



# Hydroponic Farmers Federation Newsletter

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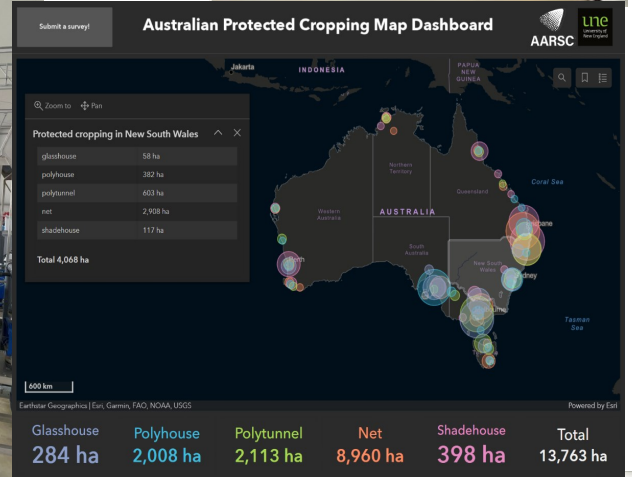
Volume 7, Issue 2

June 2023



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# The Secretary



Welcome to our latest newsletter! It's been a busy time for me on a personal level with interstate training back on the agenda. Yes it all sounds like a very

glamorous lifestyle, but the reality is that a plane is only a bus with wings. Next month is the PCA Conference in Brisbane, and obviously the PCA are keen to get as many growers to the conference as possible. As we mentioned last time, the PCA are subsidising up to 150 free grower trade show passes, and there are still a few of these passes available at the time of printing this newsletter. So if you are considering attending the conference my tip is to get in quick! Details are on the PCA website. In relation to PCA I recently stepped down as Deputy Chair but still remain on the board. This was a conscious decision to allow for a transition period for the new Deputy to settle in to the role. Congratulations to Zac Iqbal on his appointment to the role of Deputy Chair! Technology plays a large part in our industry and I was fortunate enough to

attend a recent demonstration of drone application for pollinating Tomato crops in a greenhouse environment recently. (A full report on the event is in this newsletter) But it never ceases to amaze me how as an industry we are not afraid to adopt new ideas - some of which can initially seem slightly bizarre!) But if you think back along your own career you will probably soon realise that such changes have almost been constant. When I first started in the greenhouse industry, venting the greenhouse involved pulling a large metal handle to open ridge vents. So no automation that initiated vent movements due to wind / rain or temperature change! Now we concern ourselves with finite vent movements and settings such as weather dependent P bands - a concept not dreamt of in my early career days. And as for where we are going - well that is probably a vision that is happening faster than we can imagine. Artificially Intelligence is the new buzz word at the moment, but I am still convinced that ultimately our industry needs competent and experienced growers to run a commercial crop - with the technology being the 'aid' to the grower. Hopefully I'm right! Regards **TB**

## HFF Executive Details and Contacts

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## The President



Hi everyone, Well it was an absolute delight to see so many people attend the recent AGM at Katunga Fresh. When we plan these events there is always a bit of doubt in our minds as to whether people will make a reasonably long journey just for a meeting, but the response was amazing! Of course thanks have to go to the Van Den Goer family for agreeing to host the event and to literally throwing open their doors so that we could have a look around. Thank you Peter and the team. Farm visits such as these are the very thing the HFF was founded on - 'Growers helping growers' - and we certainly all learnt a lot from just observing such a progressive farm. And on top of this there is also the networking that happens. The relaxed atmosphere of the day allowed us all to interact with both growers and the trade in a very informal setting. And all of this would probably have not been possible twelve months ago with Covid restrictions - how times change quickly! As far as the AGM itself was concerned I need to acknowledge HFF Life Member Graeme Smith for once again stepping up to act as a 'chair' for the meeting - thank you Graeme - and the upshot was that all committee members up for election were re-elected. However, later on in this newsletter you will see my continued appeal for new committee members to join the team. The HFF has literally grown from a small self-help group to the large association we are today because of the commitment we all have to furthering the hydroponic industry through supporting each other. However, we are continuing to rely on the same faces to run the organisation, and sadly none of us are getting any younger! So I would ask that all of you would consider taking a role on the committee at some stage - I'd hate to see the organisation fold because no one is willing to take it forward. But on a positive note, we have now secured the venue for our 2024 Conference! Yes we are off to the races - well not quite literally! After spending a fair amount of time visiting venues, the committee has settled on having the event at Tabcorp Park - Melton. The venue is heavily used for harness racing but has some great facilities for hosting a conference such as the HFF event. There is a great area for trade events as well as onsite eating (and drinking!) facilities which are so important to the success of our conference. The scheduled dates for the conference are between Monday the 22nd to Thursday the 25th of July - so get those dates in the diary! In the next few weeks we will be launching the sponsorship prospectus for the trade so that we can establish a naming right sponsor. We will be having an official launch event down the track as we did last time so as soon as that is finalised we'll let everyone know. So as we enter the winter months, I wish you all well and hope that any forthcoming replanting that you have on the agenda goes well. Crop change is always a challenge, but hopefully this will be the start of a great new season for everyone. Take care everyone - and all the best - **John Elford**

