



GROWING UNDERCOVER

APRIL | 2025

UPDATES

Projects Update

Tony Bundock

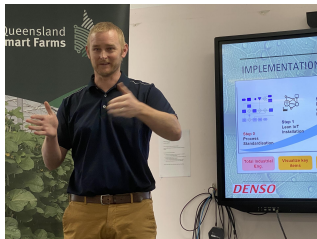
NFF Hort Roadshow - Gatton

On 10 April, PCA held a successful NFF Roadshow in Gatton, QLD, hosted by the University of Queensland.

The event featured practical insights on irrigation and fertigation from PCA's Tony Bundock, an IPM update from Dan Papacek (Bugs for Bugs), and presentations from Col Douglas, Heidi Wiggengauser, and Gaurav Bhuju on extending cropping productivity. Alastair Delooze (Denso) rounded out the program with a look at future horticultural technologies.

The day wrapped up with a greenhouse tour and live fertigation demo — a great opportunity for growers to connect and learn.





NFF Hort Roadshow - Bundaberg

PCA recently delivered a two-day NFF Roadshow in Bundaberg, QLD, in collaboration with Bundaberg Fruit & Vegetable Growers. The event featured on-farm visits each morning, providing one-on-one engagement with growers, followed by afternoon lecture sessions.

PCA Project Officer Tony Bundock led the sessions, joined by Clinton McGrath (QDAF) on day one. Site visits included a mix of crops—aubergines, capsicums, herbs, and berries—across both open field and protected cropping systems.

Topics covered included irrigation, growing media, and insights from international production systems. The event was well attended and presentations were shared with all participants.





IDO Update

Matt Plunkett

With the increased focus on reducing input costs, more specifically energy usage, there are several tools growers can use to start developing a baseline for on farm Greenhouse Gas Emissions (GHG).

Currently, most growers do not have to undertake GHG baselines or the requirement to report on these emissions. However, many corporate growers have been undertaking monitoring and reporting in this area for some time due to mandated legislation, to improve business practices, or a requirement from investors to do so.

A Horticulture Greenhouse Accounting Framework (H-GAF) has been developed by Melbourne University to help growers develop baseline emissions. This is also supported by the Australian Fresh Produce Alliance and easy to use.

Put simply, emissions are categorised into Scope 1 (on farm), Scope 2 (off farm) and Scope 3 (pre farm gate) with carbon sequestration (from trees) also accounted for.

A simple excel spreadsheet allows growers to calculate your emissions and most importantly, develop a baseline on current inputs such as diesel, electricity and fertiliser usage.

Why undertake this if it is not mandatory for most growers?

The key messages from a recent webinar on this topic were:

- It is smart business practice to review your on-farm inputs.
- Calculating baseline emissions allows growers to reduce input costs and save money.
- Labour savings and improved efficiencies are achievable based on real life data.
- Allows you to objectively quantify the return on investment for adopting improved practices, and new technologies.

This H-GAF tool can be found at: <https://piccc.org.au/resources/Tools>

Other useful websites are: <https://coolfarm.org/> or

<http://grf-smartfarm.daf.qld.gov.au:3838/apps/hortcarboninfo/>

Want to learn more? Then become an individual member of PCA for just \$100 for 2 years which includes a free pass to the PCA Conference in Adelaide (28-31 July). More information can be found at: <https://protectedcropping.net.au/news-events/conference/>

Have a great month and stay safe.

GROWER UPDATES

Did you know we have an Industry Advisory Council?

The Industry Advisory Council (IAC) meets quarterly and is led by our Deputy Chair, Andrew McIlwain.

If you would like to hear more or become a part of this vital group, please **get in touch** with us.

Attend PCA2025 On Us!

Julie Krieger

PCA is thrilled to announce two exciting initiatives designed to make it easier than ever for growers to engage with the industry at PCA's conference...

Free Grower Passes.

If you're an existing PCA grower member, you will have received an invitation already to register to attend PCA2025 for free*. You'll need the special registration link contained in the email to secure your free pass, so please reach out to the team if you haven't seen the email.

