

vegetables

australia
| Winter - 2021



COVER STORY | IN CONVERSATION WITH ROBERT HINRICHSEN
FRUIT FLY MANAGEMENT | NEW BIOCONTROL PROGRAM UNDERWAY
HORT CONNECTIONS | LESS THAN A MONTH REMAINING!

A new dawn. A new standard.

New Miravis[®] Prime combines the strengths of proven fludioxonil (Group 12) and new pydiflumetofen (Group 7) to manage hard-to-control diseases.

These complementary active ingredients attack fungal pathogens in different areas of the plant. They target four different stages of disease development to effectively break the disease life cycle, while aiding resistance management.

There's a new dawn in protectant fungicide technology, powered by MIRAVis. Miravis Prime. For further information talk to your local Syngenta representative or visit syngenta.com.au/miravis-prime.

 **Miravis[®] Prime**

syngenta[®]



**IS YOUR
CROP
PROTECTED?
SCAN HERE**



28



32



34

Contents

Regulars

- 05 Editorial
- 06 Message from the Chair
- 80 Around the states

Industry news

- 12 Exploring the science behind provenance verification
- 16 Thriving on fertile Tasmanian soil and continuous improvement
- 18 Hort Connections 2021: Less than a month remaining!
- 20 Meet the 2021 Corteva Agriscience Young Grower of the Year award nominees
- 22 Offering disease control and value to vegetable growers
- 30 Biostimulants: The importance of using quality products
- 34 Combating the hunger challenge facing Australian society
- 38 AUSVEG Advocacy update: Focus on harvest labour intensifies
- 45 Woolworths partners with farmers to feed growing appetite for organics
- 46 Saving edible food from landfill to feed Aussies in need
- 47 A stalling dollar and shifting economy: What this means for Australian business
- 71 Harnessing the power of biology in horticulture
- 76 Supporting a green future for nitrate fertilisers

Features

- 08 In conversation with... Robert Hinrichsen
- 28 Lauren East: Making her mark in the west
- 32 Glowing with (orange) pride in north Queensland

Research and Development: VegNET

- 48 Monitoring micro-climates in the Bowen horticultural region
- 50 Meeting 'Mr Su': A leader in the west's Vietnamese veg growing community
- 54 Addressing resistance management for diamondback moth
- 56 Extension update: Full steam ahead for South Australia
- 58 A hive of activity in Victoria's Gippsland region
- 60 Flood recovery journey continues for New South Wales' veg growers
- 61 Bring on the good bugs: Native vegetation insectaries trial underway
- 64 Top End welcomes Irrigation Efficiency Masterclass and Field Days
- 67 Tackling the big issues facing growers across Wide Bay-Burnett
- 68 VegNET – Tasmania: Update from the Apple Isle

Research and Development

- 13 New units deployed across eastern states
- 22 Ask the industry
- 23 Special investigation: What's this grey fluff inside my capsicum?
- 34 Vegetable Industry Export Strategy 2021-2025
- 38 Piloting digital remote monitoring to improve environmental performance
- 40 Cover crop and strip till combination a winner in the west
- 42 Latest mail on the snail: Watch out for this giant pest!
- 44 Sexual harassment in the workplace
- 49 The Vegetable R&D Levy at work
- 72 Management of TPP and CLso in potatoes nearing completion
- 73 Minor use permits
- 74 Parasitoid wasps: The focus of a new biocontrol program for Queensland fruit fly
- 77 Boosting mycorrhizal fungi in vegetable crops: Is it required and what can you do?

Bill Bulmer
AUSVEG CHAIRMAN

James Whiteside
AUSVEG CEO

Shaun Lindhe
COMMUNICATIONS MANAGER

Michelle De'Lisle
WRITER/EDITOR

CONTRIBUTORS

Jayne Caddihy
Simone Cameron
Tyson Cattle
Michael Coote
Dr Paul Cunningham
Bonnie Dawson
Dr Jenny Ekman
Bree Grima
Growcom – Fair Farms team
Zara Hall
Sylvia Jelinek
Shakira Johnson
Dimi Kyriakou
Ossie Lang
Yanyu Liang
Sarah Limpus
Monica Logan
Zali Mahony
Alan Nankivell
Dr Belinda (Brandy) Rawnsley
Cameron Scadding
Soil Wealth and ICP team
Pieter Van Nieuwenhuyse
Heinrich van der Westhuizen
Truyen Vo

EDITORIAL ENQUIRIES: AUSVEG
Phone: 03 9882 0277
communications@ausveg.com.au

PRINT
RA Printing

GRAPHIC DESIGN
Stray Orbit

COVER PHOTOGRAPHY
Anna Osetroff

ADVERTISING
Tim Withers
AUSVEG Marketing Coordinator
Phone: 03 9070 0704
tim.withers@ausveg.com.au



ausveg.com.au/infoveg



[#ausveg #infoveg](https://twitter.com/ausveg)



facebook.com/AUSVEG



[#ausveg](https://instagram.com/ausveg)



Search "AUSVEG"

The project *National Vegetable Industry Communications Program* (VG18000) is a strategic levy investment under the Hort Innovation Vegetable Fund. Communication of research and development projects has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government. Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture. *Vegetables Australia* and *Vegetables* are produced by AUSVEG Ltd and are free for all national vegetable levy payers.

Disclaimer: Any information or advice contained in these publications is general in nature and has been prepared without taking into account readers' individual objectives or circumstances. Readers should not act or refrain from acting or alter any business practices on the basis of opinions or information in these publications without first carefully evaluating the accuracy, completeness, appropriateness, currency and relevance of the information for their purposes and obtaining appropriate professional advice relevant to their particular circumstances (including any decision about whether to consider acquiring any product).