## Membership

Hi everyone. It was great to see so many of you at the recent AGM - and a big 'thank you' to all the members that travelled some considerable distance to attend the event. Our membership continues to be reasonably stable and we currently have a total of 70 members. These are made up of the following categories:- 30 grower members, 3 farm colleagues, 25 Industry members, 4 industry colleague, 5 Life members and 3 supporter members. But as an organisation we need to be looking forward to expanding our membership. So if you know of a neighbour or colleague who isn't a member, please feel free to advise them of the benefits of becoming an HFF member. HFF members also get a discount at the forthcoming PCA Conference so keep that in mind if you are considering attending that particular event. **Ian**



# Royal Brinkman

## Global specialist in horticulture Here is the line up to protect you



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T 03 9587 2566 | [info@royalbrinkman.com.au](mailto:info@royalbrinkman.com.au)

### Are you protected this summer?

Many crops cannot withstand full sunlight or high temperatures. Greenhouse shading agents and diffuse coatings offer a solution. Royal Brinkman provides suitable options for every crop to protect against too much sunlight. For example, diffuse coatings can spread the light evenly throughout the greenhouse. Where there is a need for a high percentage of protection, the diffuse coating is an ideal solution. At the end of the season, the greenhouse can be easily cleaned with a suitable cleaning agent.

Visit Royal Brinkman at the  
PCA Conference booth #26

  
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global specialist in horticulture

Brinkman Australia are excited to announce the addition of Dane Kirkup to the team as our new Machinery & Technical Sales Specialist. With the business growing, expanding so rapidly over the past three years, timely addition has been made future proofing our operation, ensuring high service standards are maintained, and allowing Brinkman Australia to continue as Australia's leading protected cropping supplier.

Dane will focus on mechanical greenhouse equipment - internal logistics, roof washers, biochoppers, crop sprayers, nanno bubble technology, dehumidification and much more in support of our key manufacturing partners Berg, Van der Waay, Weiterings, Moleaer, Drygair and many others in delivering the latest technologies to the Australian market.

Dane combines this role with day to day product sales & services covering all crop sectors including cannabis, vegetable, berry & flower production.

Dane will work closely with Lachlan Pettigrew (Brinkman Australia Sales & Spare Parts) to ensure we have you covered for both new machinery investments and also updating/maintaining your current equipment.

Our full range of equipment can be viewed via our website at:- <https://royalbrinkman.com/australia>



**Dane Kirkup**

# Fernland



Contact Zak Iqbal on **0455 415 504**  
or [zak.i@fernland.com.au](mailto:zak.i@fernland.com.au)

Contact Head Office on **1800 672 794**  
or [sales@fernland.com.au](mailto:sales@fernland.com.au)

## HORTICULTURAL Cropping Products

### READY TO GROW MEDIA for Your Hydroponic Crops

We stock and supply a wide range of grow bags, customised to your requirements. Supplying growers with grow bags for berry crops, vegetable's, cut flowers and medicinal cannabis.

- ▶ Bags made for excellent water holding capacity and air filled porosity.
- ▶ UV Rated bags to your specifications
- ▶ Layered bags for longer term crops
- ▶ Consistent quality coir with stable EC
- ▶ Available in low EC or buffered
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### PRODUCT RANGE:

- ▶ Grow Bags
- ▶ Substrates
- ▶ Stakes
- ▶ Coir Pot Tops
- ▶ Shadecloth
- ▶ Coir Discs & Pot Tops
- ▶ Plant Bags
- ▶ Weedmat
- ▶ Shadecloth
- ▶ Bird Netting
- ▶ Hold Down Pins
- ▶ Fixing Channel
- ▶ Wiggle Wire
- ▶ Plastics



# AUSVEG Vic Awards for Excellence

The AUSVEG VIC Awards for Excellence event shines the spotlight on some of the highest achieving Victorian vegetable growers in the industry.

The event offers a chance for the Victorian vegetable and potato value chain to come together every year to develop new and strengthen existing connections. The growers and industry members who are nominated provide a snapshot of the amazing achievements of Victoria's vegetable industry.

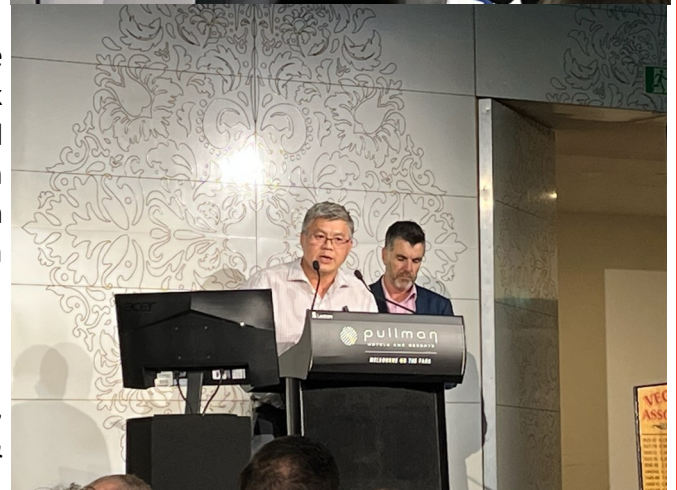
Saturday April 29th saw over 320 guests attend the Grand Ballroom at Pullman Melbourne on the Park, to celebrate 100 years of AUSVEG VIC serving the Victorian vegetable industry, at the AUSVEG VIC Awards for Excellence . This prestigious event acknowledges outstanding contributions of growers and stakeholders in the vegetable sector. MC Comedian Des Dowling kept the laughs flowing whilst diners enjoyed a beautiful meal, fun photo booth, caught up with old friends and made new ones, all set against a historical slideshow on the big screen. This years winners included our very own Michael Tran who was presented with the Campbells Fertiliser Community Stewardship Award.