New Grower Membership & Conference Bundles

In addition, we're excited to launch our membership & conference bundles, tailored specifically for grower businesses who are new to PCA. When you join PCA on this new 2-year bundle, you will receive a free registration to the PCA2025 conference. There are individual and corporate packages available. Aside from the opportunity to attend the conference on us, membership gets you access to our great member benefits such as exclusive training resources and industry updates, and access to our new membership platform and community forum. There has never been a better time to join PCA!

These free passes demonstrate our commitment to supporting the protected cropping sector. They are designed to remove barriers and encourage greater participation, learning, and networking across our grower community. Whether you're new to the industry or a seasoned producer, joining PCA and attending our conference are the best ways to stay up-to-date, connect with suppliers, and hear from leading experts.

*Free passes include full conference registration, and welcome reception attendance. Farm tours and other functions are optional and at the grower's expense. Free passes are limited and will be allocated on a first-in basis.

**Protected
Cropping
Australia
Conference**

28-30 JULY 2025
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and sustainably

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- 2 years of corporate grower membership
- 2 FREE conference grower passes*

INDIVIDUAL
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- 1 FREE conference grower passes*

EVENTS

OCTOBER



Vertical Farming World Congress 2025

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JULY

Protected Cropping Australia Conference

28-30 JULY 2025
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Last Chance to Secure the Earlybird Rates!

Final opportunity to take advantage of the Earlybird rates, ending 1 May 2025! [Register at pca2025.com](https://pca2025.com)

Conference: Monday 28 July - Wednesday 30 July 2025
Post-Conference Farm Tours: Thursday 31 July 2025

[VIEW THE PROGRAM](#) [SPONSORSHIP & EXHIBITION](#)

The rates below are only available until 1st May 2025.

FULL REGISTRATION*	EARLYBIRD AVAILABLE UNTIL 1st MAY 2025	STANDARD STARTS FROM 2nd MAY 2025
PCA MEMBER	\$790	\$870
HFF MEMBER	\$920	\$995
NON MEMBER	\$1,020	\$1,100
STUDENT MEMBER	\$485	\$580
STUDENT NON-MEMBER	\$525	\$630

PCA2025 - Earlybird Closing Soon

[Learn More →](#)

MAY



AGENTIAL AI AgBio 2025 in Bangkok

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JUNE - AUGUST

Water, Nutrients, and Substrates
Innovating Root Zone Solutions for Controlled Environment Horticulture

ABOUT THE PROGRAM

This webinar series will showcase some of the latest industry and research innovations in root zone management.

Researchers from

- University of Arkansas
- University of Connecticut
- University of Florida

will present their latest research on water treatment design, ozone and cold plasma systems, customizing recirculated hydroponic solutions, and using stratified substrates.

- 9th June 2025 – Understanding Water Quality Risks and Treatment Designs
- 16th June 2025 – Customizing Your Recirculated Hydroponic Solutions
- 21st July 2025 – Cold Plasma and Ozone for Water Sanitation
- 7th August 2025 – Stratified Substrates for Nursery and Greenhouse Crops

Special thanks to the Root Alliance Partners (rootalliance.org/partners)












Interested in becoming a Root Alliance partner, contact Ryan Dickson (ryand@uconn.edu)

Click the **Start** button to register.

Water, Nutrients & Substartes - Webinar Series

[Learn More →](#)

Protected Cropping Australia Conference



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Department of Primary Industries
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Primefact

Shiga toxin-producing *Escherichia coli* (STEC) contamination of leafy vegetables and risk management

April 2020, Primefact PUB25/305, first edition
Sukhwinder Pal (SP) Singh, Senior Research Scientist, Central Coast Primary Industries Centre, Ourimbah

Introduction

Shiga toxin-producing *Escherichia coli* (STEC) are a sub-group of *Escherichia coli* (*E. coli*) bacteria that produce toxins known as Shiga toxins, which can cause severe foodborne illness in humans. STEC infections can cause a wide range of symptoms, from mild gastroenteritis to severe conditions like haemolytic uremic syndrome and life-threatening kidney disease. The severity of illness depends on factors such as the strain of STEC involved, the number of bacteria ingested, and the individual's health. Vulnerable populations, such as children, the elderly, and immunocompromised individuals, are at higher risk of severe disease outcomes.