All information, expressions of opinion and recommendations in these publications are published on the basis that they are not to be regarded as expressing the official views and opinions of AUSVEG, unless expressly so stated. AUSVEG, authors and all persons involved in the preparation and distribution of these publications are not to be taken as giving professional advice and hence do not accept responsibility

for the accuracy or currency of any of the opinions or information contained in these publications. AUSVEG accepts no responsibility for errors or misstatements, negligent or otherwise, and is not obliged to correct or update the information or opinions expressed in these publications. The information in these publications may be based on assumptions and may change without notice. AUSVEG specifically disclaims any loss, damage, claim, expense, cost (including legal costs) or other liability (whether based in contract, tort, strict liability or otherwise) for any direct, indirect, incidental or consequential loss or damage arising out of or in any way connected with access to or reading of these publications, including (but not limited to) any loss or damage whatsoever caused by a reader's reliance on information obtained from these publications. AUSVEG does not accept any liability to advertisers for the publication of advertisements which may be held to be contrary to law. Material published in these publications is copyright and may not be reproduced without permission.

Hort Innovation makes no representations and expressly disclaims all warranties (to the extent permitted by law) about the accuracy, completeness, or currency of information in *Vegetables Australia* and *Vegetables*. Reliance on any information provided by Hort Innovation is entirely at your own risk. Hort Innovation is not responsible for, and will not be liable for, any loss, damage, claim, expense, cost (including legal costs) or other liability arising in any way, including from any Hort Innovation or other person's negligence or otherwise from your use or non-use of *Vegetables Australia* and *Vegetables*, or

from reliance on information contained in the material or that Hort Innovation provides to you by any other means. Special care should be taken with agricultural chemicals which may have been used experimentally but are not yet registered for commercial use. Clarification should be sought from the researchers or chemical manufacturers.
© Copyright AUSVEG Ltd and Horticulture Innovation Australia Limited 2021.

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior permission from AUSVEG. Requests and enquiries concerning reproduction and rights should be addressed to AUSVEG at: 3 Glenarm Road, Glen Iris VIC 3146.

ISSN 1834-2493



Vegetables Australia is the most widely distributed magazine in Australian horticulture.



Editorial

A special comment from James Whiteside

AUSVEG performs a number of roles that drive sustainable and profitable vegetable and potato production, and probably none are more important than political advocacy. The focus of these efforts are at a national level, given we have strong network of state members who each drive their state-specific agenda.

Over the last few years, the effectiveness of our advocacy efforts has been substantially enhanced by the establishment of the Horticulture Council. Now with over 20 state and national horticulture groups as members, the Council for the first time can present an 'all of industry' message to politicians and public servants. This has been incredibly important in gaining us the ear of all relevant politicians, including the Prime Minister, to highlight the impact of the loss of an international labour force as a consequence of the pandemic.

While that issue is far from solved, the co-ordinated efforts of Hort Council members, and its engagement with other key groups such as the Australian Fresh Produce Alliance, has meant that decision-makers have heard a relentless and fact-based message since March last year. The recommencement of the

Seasonal Worker Programme and the state-based quarantine arrangements to support it, as well as the various levels of state government support of the associated costs, are all a consequence of this industry co-operation.

This example has also shown what can be done when industry pools its resources and should serve as a catalyst for a range of other issues that need to be addressed, including our patchy national biosecurity framework; building the industry's sustainability credentials; and the focus and performance of Hort Innovation. To achieve its full potential, the Hort Council needs more financial support from all of its members: it can't be done on the current shoestring budget, and which doesn't do justice to an industry with a turnover in excess of \$14 billion. AUSVEG will be willing to stump up its fair share and will be calling on all of the other horticulture industries to do likewise.

In some personal news, I'm leaving AUSVEG at the end of June after four and a half years. By far my most impressive memory will be the outstanding, entrepreneurial and decent growers I have met over my time here. I wish you all the very best.



Bring on the Baron!

For control of a wide range of tough weeds & excellent crop safety

BARON[®] 400 WG
Selective Herbicide

Innovation. Quality. Solutions.

©Baron is a registered trademark of AgNova Technologies Pty Ltd 210127





Message from the Chair

The COVID-19 pandemic and subsequent lockdowns continue to be experienced around the world. However, we in Australia continue to manage the virus with minimal disruption to our daily lives.

Events that were unable to be held in 2020 are returning in 2021. We have seen large crowds attend sporting events, entertainment venues and theatres right around country.

Another event returning in 2021 is Hort Connections, the biggest conference and trade show in Australian horticulture. This kicks off at the Brisbane Convention and Exhibition Centre on 7 June, and industry members throughout the horticulture supply chain will come together to listen to experts and celebrate the international year of fruits and vegetables.

After 18 months of 'Zooming' and using other video conferencing apps, Zoom fatigue has set in; and having face-to-face interaction provides an invaluable opportunity to expand networks on a more personal level. This is while building knowledge and finding out new ways to improve the productivity and profitability of your business.

Hort Connections 2021 is a 'one-stop-shop' for delegates to network with their peers from all areas of horticulture, and to work together to address the biggest issues that our industry is facing and discuss how we can grow horticulture's future growth and value. This is particularly important as we navigate our way through a post-COVID world.

Above all, the event provides an opportunity to have a break from the farm after the challenges we have faced. Looking after your mental health is imperative, and social interaction plays a big role. I encourage all growers to come along, have a chat and enjoy the event that we have worked so hard to put together in a COVID-Safe way. The AUSVEG Board members and partners will be in attendance, and we look forward to reconnecting with our peers and industry representatives who we haven't seen for the past 18 months.

On a final note, I would like to pay tribute to the outgoing AUSVEG CEO James Whiteside. Since being appointed to the role in December 2016, James has focused strongly on delivering value to the country's vegetable and potato growers and has been a strong advocate for efficient and effective representation at national and state levels. James will remain in the role to oversee the delivery of Hort Connections, and to hand over the role to the incumbent.

On behalf of the AUSVEG Board, I would like to thank James for his contribution to the Australian vegetable and potato industries and wish him well into the future.

A handwritten signature in white ink that reads "Bill Bulmer".