Other awards winners included:-

- R&D Adoption and Industry Impact Award - Bruce Scott
- E.E. Muir & Sons Environment and Sustainability Award - Kane Busch– Busch Organics
- Women in Horticulture Award - Angela Ruffo
- Tripod Farmers Group Wayne Summers Perpetual Trophy - Young Grower of the Year - Joe & Dominic Boratto
- Boratto Farms Grower of the Year - Adam & Christopher Schreurs - Schreurs & Sons

Whilst we congratulate all of the nominees and the winners, we do need to acknowledge the tireless work that Michael does in terms of supporting growers, and especially the work that he does with the Western Victoria Vegetable Association. Michael has been key in the development of this group, and the flow on benefits that the members see from it.

This year's Ausveg awards were kindly sponsored by:- E.E. Muir & Sons, Fresh State, Boomaroo Nurseries, Butler Market Gardens, Elders, Visy, VegNet/Food & Fibre Gippsland



# The HFF 2024 Conference

After a great deal of work and researching by the HFF Committee, we can now proudly announce the venue for the HFF 2024 Conference. The event will be held at Victoria's home of Harness Racing, Tabcorp Park Melton.

This is a unique and impressive venue situated just 40 minutes from the Melbourne CBD, Ballarat and Geelong and just 30 minutes from Melbourne Airport. The venue features picturesque, track-side viewing from all facilities, an onsite Hotel and ample free car parking.

'The committee visited a number of venues before we made a final decision', said HFF President John Elford. 'The underlying guidelines for us were to have an event site that was easily accessible for all of our members, but more importantly, we wanted a venue that would provide the friendly 'family' atmosphere that is associated with our conference. We believe the Melton venue ticks all the boxes for us, and will go a long way towards ensuring we have a successful event in 2024'.

The theme of 'Sustainable Growing' has been chosen as the committee felt that this was a topic that could be applied to many areas of growing that members face. With increased energy costs, and most other services and materials increasing, the conference will provide a great platform for new and emerging technologies and strategies to be explored and displayed. Issues such as plastic waste recycling and reuse of growing media are also high on the agenda. The scheduled dates for the conference are between Monday the 22nd to Thursday the 25th of July - and promotional flyers and web based publicity are currently being prepared to promote the event. A promotional program for potential sponsors has also been developed and this will be circulated by ASN Events who are managing the conference for the HFF. There are a number of great opportunities for the trade including the chance to be the naming right sponsor. 'Whilst we are effectively over a year away from the event, there was a real need to ensure we had the right facility locked in early' said HFF President John Elford. 'The conference is always a highlight on the HFF calendar and the committee will be working very hard to ensure that we once again have a successful event.' For further details around sponsorship opportunities for HFF 2024, please feel free to call ASN Events on (03) 8658 9530





# HFF Grower Meeting and AGM



Thursday the 30th of March saw a large number of HFF members making their way to the north of the state to Katunga, to attend the HFF AGM and grower day. The event itself was hosted by Peter van den Goer at the family run Katunga Fresh farm. This was certainly an 'Open house' event and HFF members were granted full access to all the growing areas which included some newly planted houses. The Katunga facility is certainly impressive and houses some of the latest technologies that are available to growers. For a long time Peter has been growing in Perlite as a substrate. Whilst this provides a fairly free draining medium, the generative influence on the crop is quite apparent with some impressive yields on display. Added to which the medium has proved to be an economical investment that hasn't been at the mercy of recently vastly inflated overseas freight charges. Automation is a key area for Katunga Fresh and the autonomous trolley system regularly interrupted the visiting groups as the trolleys made their way around the various pathways! Also on display was the installation of the new cogeneration system that Peter is installing to provide additional power to the site. In all the crop tour was an amazing insight into the workings of this progressive and dynamic organisation. A Vietnamese lunch was kindly provided by the Katunga team, which was followed by the HFF AGM. As is tradition, the event was handed over to Life Member Graeme Smith to run the event which Graeme did with his usual efficiency. The committee members whose term was ending were all re-elected and the existing committee will now continue to lead the organisation forward for the next twelve months. President John Elford highlighted that the committee is looking for new members to allow for the establishment of a succession plan to take over from the existing committee. Katunga Fresh's generosity extends well beyond the boundaries of Australia, and the family have been active in establishing a school in more remote parts of South Africa. As recognition of the generosity afforded to all members who attended, the HFF presented Katunga Fresh with a cheque for \$2500 to assist with the overseas charity work. A truly great grower day.....



*Peter van den Goer explains his growing strategy*



*Establishing the new crop in perlite*







# HFF Grower Meeting and AGM



# PCA 2023 Conference



## **150 FREE GROWER REGISTRATIONS AVAILABLE. WHAT ARE YOU WAITING FOR!**

Protected Cropping Australia are pleased to be funding 150 complimentary registrations to support grower attendance at the 2023 conference. The registrations provide complete access to the Welcome Function on Monday, Conference Sessions and Grower Networking Event on Tuesday, Conference Sessions and Conference Dinner on Wednesday plus so much more.