STEC are transferred to humans via contaminated food and water, direct animal contact, environmental contamination and human-to-human transfer via the faecal-oral route. The most common foodborne sources of STEC include undercooked meat, unpasteurised milk, ready-to-eat meat products, seed sprouts and leafy vegetables.

STEC infections are characterised by Shiga toxin (Stx) production. There are 2 main types (Stx1 and Stx2), and the stx toxin genes (stx1 and stx2) are carried by lambdoid bacteriophages integrated into the *E. coli* chromosome. Additional virulence genes are consistently associated with severe illness, most notably the *eae* gene, which encodes the intimin protein required for adherence. However, this virulence factor is not always essential for illness severity (EFSA 2020). The severity of illness caused by STEC depends on the combination of stx genes and additional virulence factors.

STEC serogroups

Among about 470 serogroups of STEC, the most commonly associated with serious human illness is O157. Other strains are grouped as non-O157. In Australia, the O157 has been reported to be the main STEC serogroup contributing to more than half of all STEC isolates serotyped, followed by O111 and O26 (Vally et al. 2012; Ingle et al. 2019). Several other serogroups have been reported with low prevalence.

In the USA, there are 6 main non-O157 strains including O26, O45, O103, O111, O113 and O145 (BDOA 2012), while in Europe, there are 5 leading non-O157 strains including O26, O103, O91, O146 and O145 (EFSA 2020). In Europe, all STEC strains are considered pathogenic in humans, capable of causing at least diarrhoea and, based on the analysis of the stx sub-types and the presence/absence of the *eae* gene, all STEC sub-types can be associated with severe illness (EFSA 2020).

STEC illness notifications

STEC infection is a notifiable disease in Australia. Between 2000 and 2010, there were 822 notifications of STEC illness in Australia, making the annual rate 0.4 cases per 100,000 per year (Vally et al. 2012). From 2011 to 2024, there were 6,677 STEC notifications and the annual rate of cases (1.99 cases per 100,000 per year) increased significantly during this period (NNCSS 2025).

NSW DPI - STEC Contamination

[Learn More →](#)

NEWS

Program launched to unlock grower solutions for Australia's biggest horticulture challenges

Mentoring to transform ideas into real solutions is one of the key offerings of a new program launched by Hort Frontiers. The new program – Australian-Grown Innovation, developed in partnership with Startupbootcamp and Cluster Connect - is designed to drive innovation that will tackle the most pressing challenges in horticulture.

Over the next five years, the program, which is for Australian growers and those across the horticulture supply chain, will accelerate grower-led innovation through three stages of mentorship. The aim is to turn great ideas into commercially viable products and services that make a real difference on the ground.

Its objective will be to unlock transformative opportunities and deliver practical solutions to real industry challenges such as: climate resilience strategies, value-added product innovation, technology-driven solutions harnessing AI, and supply chain improvements to increase productivity.

All solutions created will deliver on solving these challenges through a requirement to meet one of the five overarching Frontiers themes: healthy living, adaptation and resilience, market access, disruptive technologies and capability building.

Brett Fifield, CEO of Hort Innovation said about the program: "Australian growers are the country's most innovative entrepreneurs. They're on the frontline of horticulture and know better than anyone the problems that need solving.

"This program has been designed to tap into this knowledge and the entrepreneurial spirit of Australian growers to try and solve problems together for our horticulture sector.

"Our recent Australian Horticulture Statistics Handbook showed that the horticulture sector has now reached a total production value of \$17 billion, with more growers looking at new ways to better serve consumers and to improve their own productivity.

Hort Innovation Program Launch

[Learn More →](#)

NEWS



2024 Australian Agritech Sector Report Why This Report Matters

The Australian agritech sector stands at a crossroads. What was once considered an emerging industry is now a critical enabler of productivity, sustainability, and resilience across our agriculture, fisheries, and forestry systems.

The 2024 Australian Agritech Sector Report, launched by AusAgritech in partnership with the NSW Government's Farms of the Future program and AgriFutures Australia, is more than a status update. It's a snapshot of where we're at and a guide for where we need to go next, based on national survey responses, ecosystem insights, and engagement with producers, innovators, investors, and policymakers.

As Australia navigates economic headwinds, global competition, and evolving climate realities this report offers a strategic lens: What's working? What's stalling growth? Where should we focus our energy?

