part of a \$60 million commitment to pollination research.

Miniature drones are being used to pollinate indoor crops as part of research looking at alternatives to honey bee pollination.

Pollinating drones

Hort Innovation CEO Brett Fifield said covered cropping was growing rapidly in the horticulture sector and would be key to achieving an industry goal to produce \$20 billion worth of fruit and vegetable crops by 2030.



Polybee says its drones outperformed bumblebees during trials. (ABC Landline)

"It allows farmers to manage their crop away from the impacts of weather, climate and also manage their inputs more thoroughly," Mr Fifield said.

"We achieved a yield improvement of more than 50 per cent compared to bumble bee pollination," Mr Jardav said.

"And this is the time of the year when the price of the produce is highest, and pollination activity is the lowest, so that's the value proposition that we are bringing on board."

Changing the way growers pollinate

The head of the Western Sydney University trial, Dr Patsavee Utaipanon, said blow flies and native stingless bees would also be evaluated in the trial.

She said manual pollination would normally be done with a small paint brush or by shaking the plants to spread pollen between flowers.



Patsavee Utaipanon says Australian growers use manual pollination, performed with a paintbrush or by shaking the leaves of plants. (ABC Landline)

"But it's very time-consuming because you have to pick the flower at the right age, and then it is very labour-intensive," Dr Utaipanon said.

Mr Jadhav said Polybee's drones used off-the-shelf technology, but the algorithms driving them also provided highly accurate yield forecasting.

"We don't really see ourselves as a drone company or a pollination company," he said.

"We're all about improving profits, and as a part of our service, we have two main features, one of which is precision pollination and the other is measurement and forecasting."

Growers would benefit by knowing what yield to expect week to week, he said.

Buzz without Bees for Glasshouse Pollination Continued

"Pollination is a key management tool that farmers [using] protected cropping have to manage, and this research is trying to allow them to do that more effectively, more efficiently and reduce their input costs."

Polybee founder Siddharth Jadhav said the drones would pollinate strawberry and tomato crops for the Australian trials.

The draft from their propellers helps spread pollen between flowers.

Mr Jadhav said this method outperformed bumblebees in trials at one of the largest indoor farms in the United Kingdom last April.



Mr Jadhav says Polybee will most likely develop a hybrid pollination contract model based on what honey beekeepers do now for outdoor crops like almonds. (ABC Landline)

"They can price their produce in a more informed way when they work with retailers and aggregators. And on the other hand, this information helps them sort of close the feedback loop on cultivation and make more informed decisions in managing their crops," he said.



Brett Highfield says protected cropping will be vital for the industry to achieve a goal of \$20 billion worth of fruit and vegetable crops by 2030. (ABC Landline)

Mr Fifield said improving pollination was a priority for the horticulture industry.

"Our industry has provided some really clear signals that this is their priority and therefore it's horticulture innovation's priority," Mr Fifield said.

Story Via: <https://www.abc.net.au/news/2022-09-03/miniature-drones-used-to-pollinate-indoor-crops/101395206>

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