If you want to attend for free, complete the online registration TODAY!  
[www.pcaconference.net.au/registration](http://www.pcaconference.net.au/registration)

## **GROWER WORKSHOPS**

### **TUESDAY 18 JULY**

PC101 Part 1: PC Growing Systems, Structures and Climate  
 Graeme Smith, Tony Bundock, Henry Bosman, Odin Franssen.

### **TUESDAY 18 JULY**

PC101 Part 2: Irrigation, Nutrition and Hygiene  
 Marcus Van Heijst, Jeremy Parker, Ben Nikaj, Melanie Power.

### **WEDNESDAY 19 JULY**

Transitioning from Soil to Soilless Media  
 Tony Bundock, Levi Nuppenon, Zak Iqbal, Josh Pirrone, Cheyne Clarke.

### **WEDNESDAY 19 JULY**

Integrated Pest and Disease Management  
 Jake Byrne; Dan Papacek; Cherie Gambley; Ivan Casteels.

## **PLANT EMPOWERMENT WORKSHOP**



When - Monday 17th July 2023  
 Where - Brisbane Convention & Exhibition Centre  
 Cost - \$379 AUD  
 speakers - Remy Maat, Ton Habraken and Evripidis Papadopoulos

**CONTACT US**

ASN EVENTS  
 03 8658 9530

**REGISTER NOW**

[www.pcaconference.net.au](http://www.pcaconference.net.au)

# PCA 2023 Conference

On behalf of the Protected Cropping Australia (PCA) Board, I am delighted to invite you to attend the **PCA2023 Conference** to be held at the **Brisbane Convention and Exhibition Centre** from the **17-20 July**.

The conference theme for PCA2023 is **“Growing our Future.”** A range of inspiring and thought-provoking speakers, exhibitors, and sponsors from here in Australia and abroad will share their knowledge, research, and innovations to all delegates.

Protected Cropping is one of the fastest growing horticultural sectors in Australia and PCA have an enviable reputation of running great events filled with knowledge building and networking opportunities.



**PCA Chair - Matt Plunkett**

PCA is the peak industry body representing commercial hydroponic, greenhouse and controlled environment growers in Australia and has a wide international following.

A key feature of PCA2023 is working with our partners, the allied trade and equipment suppliers to encourage greater grower attendance through subsidising **up to 150 free grower trade show passes**.

This will allow entry to our popular exhibition trade show and include tailored skills training for growers to meet the needs of the various sectors PCA represent. For more information about the PCA2023 Grower Trade Show and how to secure a free grower pass, email Lydia Lazar at [lydia.l@asnevents.net.au](mailto:lydia.l@asnevents.net.au).

The Protected Cropping industry encompasses many sectors of horticulture including, but not limited to fruits, vegetables, berries, leafy greens, herbs, cut flowers, nursery, medicinal cannabis and aquaponics, vertical farms and controlled environmental agriculture industries.

An innovative and fresh program of speakers, networking events, training and grower discussion panels will feature in addition to the regular conference program, exhibition trade show, conference dinner and the ever-popular farm tours.

PCA will also collaborate with our partners to continue supporting our students and provide additional support to the protected cropping next generation cohort to attend and make new connections at this exciting, not to be missed event.

We look forward to seeing you in Brisbane and welcoming you to the PCA2023 Conference.