Bill Bulmer
Chair
AUSVEG

SKALS

GRADING LINE

Flexible Setup - Optimal Precision



Shock principle ensures optimal precision

Limited moving parts ensures reliability

Accurate on long potatoes



VIN ROWE

FARM MACHINERY

3 ENDEAVOUR ST, WARRAGUL. VIC 3820 | PH (03) 5623 1362 | VINROWE.COM.AU

FOR FURTHER INFORMATION CONTACT WAYNE MILLS 0417 945584

In conversation with... Robert Hinrichsen

In 2016, Robert Hinrichsen received the prestigious Syngenta Grower of the Year award at the National Horticulture Convention – now known as Hort Connections – for his outstanding work across all aspects of vegetable production, including his adoption of innovative technologies and practices. In this edition, Michelle De'Lisle speaks to Robert about the changes that have occurred in the past five years and his views on the current state of the Australian vegetable industry.



Photography by Anna Osetroff.

Robert, you were crowned Grower of the Year at the Awards for Excellence in 2016. What are you up to now? What is your current role and responsibilities?

Since winning the award, Kalfresh has continued to grow in terms of cropping area, packing ability and diversity of cropping. We have also started a certified organic cropping program, which we have rolled out to 12-month supply of certain lines.

Day to day operations at Kalfresh are run by my business partner, Kalfresh CEO Richard Gorman. My role at Kalfresh is more high-level oversight through the board, with more of my time spent with the farming and harvesting side of the business, including an active role in my family farm, which is a large supplier to Kalfresh.

Can you please give me a brief overview of Kalfresh and the produce that you grow?

The main Kalfresh production facility is located at Kalbar in the Scenic Rim, about one hour south-west of Brisbane. However, Kalfresh now has farms and farming partnerships in nine regions in Queensland, northern New South Wales and Victoria. We have sought new cropping regions for geographic diversity and for water security.

Kalfresh's main vegetable crops are carrots, green beans, sweet corn, onions, and pumpkins, as well as newer snacking crops such as sweet baby capsicums and organic mini melons. As well as our conventional crops, we now run a 12-month Certified Organic cropping program.

One of the most exciting projects Kalfresh is involved in is a proposal to build an integrated agricultural industrial precinct at Kalbar. Our vision is to provide a destination for food manufacturers, value-add businesses and agricultural service businesses that's situated in the region where the raw ingredients grow. We believe this will create operational efficiencies, deliver skilled jobs to a regional area, and help Australia's food manufacturing sector remain competitive on an international stage. The precinct plan has been driven by my partners Richard Gorman and David Krause. We are in the final stages of a State Government co-ordinated planning process and are talking to businesses that are interested in being involved in the Precinct.

Kalfresh will continue to grow and adapt to meet consumer, grower, business and community expectations. Planning for the longevity of the Kalfresh business began several years ago with a move away from family ownership to 'working partners'. Our CEO Richard Gorman and Agricultural Manager Angus Stainlay have both worked with Kalfresh for more

than 20 years. They, along with David Krause – our Chief Financial Officer and a former Ag lead at BDO Accountants – now own 50 per cent of the company. The deepening of the skills base and breadth of responsibilities has allowed the company to grow and diversify, and more successfully meet the challenges of an ever-evolving business environment.

The rollout of this strategic direction for Kalfresh is underpinned by a new generation of young, energetic, passionate managers, supervisors and staff, who are building a solid base of experience and expertise for years to come.

As I mentioned, you received the Grower of the Year award at the National Horticulture Convention in 2016. What did winning this award mean to you?

During the conference that year, I spoke on our soil health journey and the things we had implemented to drive biodiversity and carbon sequestration in our soils. We had also been part of the Soil Wealth project for three years to quantify some of the results of that effort. To win the award that year was like an industry-wide endorsement of the appreciation of that effort and direction.



Did winning the award open any doors for you and the business? If so, how?

It was kind of cool to be able to use the award with the wider supply chain. To win a national award is no small thing, so industry participants are interested in why you have been recognised.

Opportunity also came from speaking to touring parties who stopped in for a look at the compost, farming methods etc. Other industries like sugar and cotton also had me speak to growers and I did a travelling soil health conference in the Northern Territory, which was a blast!

How has your role in the industry changed in the past four years, and what have you learnt in that time?

I started my time with Horticulture Innovation Australia (HIA; now Hort Innovation) under the old Industry Advisory Council (IAC) model and worked through the changes to the industry pillar/Strategic Investment Advisory Panel (SIAP) model. After nearly 10 years in this role, I felt it was time to step aside and allow some younger growers to participate. The HIA role was very rewarding not only in terms of driving

R&D, but also provided a somewhat unique opportunity to meet a nation-wide variety of growers and researchers that are the backbone of the industry here.

2020 might go down as the COVID year, but for us it was the year of national biosecurity failures resulting in some major new pests. Hot on the heels of the cowpea mild mosaic virus the year before, 2020 brought fall armyworm and serpentine leaf miner to our growing areas, with new skills in management required. It reinforced the need for a strong R&D focus, firstly in terms of information for growers on the pests, and then management options for in crop control. Access to available chemistry is vital in dealing with new pest problems.

In terms of research and development, what do you think is vital to the vegetable industry right now?

COVID-19 may have brought some opportunities that are low hanging fruit for our industry. Firstly, a renewed concern about food security, provenance, and safety. Perhaps an opportunity to research what some of these changing perceptions mean to the industry. Secondly, the COVID-inspired labour shortages mean we should at least be constantly scoping automated or robotic ideas for our fields and packing sheds.

Outside of COVID-19 – but still in keeping with consumer expectations – is the very big conversation around conservation and regenerative ag. Many Australian vegetable growers are using the principles of regen ag to improve soils and therefore their products. Research to quantify the benefits of things like cover cropping to reduce siltation and nutrient leaching gives the industry standing on environmental issues and should encourage wider industry adoption and government support.