It outlines seven key insights that if acted on, can shape a stronger, more connected, and globally competitive agritech sector.

2024 Australian Agritech Sector Report

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NEWS



Grodan and Philips Horticulture LED Solutions

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NEWS



The Challenge:
Australia is currently experiencing a fraught public discussion around renewable energies, with solar energy production on agricultural and environmental landscapes at the forefront of debate.

Robust and targeted consultation with industry partners from farming and energy sectors has identified challenges to the deployment of utility-scale solar energy production, in the form of cost vs benefit for farmers, and social license to operate for the energy sector.

Utility-scale solar, which focuses on vast-scale deployment of photovoltaic (PV) panels over agricultural land, is perceived by some local communities as an eyesore with little or no local benefit.

Behind the farmgate, Australian farmers plough on amid an energy crisis, where the financial costs of grid connected solar energy far outweigh many emissions reduction considerations. The integration of PV technology on-farm without inclusion of energy storage solutions, often leaves the farmer without energy security and, as a result, farming communities lack climate resilience.

For Agrisolar trials that do exist, Australia is reliant on foreign technology and designs which have been developed for farming conditions overseas, rather than our own unique climate and soils.

Large-scale land transformation is needed to achieve climate resilience

A fully decarbonised agricultural supply chain will set Australia apart and enhance our access to sustainability-conscious international markets. To meet emissions targets, both existing and proposed, agrisolar can be a major driver in the transition to a climate-positive economy. A full exploration of Agrisolar in Australia via a CRC will mature the decarbonisation community, grow the economy through innovative PV solar usage, and help Australia reach climate resilience through application.



~40 partners



~\$33M cash + in-kind

Our Mission:

The CRC will accelerate Agrisolar to the point where it constitutes a mainstream approach to the renewables transition and becomes the first choice of energy developers and farmers in many land use settings.

The R&D in the CRC will unite farming and energy sectors by way of exploring commercially viable outcomes in a place-based, collaborative environment.








Agrisolar Cooperative Research Centre Bid

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NEWS



Unlock The Power Of Your Herbicide With HASTEN

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NEWS



ear Matt Plunkett,

Unlock the power of your data and discover the future of horticulture in this month's newsletter. We will explore the steps for leveraging data insights, dive into the exciting world of AI and data-driven processes in greenhouses, and examine the technologies shaping the future of crop management.



Working on assumptions is now a thing of the past

Although many companies are using their data more effectively, there are still many companies that are not getting the full potential out of their data. "It's a shame", says Ruben Gideonse of TapTarget. "If you cannot quickly get the most important insights from your data, this can lead to lost revenue, inefficient processes and a lag behind the competition." In this article, we are the crucial steps to get started with data insights.

Working On Assumptions Is Now A Thing Of The Past

[Learn More →](#)

NEWS



Revolutionising biosecurity: and tospoviruses

28 February 2025

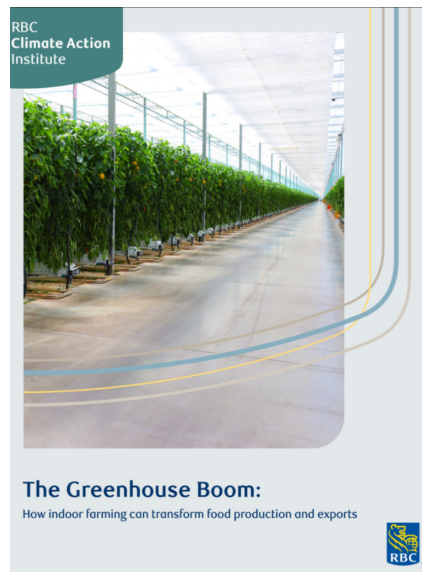
Australia's nursery industry is harnessing innovative technology to combat thrips and tospoviruses, a project led by the Victorian Department of Jobs, Precincts and Regions and the University of Melbourne.

The threat: thrips and tospoviruses Thrips, tiny pests with over 7,700 species, transmit tospoviruses and cause economic losses. Among the primary threats in Australian nurseries are thrips and tospoviruses. We make them a critical challenge for biosecurity.

New Tools To Tackle Thrips & Tospoviruses

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NEWS



Canada As An Example For The Rest Of The World?

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