**Matthew Plunkett - Chair, Protected Cropping Australia**

## PEOPLE. PLANET. PROFITS

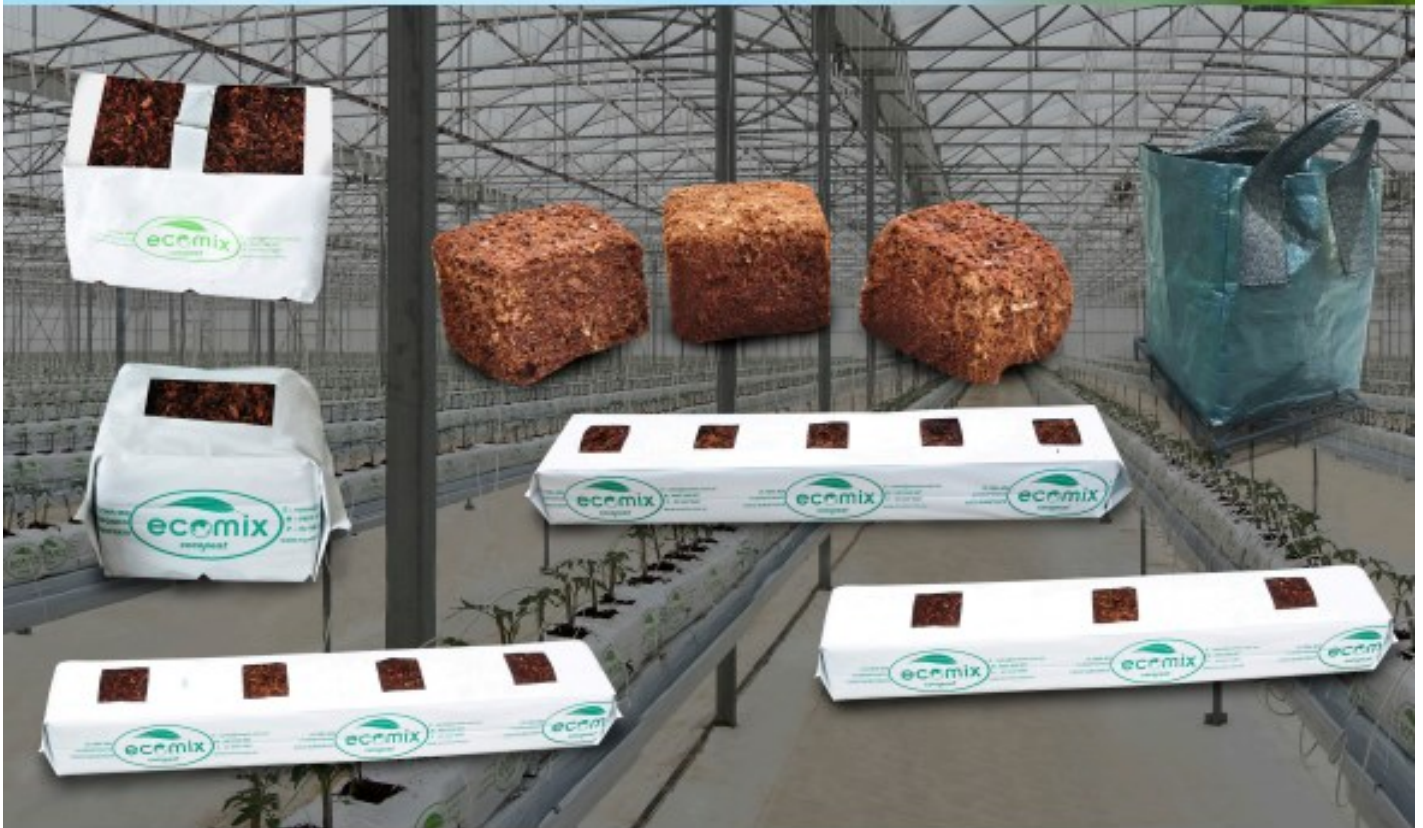
For more info visit [pcaconference.net.au](http://pcaconference.net.au)



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# Western Sydney University

WESTERN SYDNEY  
UNIVERSITY



SCHOOL OF SCIENCE

“Studying at WSU allowed me to understand, interpret and apply the theoretical knowledge of crop cultivation into everyday practical applications in my glasshouse”

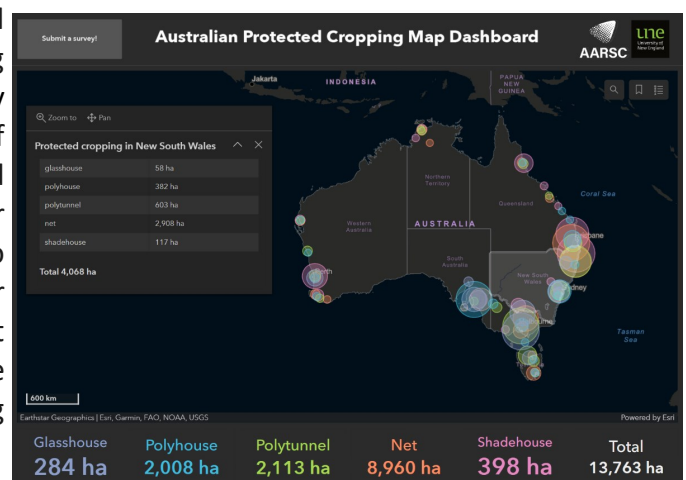
Andrew McIlwain  
General Manager  
Operations Green Camel

To find out more about our protected cropping courses, give us a call on **1300 897 669**, visit our webpage or contact Prof Zhonghua Chen on **0466 544 696** [z.chen@westernsydney.edu](mailto:z.chen@westernsydney.edu). CRICOS provider code 00917K

## Protected Cropping Mapping Update

Work on Australia’s first national map of “protected cropping” facilities is starting to wrap up, with some surprising findings. An early outcome of the project lead by UNE’s Applied Agricultural Remote Sensing Centre (AARSC) was the discovery that Australia has about 30% more protected cropping systems than had been previously estimated. The Centre’s initial survey of the nation’s protected cropping systems has documented 13,763 ha of structures—4,405 ha of greenhouses (including glasshouses, polyhouses and polytunnels) and 9,358 ha of nets (shadehouses and permanent nets). This first draft mapping of Protected Cropping Systems can be viewed through the [Australian PCS Dashboard](https://arcs.is/1ebimm0) - <https://arcs.is/1ebimm0>.

When complete, the map will provide the protected cropping industries with a powerful tool for capitalising on opportunities and responding to biosecurity threats. “The map is being built via the integration of industry data, image analytics, ground validation and citizen science,” said AARSC Director, Professor Andrew Robson. “Anyone can contribute and add to our database using the location-based tools in our industry applications gallery which is located at ([www.une.edu.au/webapps](http://www.une.edu.au/webapps)). They can also provide feedback directly on the map as comments, including specifying the locations of new and future crops.”



# Eclipse Enterprises



## AGRIFAST

### TOM SYSTEM

Greenhouse tying system

Innovative and unique  
Clipping solution for trellis and  
greenhouse crops,  
saving you time and money

Contact us for  
further information,  
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nearest distributor.