An ongoing need for R&D is gap analysis of available chemistry and work towards filling those gaps with available or new chemistry. With a concerted push toward IPM strategies and the use of soft chemistry: the more options are available to growers and the less resistance we →



see to available chemicals. Particularly with aggressive new pests like fall armyworm, a range of chemical types being available to industry is paramount.

Furthermore, funding should be available for research into endemic parasitoids, beneficial insects and viruses that can be used in conventional IPM strategies, or organics. The new serpentine leaf miner is a case in point. Perhaps a local beneficial insect will become our best first line of defense?

What do you enjoy most about working in the vegetable industry?

I love working in this industry and being part of it. This industry involves many of the smartest, savvy, hard-working people in this nation, and I honour them. I like everything about this industry that I have been involved in for 30 years. Of course, there are challenges around increasing costs to grow crops and operate; increased risks and regulation, but I still enjoy being involved in the vegetable industry.

Where do you get your on-farm practical advice from?

Advice comes from many places, but ultimately from other growers. Online groups have become valuable, particularly in the soil health space. Typically, the groups include growers, academics and researchers, so a healthy balance is maintained. I love to travel and see innovation first-hand, curtailed this year due to COVID-19. I must say, you do not have to leave Australia to see great innovation with growers who

I would consider to be world leading innovators right here.

What is your proudest achievement as a vegetable grower?

Kalfresh has been in operation for almost 30 years and the big questions become about longevity, sustainability and perpetuity. I have spent most of my life connecting with people who do the things I can't do well, which has built a great basis for Kalfresh going forward – not being reliant on one person.

We have a great board and management team at Kalfresh that have enabled the business to grow and flourish. This structure and the people we work with make me immensely proud and are consummate professionals in their roles and in life. Essentially, I could disappear tomorrow and Kalfresh will continue to grow and distribute food to a very high standard all around the world.

I am equally proud that several of my children are joining the business and continuing the family tradition of passionate growing.

Do you have future plans for the farm – is there a particular direction you'd like to pursue? Where would you like to see the business develop across the next decade?

My remaining time as a farmer will be future looking and legacy based. I am convinced that the implementation of regenerative ag principals into horticulture will drive production and alleviate some of the issues I mentioned previously. But it's a journey, not a destination. Every step is a learning step and results happen over

time – not immediately.

The use of plants to heal and regenerate soils is something I am very interested in. It is common for us now to follow the harvester with the drill, catching the residual crop moisture to cover the soil between crops. The type and number of plants we now use in cover crops is growing. Our understanding has gone from growing tonnes of biomass, to propagating the most diversity in soil microbes by growing the most types of plants we can. A recent hot spell highlighted the importance of soil cover. While bare soils baked in the sun, our covered soils took the light from the sun, multiplied the energy by 400 per cent through photosynthesis, and drove that energy into our soils through carbohydrate rich exudation. This process brought life and health to our soils in this tough period, while other soils baked.

For me, it's a legacy thing to leave the farm in a better shape than I took it on. For the nation, it is a rural and urban win-win as catchments, watersheds, rivers, bays, reefs, fisheries and national parks all benefit.





Local Broccoli Results



'It all starts here'...

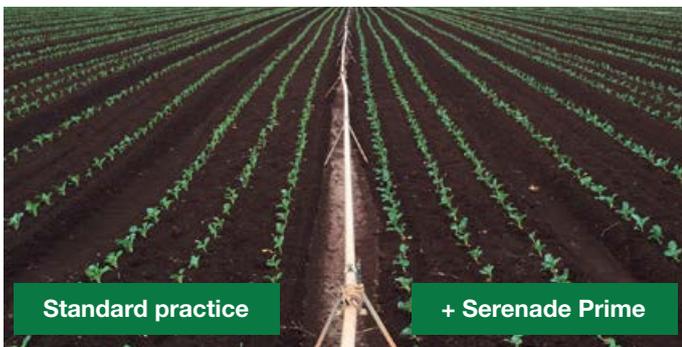
Serenade® Prime is a beneficial bacteria that colonises broccoli roots. It creates a win-win relationship with the plant at the soil interface, improving nutrient availability. Frequently this results in improved harvest uniformity.



Serenade Prime colonising the root

Harvest Uniformity

Windolf Farms, Gatton Qld improved yield of Aurora broccoli by over 12%. Greater early vigor (below) and earlier head maturity was observed in the July planting, and better uniformity in the first three picks.



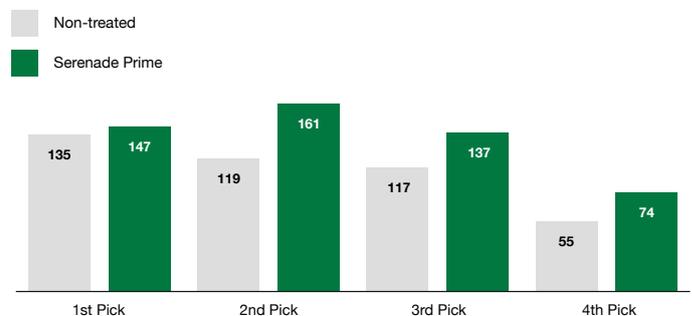
Early Application

Serenade Prime is best applied close to the root zone at planting so it quickly colonises young roots. It needs to be placed no further than 13 cm from roots. Apply 5-7 L/ha through a plant hole drench or as a boom spray over the bed using overhead irrigation to incorporate into the root zone. It can be mixed with common fertilisers and pesticides.



Better broccoli establishment, Toowoomba Qld

Weight (kg) by harvest round* June 2016



*Area treated = 5 x 87 m x 1.5 m beds (0.065 ha)

Find out more at serenadeprime.com.au

Bayer CropScience Pty Ltd, ABN 87 000 226 022, Level 1, 8 Redfern Road, Hawthorn East, Victoria 3123. Technical Enquiries 1800 804 479. enquiries.australia@bayer.com
Always consult the product label for detailed information. The information and recommendations set out in this brochure are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/or developed resistance. Any product referred to in this brochure must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions. Serenade® is a Registered Trademark of the Bayer Group.