V-46 - Pepper crop



V-46 -Tomato crop



V-46 - Cucumber crop



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E: [info@eclipseenterprises.com.au](mailto:info@eclipseenterprises.com.au)  
[www.eclipseenterprises.com.au](http://www.eclipseenterprises.com.au)

TOM-System is the new, quick, and easy working method for trellising greenhouse plants such as tomatoes, cucumbers, and capsicums/peppers to string lines. The AgriFast V-46 ring clips are fastened using the Model TT235 electronic application tool. These metal clips support similar or heavier loads than other tying methods, do not hinder plant growth and support formation of the stem. The Model TT235 allows the user to apply ring clips to string line up to 50% faster than standard clipping methods and requires no specialised training. The clips are designed to rust away after composting. The period depends on the conditions but there have been some reports here in Australia of clips disappearing after only 7 months

### What are the benefits of TOM System?

- Reduces labour costs by 40% or more
- Reduces damage to the plant caused using other trellising methods
- User friendly with no specialised training required
- Adjustable tension to suit different string thickness
- Compatible with eco-string
- Clip closure between 22mm and 23mm
- TOM-System can hold plants more than 8kg
- Reduces transport costs compared to other clips
- Reduced fatigue on the operator
- Battery will last up to 2 days



For a demonstration or quotation, feel free to contact

Michael Tran at EE Muirs - 0418 899 586



# Powerplants



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# AgNova

## Protected Cropping

Wuxal Calcium Xtra Uptake can be applied in protected cropping situations at the following rates:



Calcium

CROP	RATE PER 100 L	NUMBER AND TIMING OF APPLICATION
Cucumbers	300-500 mL	Repeated applications at 7-10 day intervals starting about 10 days after fruit set to 2 weeks prior to harvest
Brussels Sprouts Cauliflower Celery Chicory Chinese Cabbage Endive Head Lettuce	300-500 mL	Weekly applications Cauliflower, Chinese Cabbage & Head lettuce: Start before head formation Celery: Start about 5-7 weeks before harvest, properly wetting the heart of the plant Endive: Start about 10-14 days after planting
Tomatoes / Peppers	100-400 mL	Repeated applications at 7-10 day intervals starting about 10 days after fruit set

Nutrient	Total Product Basis (% w/v)	Nutrient	Total Product Basis (% w/v)
Nitrogen (N)	16	Copper (Cu)	0.064
Calcium (Ca)	17.2	Iron (Fe)	0.08
Magnesium (Mg)	1.8	Manganese (Mn)	0.16
Boron (B)	0.08	Molybdenum (Mo)	0.0016
		Zinc (Zn)	0.032



Brad Johnson

agnova.com.au

Innovation. Quality. Solutions. **AgNOVA**

# Have you considered being part of the HFF Committee?

Following on from my plea in the last newsletter, I need to stress that we are still committed to seriously developing a succession plan in terms of Committee Members. It seems that none of the existing committee members have come across a fountain of youth since we last spoke (and if you do find one please let me know!) so we are on the hunt for some new blood to join us. So what's the commitment?

Basically a zoom meeting once a month to deal with the behind the scenes management of the organisation (which also will guarantee you a good laugh with the rest of the team!) and lending a hand at the practical field days and the conference. You will also get the opportunity to have direct input into the overall direction that the organisation is taking for the future. The committee is more than willing to take new ideas on board, so if you have a burning wish to see something particular happen, this could be your opportunity! Feel free to have a chat with me or any other of the committee members - we'd love to hear from you! **John Elford**



# AgNova Technologies



**Brad Johnson**  
AgNova Area Sales  
Manager

**Powdery mildew is the most common and widespread disease in Australian cucurbits.** Powdery mildew infection occurs when spores are blown onto leaves, with symptoms appearing 3 – 7 days later. The disease infects green tissue and appears as white fluffy growth on either side of the leaf. Heavy disease infection leads to leaves becoming fragile and yellow to brown in colour. Any stresses to the crop will favour the development of powdery mildew, which includes the stress associated with fruiting. Flute and Kusabi are protectant fungicides which control powdery mildew. They perform best when applied to a clean crop and used alternately. Kusabi is ideally suited to follow Flute in a fungicide spray program from flowering until harvest (as shown in the table below). Flute and Kusabi offer strong vapour action when applied with optimal spray coverage. The performance of powdery mildew fungicides can be improved with Du-Wett, especially when lower spray volumes are used. Flute (Group U6) and Kusabi (Group 50) are compatible with a wide range of commonly used insecticides and fungicides. They offer strong vapour action when applied with optimal spray coverage and have 1 and nil day WHPs respectively, which provides great flexibility around picking time. Both products have a proven track record of successful use in crops where IPM is practiced. For further details, please visit the AgNova Technologies website - [agnova.com.au](http://agnova.com.au)

DOMINANT DISEASE	CROP STAGE					
	ESTABLISHMENT	FLOWERING	FRUIT SET		FRUIT MATURITY	
Powdery mildew	Group 3, 7, (7+11), 11 or 13	Group 3, 7, (7+11), 11 or 13	Flute <sup>50</sup> EW FUNGICIDE (U6)	Kusabi <sup>50</sup> (50)	Flute <sup>50</sup> EW FUNGICIDE (U6)	Kusabi <sup>50</sup> (50)



Innovation. Quality. Solutions.