Cameron Scadding pictured receiving his 2021 Business News 40under40WA award that recognises the state's innovators and future business leaders. Image courtesy of Business News, Matt Jelonek and John Koh.

Exploring the science behind provenance verification

In this column, Cameron Scadding – co-founder and Managing Director of Perth-based science technology company Source Certain International – explains how scientific provenance verification is breaking a path in a sector previously dominated by digital technology.

What made you pursue this kind of technology?

Our scientific technology, TSW Trace[®] was pioneered in the 1970s by Source Certain International Chief Scientist, John Watling. Nicknamed 'gold-fingerprinting', it was used extensively to identify the provenance of stolen gold and link it back to its mine of origin. It was trusted by law enforcement and accepted by the legal world, and I knew there was potential for it to be a transformative tool in the supply chain space.

What fruits and vegetables have you had experience in verifying?

We have used our scientific technology to analyse a whole suite of fruit and veg; from potatoes to cabbages and citrus to avocados. The science is applicable to all food products with environmental origins, which influence their chemical make-up.

Can you explain how TSW Trace[®] works?

TSW Trace[™] identifies the chemical, molecular, elemental and isotopic indicators that are absorbed into plants, animals and minerals from their natural environment. The analytical result is used to develop a chemical fingerprint that is representative of the product's provenance (its source of origin). We store these fingerprints in a Provenance

Database that can be referenced to confirm the discrete origin of a product once it enters the supply chain.

What sets it apart from other competitors in the market?

We've spent over 40 years developing, refining and using our technology. We also analyse a combination of indicators (trace metals, isotopes, chemicals and elements), which gives us a very precise indication of origin – we are able to distinguish between individual farms, fisheries, plantations, chook sheds and orchards.

Consumers care about where their food comes from. How does provenance verification play a part in this?

Verifying 'country of origin' just isn't enough anymore. Consumers make purchasing decisions on the value claims associated with food and products – organic, sustainable, free range, ethical – and these values are implemented at the farm, shed or orchard level of production, making it so important to have a technology in place that can verify provenance to that level of precision, in turn verifying those claims.

How does scientific analysis differ from digital solutions and smart printing techniques?

Because we're scientists and we analyse physical specimens, we say the most effective way to prove if a product is what it says it is, is to strip away the packaging and test the product itself. However, we work alongside complementary service providers as we each offer a unique layer of security to high-value products.

Can TSW Trace[®] be used in a biosecurity and contamination sense?

Our technology offers enhanced traceability to combat food safety issues by linking produce at the packhouse stage to the farm of origin. There are biosecurity benefits, with a tighter quarantine and continuation of operations that comes with the ability to trace a contaminated vegetable back to a farm.

In addition, our technology provides a solution to the growing demand from downstream suppliers to verify the authenticity of premium produce; boutique or licenced varieties; sustainability or organic production claims; and other provenance-based claims.

Find out more

Please contact Source Certain Head of Sales Nathan Dubrich at nathan.dubrich@sourcecertain.com or visit sourcecertain.com.



From left to right: Sentinel 5, Sentinel 1 and Sentinel 3 testing at The University of Adelaide's Waite Campus. Image courtesy of Andrew Baker from Data Effects.

New units deployed across eastern states

iMapPESTS is a five-year project that aims to provide a framework for a plant pest surveillance system that can rapidly monitor and report the presence of high-priority airborne pests and diseases. With six mobile surveillance units constructed so far, the cross-industry collaboration is now in the final stage of the proof-of-concept R&D program. A focus on in-field trials will see the units showcased at a range of industry events and trials in diverse growing regions as the program seeks to understand how the suite can improve pest management for industry. Shakira Johnson provides a project update.

A suite of custom-designed mobile surveillance units – known as ‘sentinels’ – that feature sophisticated airborne trapping technology are being deployed to various locations around the country to monitor high-priority airborne pests and pathogens. These sentinels sit at the core of a cross-industry R&D program, *iMapPESTS: Sentinel Surveillance for Agriculture program*, bringing together Australia’s plant industries to research and develop a smart national surveillance system with the latest cutting-edge diagnostics to rapidly monitor and report the presence of airborne pests and diseases for multiple agricultural sectors, including viticulture, grains, cotton, sugar, forestry and horticulture.

Second generation of mobile surveillance units launched in trials

Every sentinel looks unique but all six share similar features – each is equipped with several airborne samplers, power supply, a weather station, telemetry

and an industrial computer for remote control and monitoring. They also include automated technology to configure samplers for different sampling requirements.

The most recent additions to the iMapPESTS smart surveillance suite, Sentinels 5 and 6, were first launched in a brief trial at Scott Samwell’s Eastbrook Farms in the Adelaide Hills township of Nairne, with on-ground assistance from E.E. Muir & Sons’ agronomist Rhys Robinson.

These two units, along with Sentinel 4, make up the next generation of optimised surveillance units and are smarter, smaller, lighter, and more flexible compared with earlier sentinels, an important feature in an ever-evolving industry, and especially important for responsiveness to biosecurity incursions.

Deployment trial roadmap

As iMapPESTS nears the end of the sentinel development stage, a focus on in-field trials will enable the iMapPESTS team

to engage with growers, agronomists and consultants at the coalface of the growing regions. This will deliver important pest and disease information that can contribute to on-farm pest management actions, biosecurity response efforts and area freedom claims.

Throughout the remainder of 2021, these six sentinels will be deployed around the country to different growing regions for extensive testing and optimisation. The roadmap of sentinel trials will include showcases at several industry events, including a demonstration at the Hort SA conference at Adelaide Produce Markets in mid-May. Industry has been excited to get up close and see how the moving parts come together to deliver information they can use to guide crop monitoring efforts. Hort Connections attendees will get a chance to see the newest six-metre trap in-person at the event’s Trade Show, where they can stop by and have a chat to the researchers behind the construction of the units. Hort Connections will be held at the Brisbane Convention Centre from 7-9 June.

To stay up-to-date with locations and news for sentinel trials, visit the iMapPESTS website where you can view each of the sentinel units and trial pages. During sentinel trials, data is regularly shared through these pages as summaries and observations from iMapPESTS entomologists, plant pathologists and local service providers (crop consultants, agronomists, etc) and a data dashboard that features, weather (temperature, rainfall, and humidity), pest and





Sentinel 4 sampling at Cobblejick Produce in Uraidla, Adelaide Hills.

pathogen counts.

By the end of the project in 2022, the team hopes to have a demonstrated a proof-of-concept surveillance system that is suitable to different regions and supported by the appropriate rapid diagnostic tests for key insect pests and pathogens across industry sectors.

The iMapPESTS team will work with growers and industry representatives to understand the best way to communicate and visualise the dynamic pest and pathogen information for end-users.

Growers and those involved in plant pest management are encouraged to visit the iMapPESTS website for more information or get in touch.



Find out more

Please contact Engagement and Adoption Coordinator for iMapPESTS Shakira Johnson on 0433 937 564 or shakira.johnson@ausveg.com.au.

Further details can be found at the iMapPESTS website: imapests.com.au. You can follow the project on Twitter: @iMapPESTS.

The program (2017-2023) is supported by Horticulture Innovation Australia Limited, through funding from the Australian Government Department of Agriculture, Water and the Environment as part of its Rural R&D for Profit Program and Grains Research & Development Corporation, Sugar Research Australia, Cotton Research & Development Corporation, Wine Australia, AgriFutures Australia, and Forest and Wood Products Australia.

Project Number: ST16010

NSW grower trials cover crops to eliminate single-use plastic mulch and control weeds

The Soil Wealth and Integrated Crop Protection (ICP) project works with growers nationally to put soil management and plant health research into practice. The project team is currently working with New South Wales vegetable grower Kim Ngov, who is using cover crops to not only build soil health and control weeds, but also eliminate single-use plastic mulch. *Soil Wealth ICP Phase 2 (VG16078)* is a strategic levy investment under the Hort Innovation Vegetable Fund.

Grower Kim Ngov has sown another cover crop trial on his intensive vegetable farm near the southwest outskirts of Sydney (Wedderburn, New South Wales). This time Kim is focused on using cover crops to build soil health, control weeds and eliminate single-use plastic mulch.

Four cover crops were sown on 14 February 2021: ryecorn (cereal rye), millet (see Figure 2), sorghum and a mixture of sorghum and ryegrass.

At this stage, a broadleaf herbicide

could be used to clean up roadways as well as bird damaged cover crop areas and eliminate weeds like common mallow (*Malva parviflora*), wireweed (*Polygonum aviculare*) and common sow thistle (*Sonchus oleraceus*), which will compete against the cover crops all through the autumn and winter months.

We expect the millet and sorghum areas to self-terminate with the onset of winter. Ryecorn and ryegrass areas will likely need to be mulched down several times, adding

to the overall biomass on the soil surface.

Another option Kim has in mind is installing a weed mat later in the season, just before planting chillies in September-October 2021 on a flat surface. The weed mat is a ground cover consisting of a woven polypropylene, needle-punched fabric with reinforced fibre for extra durability.

The cover crops will still recycle nutrients and increase infiltration rates. The five metre width rolls of weed mat –

A trio of integrated weed management fact sheets now available

Is oxalis, volunteer potatoes or nutgrass driving you nuts on-farm?

The Soil Wealth ICP project has put together a series of three fact sheets on priority weed species and their integrated management in vegetables.

1. Nutgrass (*Cyperus rotundus*)

Nutgrass, also known as purple nutsedge, Java grass, coco-grass and red nutsedge, is a major problem for the Australian vegetable industry.

It is extremely invasive under the right conditions (warm, wet soils) and requires planning, diligence and multiple strategies to control it on Australian vegetable farms. An integrated weed management (IWM) strategy, including cultivation measures and chemical control, is the best approach for reducing nutgrass populations to a manageable level.

You can access the fact sheet here: soilwealth.com.au/resources/fact-sheets/weed-management/integrated-weed-management-nutgrass-cyperus-rotundus.

2. Volunteer potatoes (*Solanum tuberosum*)

Volunteer potatoes are generally the most significant weed problem in the field following a potato harvest. Where it is timed appropriately, an IWM strategy can be very effective in managing this problem when combining proper harvest practices, using appropriate harvest conditions, physical destruction by tillage, weeding or grazing and herbicide application with tillage.

You can access the fact sheet here: soilwealth.com.au/resources/fact-sheets/weed-management/integrated-weed-management-volunteer-potatoes-solanum-tuberosum.

3. Oxalis (*Oxalis* spp.)

There are about 30 species of oxalis in Australia, including soursob and creeping oxalis. More commonly found in the southern parts of Australia, oxalis is an invasive weed of cultivated fields but is also found in no-till situations (e.g. roadsides and native landscapes).

Not to be confused with clover, most oxalis species have three heart shaped leaflets (forming one trifoliate leaf) with smooth edges. Control measures in an IWM strategy should be undertaken prior to flowering stage for soursob and creeping oxalis.

You can access the fact sheet here: soilwealth.com.au/resources/fact-sheets/weed-management/integrated-weed-management-oxalis-oxalis-spp.

if needed – will lay over the cover crops between the roadways, allow fertiliser to flow into the soil, control weeds, warm the soil and be rolled back up at the end of the season to be re-used multiple times.

You can read more about Kim's efforts in weed management in a case study that explains how an inter-row ryegrass cover crop was used to control weeds

in his snow pea crops: soilwealth.com.au/resources/case-studies/interrow-ryegrass-cover-crop-a-winner-in-snow-pea-production.

He also explains more in this short podcast: soilwealth.com.au/resources/podcasts/cover-crops-used-for-weed-suppression-in-snow-pea-production-7-minutes.