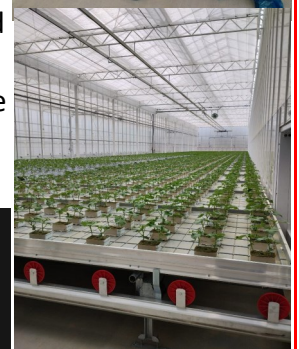
\* Flute is a registered trademark of Nippon Soda Co., Ltd.  
\* Kusabi is a registered trademark of Ishihara Sangyo Kaisha Ltd. 240322

## Launch of new Propagation Facility

Monday the 5th of June saw the official opening of Provenance Propagation in Wells Crossing, New South Wales. The brain child of Jack Mooney, the project has literally seen the development of the whole facility from a green acre site to the impressive facility that it now is. Operating out of a purpose built greenhouse that is equipped with full climate control and ebb and flood benches, Provenance specialise in producing seedling crops for the commercial greenhouse industry - Australia wide. Jack is passionate about propagation and providing a quality product. "We focus on providing value to our customers in every way possible. Whether it's through innovative products, exceptional customer service, or cutting edge . We go above and beyond for our clients" said Jack.

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# Pollination with Drones

Most of us who have ever owned a drone have certainly had the experience of demonstrating our ability to control the said object by flying it into a fence or a tree! So the idea of having a drone that can fly with super accuracy to effect pollination in a greenhouse initially takes some believing. On Tuesday the 30th of May, the Polybee company in conjunction with Flavorite and PCA, hosted a demonstration of their technology for 30 growers and trade members. Polybee have been working extensively in this sector to perfect a drone based pollination system to effectively replace a manual labour force. The



**A Polybee pollination drone and navigational QR codes**

first thing that surprised all the delegates attending was that the drones used are basic 'off the shelf' units - the same type of device that you might purchase at JB Hifi or similar outlets. This has been a deliberate choice by Polybee to keep costs down. However it is the overlaying technology in the software that gives Polybee their finite control of the drones. Most of us had the idea that the drone would fly beside the

plants but this is not the case. The actual flight path of the drones takes them across the top of a double row and the downdraft from the rotors provides the agitation required. Even though the drones fly at an approximate height of 6 metres, the downdraft is substantial enough to cause some vigorous agitation of the strings and trusses. Polybee have also not just been satisfied that just 'shaking' the plants and have designed the drones downdraft to give the optimum airflow to provide the ideal agitation of the target tomato plants. So does this mean that you have to appoint a staff member as 'drone pilot' who will guide the drone up and down each row? And the answer is effectively no. The drones



**Polybee drone with rotor protection**

themselves are guided by a number of QR (Quick Response) Codes that are placed throughout the greenhouse area to ensure an even and constant flight plan. So it was time to see all this theory in action and two of the drones were launched to commence their task. The simple description of the operation was 'precision'. The two drones were initially piloted to hover approximately 2 metres off the ground and then they climbed to their full working height and proceeded down the rows without the need for the 'pilots' to control the drones manually. The first obstacle the drones faced was a major crop support truss hanging vertically from the roof, but the drones simply hovered and very gently tracked sideways before continuing their journey back on the original trajectory. The trial was held in a four hectare greenhouse with 100 metre rows, so the each drone took approximately 15 minutes to return to their starting point.

Now this may seem to be a long period of time, but the team at Flavorite advised that to manually pollinate the whole crop area, they would need 14 staff members to be actively working on the crop at the same time, so the potential labour savings were obvious. Polybee have a general recommendation that four drones per hectare is the ideal number that would be required. Of course, the drone can only run for as long as the battery has power, so each drone would probably require a battery change after every two 'runs'. Polybee recognise that this could be seen as an ongoing issue as a staff member would obviously be required to manually change



## Pollination with Drones

batteries. However, they are now looking at a totally autonomous solution where the drone would fly to a station, and automatically enable a process to change batteries. As the saying goes - 'Seeing is believing', and all of us at the demonstration were certainly very impressed with the Polybee product. The company themselves acknowledge that they still have work to do, but the initial signs that this is a positive step forward for the industry are certainly there.