Find out more R&D

For more information, please contact project leaders Dr Gordon Rogers on 02 8627 1040 or gordon@ahr.com.au and Dr Anne-Maree Boland on 03 9882 2670 or anne-mareeb@rmcg.com.au.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG16078

Hort Innovation
Strategic levy investment

VEGETABLE FUND



Vegetable grower Kim Ngov and Marc Hinderager from the Soil Wealth ICP team inspect the different cover crops at an early stage.



Areas of millet cover crop ground cover at an early stage (4L) with roadways in between.



Kim Ngov and Pieter Van Nieuwenhuyse from the Soil Wealth ICP team discuss the establishment of the cover crops and options to control weeds.



Mini tubers at Agronico's hydroponic facility.

Thriving on fertile Tasmanian soil and continuous improvement

Over three decades, Agronico has shifted its focus from an agriculture consultancy business to all things mini tubers and seed potatoes. The business is always aiming to improve and is currently working on a five-year plan to enhance customer experience, while offering world-class procedures and facilities for seed potato storage.

Tasmania's fertile soil is ideal for growing healthy vegetables as well as producing potatoes that are high-quality and disease-free. There is plenty of virgin ground available, especially in irrigation areas newly opened by the Tasmanian Government.

Tasmanian-based business Agronico recognises the Apple Isle's ideal conditions for growing quality potatoes. Over 30 years, it has grown from an agricultural consultancy business – working with individual farmers – into one of Australia's largest seed potato producers. Today, it continues to develop the science of seed potato propagation through investment in tissue culture, hydroponics, seed processing and cool store technology.

"In our business, we start with tissue culture," Agronico Chief Executive Officer Robert Graham explained.

"Research on hydroponic mini tubers started 18 years ago. It took around seven to eight years to perfect it and make it commercially viable. By growing potato mini tubers hydroponically, we get a more uniform tuber size, the system is predictable, and we can fulfil ordered volumes more consistently.

"Ongoing research and development is vital to Agronico. As a science-driven business, we place an emphasis on solving the problems that farmers encounter. Our team of researchers work primarily in the seed potato industry but also cover broccoli, chemical registrations and new crops, running trials all-year-round."

Keeping everything top notch is important. Agronico prides itself on world-class seed potato handling procedures,

aiming for minimal harvesting and grading damage. Its intensely-managed field production from G1 maximises production of G3, making it the final generation of seed potatoes to ware growers. This ensures that the quality is not compromised by pushing to G4 and beyond.

A cool process

The team identified the ideal cool storage technology during a study tour of Europe. Produced by Tolsma, the first cool store opened in 2017 with specially designed aeration systems circulating fresh air through each section when carbon dioxide levels are too high. Following its outstanding success, a second one opened in August 2019, making premium storage available to many more producers.

With 18 rooms in total, the cool stores can hold up to 16,000 tonnes and achieve maximum efficiency by being located next to the grading and cutting lines. Trucks can be loaded in the large drive-through corridor in the centre of the storage shed, ideal for loading in wet weather.

"We can now transport potatoes direct from Tasmanian paddocks for grading and then to the facility for storage in optimum conditions. The cool stores enable varietal control, aid manageable volumes of seed and this handling process minimises the ageing of seeds leading to good stem count per sett and higher yields," Mr Graham explained.

"Typically, we store the seed potatoes for up to eight months. The cool stores maintain the perfect temperature to prevent the detrimental impact of carbon dioxide build up, with the temperature,

carbon dioxide and humidity held at optimum levels and monitored 24/7."

Other products grown in this rich agricultural area, such as broccoli, carrots and onions also benefit from using this technology.

Mr Graham said the purpose-built factory improves the viability and quality of seed that is kept in the cool store, and these benefits flow-on to Tasmania's potato growers.

Best practice procedures are employed when cutting the seed. The quality of operations enables Agronico to cut and cure seed for distribution around Australia without breakdown. For the growers, freighting cut seed is more efficient than cutting after delivery.

"Agronico is committed to improving product and providing opportunities for growers and contractors in Tasmania," Mr Graham said.

"We will continue to invest in infrastructure to support and maximise our capabilities as the leading and only vertically integrated supplier of quality seed potatoes in Australia. Additionally, we are the only facility in the world that grows and stores mini tubers and seed potatoes.

"The wet autumn in 2020 and COVID-19 challenged us, but we harvested over 90 per cent of our crop, kept people employed and diversified our market to include home gardeners.

"We're very optimistic about the future potential of Tasmanian agriculture."

Find out more

Please visit agronico.com.au.



Knowledge grows

Improving productivity needn't cost the earth.

Quality nitrate fertilisers from Yara can optimise the yield and quality of crops – and significantly reduce the carbon footprint of your farm. We've already reduced the carbon footprint of our nitrate fertiliser production by 40% by making our production plants and processes among the most energy-efficient in the world. Our ongoing development of 'green' ammonia technology and climate-smart agricultural practices means we're on track to reduce emissions by another 30% within a decade and carbon neutral by 2050. Contact Yara and find out how our integrated crop nutrition programs can deliver better agronomic, business and environmental outcomes for your farming business.





There will be plenty of networking opportunities at the 2021 Hort Connections Trade Show.



The Gala Dinner returns in 2021 and will take place on Wednesday 9 June.

Hort Connections 2021: Less than a month remaining!

The countdown is on to Hort Connections 2021, the largest event in Australian horticulture. This year's conference and trade show will take place at the Brisbane Convention and Exhibition Centre from 7-9 June, and will bring together growers, supply chain members, government stakeholders and service providers for networking, education and business for the fresh produce industry. *Vegetables Australia* has provided an overview of what to expect at Hort Connections 2021.

Speakers set for Hort Connections stage

Speakers are an integral part of Hort Connections each year – and 2021 will be no different. There will be plenty of time for discussion, debate and thought-provoking questions when the speaker sessions take place at Hort Connections. Delegates will hear from a range of presenters across a wide variety of topics that impact the fresh produce industry.