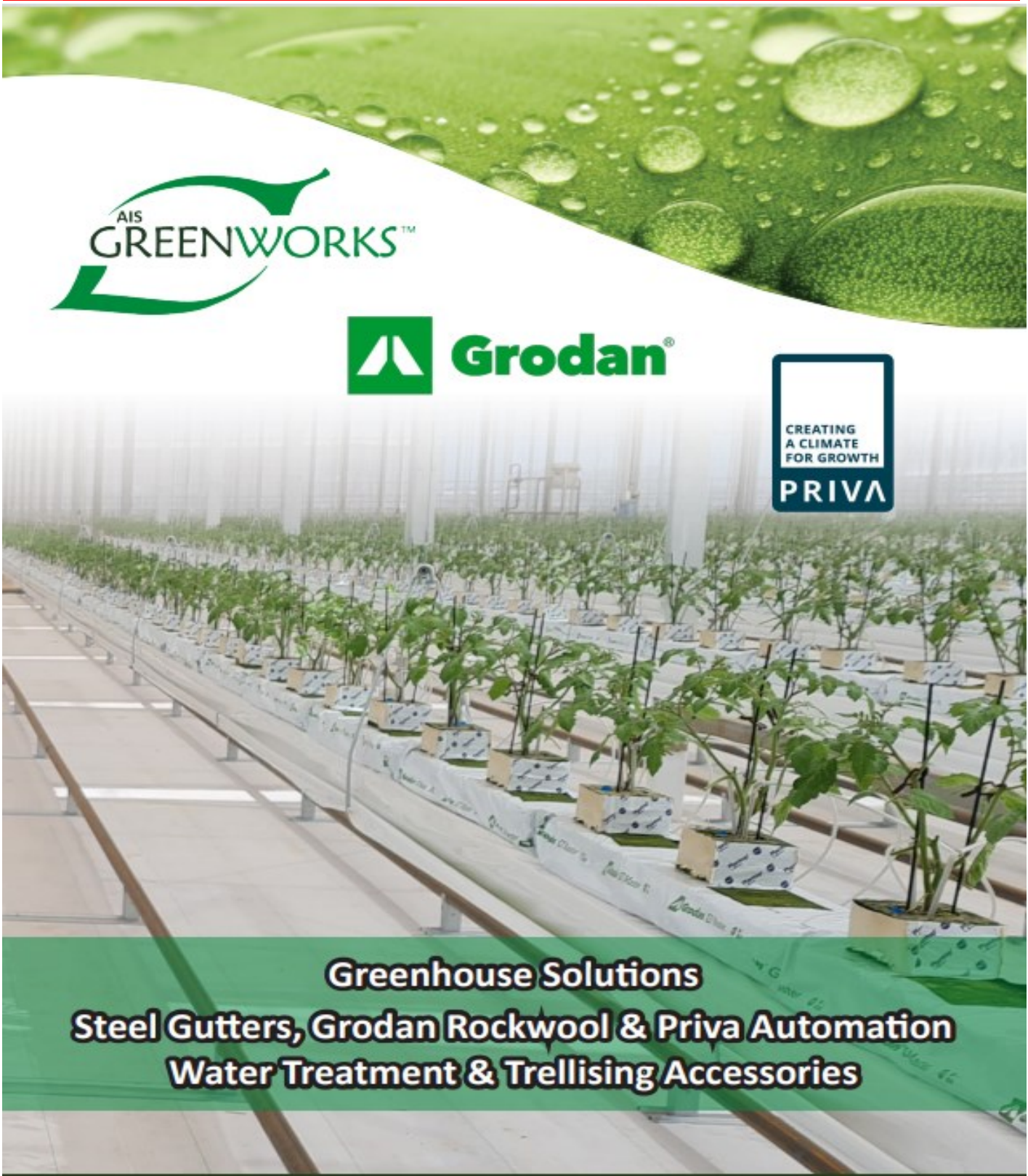
## Concerns Raised on the PALM Scheme

The NFF Horticulture Council has rung the alarm bells loud and clear that the Pacific Australia Labour Mobility (PALM) scheme is now heading towards calamity. Consultation has just closed on a series of dramatic changes to the rules and requirements placed on employers that will see many of them walk away from the scheme.



And the national peak horticulture body is attributing its troubling trajectory to a lack of ownership and direction from the highest levels of government. Horticulture Council spokesperson Rachel Chambers said it was increasingly clear relevant ministers aren't working together to ensure the scheme meets the long-term interests of the Pacific and Australian industries it's meant to serve. "Farmers are increasingly frustrated that no senior minister is effectively accountable and taking responsibility for fixing the PALM. "Instead, we have buck passing and finger pointing across portfolios, and farmers and Pacific nations both becoming increasingly dissatisfied with how the PALM is run." Ms Chambers said changes to scheme proposed through consultation and now likely to come into effect risked a mass exodus of participants. "We've warned for years against putting all our eggs in the PALM basket, given how challenging it is for small businesses to engage with. Now, instead of making it easier for small business, we have a suite of changes that would effectively lock them out of the PALM. Most alarmingly, some of these changes appear to be a proxy for wider ideological industrial relations reforms and fulfilling a shopping list of demands from the union movement. From the outside, it appears that the ACTU is running the show, making decisions which will send the PALM into meltdown and damage our ties in the Pacific. Australia's Pacific diplomacy is being outsourced to the ACTU and they're botching it big time. Members of the Council are reporting that employers within the scheme, both long-term participants and those who've joined recently due to COVID workforce shortages, have taken a look at the proposed changes to the scheme Deed and Guidelines due to be enforced from next month and are readying to walk away". "The dramatic growth in the PALM scheme over the COVID period, in the absence of any other labour options, has clearly given the government the very false sense that they can saddle up employers with ever greater burdens", said Richard Shannon, Executive Officer to the Council. "The return of backpackers to pre-COVID numbers has not gone unnoticed by employers. Growers are readying themselves to walk away in big numbers. We also don't want to damage Australia's relationship with the Pacific through a mass exodus of farms from the program, but at this point we'd have to encourage farmers to explore their options carefully. Instead of the Albanese Government enforcing existing standards within the PALM scheme by stamping out rogue labour hire employers and penalising employers who engage PALM workers outside of the program guidelines, the lazy approach here has been to simply increase the administrative burden on compliant employers. We're encouraging all impacted parties, growers and workers alike, to write formally to government to put on the record our dismay at these proposed changes. PALM has an essential part to play in our labour supply mix and is now too important to fail. So, someone has to step up and chart a reasonable path forward, that strikes a better balance between the competing interests in the PALM scheme, otherwise it will continue on a road to ruin." *Story courtesy of media@nff.org.au*

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