Trade Show Speaker Sessions

This year's Hort Connections offers an expansive Trade Show. With over 200 exhibitors, there really will be something for everyone! Included in this year's program are the Trade Show Speaker Sessions – these are taking place on Tuesday and Wednesday, so drop by and have a listen between networking and browsing the display that are on offer. The Trade Show will be in Exhibition Halls 1 and 2 and is sponsored by Australia's Fresh Produce Markets.

Tuesday's Trade Show Speaker Sessions will be followed by a Happy Hour from 5-6pm, sponsored by NuFarm.

Plenary sessions

The plenary sessions are set to take place

on Wednesday afternoon from 2pm. They conclude at 5pm, with plenty of time to get ready for the Hort Connections Gala Dinner (sponsored by One Harvest).

Keynote speakers

Alice Zaslavsky

Alice Zaslavsky is a cookbook author and broadcaster bringing good food to people of all ages. Her vegetable bible entitled *In Praise of Veg* topped the Australian cookbook charts, proving that you can, in fact, make friends with salad.

Alice is also the creative force behind the Hort Innovation-funded Nomcast and Phenomenom (with a M!), redefining what it means to teach kids about fresh produce and bringing food into every subject – both in the classroom and at home.

Thomas King

Thomas King is the founder and CEO of Food Frontier, Australia and New Zealand's independent think tank and expert advisor on alternative proteins.

Realising the limitations of current protein production systems to feed our global population safely and sustainably into coming decades, Thomas founded Food Frontier to help businesses, innovators and policymakers understand and pursue opportunities in the emerging plant-based meat and cellular agriculture industries.

Adele Spurgin

Adele Spurgin is a peak performance coach and profiler that specialises in mind/body performance.

Adele has had the privilege of coaching peak performance to some amazing athletes – from pros, semi-pros, weekend warriors and sports teams in different codes, to millionaires, career professionals, business owners and international CEOs. She will present on mental fitness and how it's used for peak performance and burnout prevention in 2021.

Perfection Fresh Breakfast

Rob Redenbach will be speaking at the Perfection Fresh Breakfast, to be held in the Plaza Ballroom on Tuesday 8 June from 8am.

After leaving school at 15 to dig ditches on building sites in Tasmania, Rob would go on to be listed by Business Review Weekly as one of Australia's top 10 professional speakers.

Along the way he would work with Nelson Mandela's bodyguard team in South Africa, survive a road-side ambush in Baghdad, Iraq, and complete Executive Education in Cambridge, Massachusetts. Rob's signature presentation *What I Didn't Learn* at Harvard captures key lessons from his journey and in the process demonstrates how to be a better leader – in business and in life.

Vegetable Industry Seminar

A strategic levy investment under Hort Innovation Vegetable Fund, the Vegetable Industry Seminar returns in 2021. This will be held on Wednesday 9 June from 9am to 12:30pm.

Hear from Paul Levins who is Principal at Beanstalk, Australia's premier agtech innovation agency. Paul focuses on how open innovation can transform the food and agriculture industry, and he believes it's critical to look outside of industry verticals to find and apply new solutions as well as working with existing R&D efforts.

There will also be a panel that will delve into the project *Tools and interventions for increasing children's vegetable knowledge – VegKIT (VG16064)*. The question is: VegKIT: Can kids learning to love veggies drive future demand? This will be moderated by Lucinda Hancock from Nutrition Australia.

At the same time, there will be Supply Chain and Consumers Stream Sessions. Among the presenters is Dr Andrew Macnish, a postharvest horticulture and supply chain management specialist with the Queensland Department of Agriculture and Fisheries. Andrew currently leads the DAF, QLD Supply Chain Innovation team and the Serviced Supply Chains project (AM15002) that is increasing the reputation and profitability of Australian horticulture exports.

Gala Dinner

The 2021 National Awards for Excellence will be presented at the Hort Connections 2021 Gala Dinner on Wednesday 9 June. The Awards for Excellence are a fantastic way to acknowledge and recognise the outstanding contributions of individuals and businesses to the horticulture industry. Sponsored by One Harvest, the Gala Dinner begins at 7pm.

Find out more

Please visit hortconnections.com.au. For further enquiries, please email info@hortconnections.com.au or phone 03 9882 0277.



Representatives from the 11 international seed companies that will be featuring at the 2021 Lockyer Valley Growers Expo.

Lockyer Valley on-show at Expo

The Lockyer Valley Growers Inc. is inviting growers and industry members to the Lockyer Valley Growers Expo, which is set to take place over two days from Sunday 6 June to Monday 7 June 2021.

The event will be hosted at the Gatton Research Facility and is an excellent opportunity to network with growers and speak with leading vegetable industry supply-chain experts.

There will be vegetable variety trials from 11 international seed companies, along with machinery and technology displays, and access to industry service providers.

In addition, a gala dinner will take place on Sunday 6 June for growers and industry. This event coincides with Hort Connections and will include optional pre-conference tours to the expo.

General admission tickets can be pre-purchased prior to arrival via the Hort Connections website: events.hortconnections.com.au/lvgrowers-expo-2021/landing/Site/Register.

Food and drink will be available to purchase on the day, and on-site parking is available.

Ticket prices are as follows:

- \$20 General admission – 1 Day (Sunday OR Monday).

- \$30 General admission – 2 Days (Sunday AND Monday).
- \$150 Gala dinner (5:30pm Sunday, pre-bookings essential).

For more information, please contact Zara Hall on 0456 956 340 or email projectmanager@lockyervalleygrowers.com.au.

Bus tour registrations

Day one of Hort Connections offers delegates with the opportunity to tour the Brisbane Markets before attending the Lockyer Valley Growers Expo.

The Hort Connections off-site bus will depart from the Brisbane Convention and Exhibition Centre (BCEC) on Monday 7 June. The tour of the Brisbane Markets includes breakfast before travelling to the Expo for the day, returning to the BCEC at approximately 4pm.

The cost of the tour – including entry into the Lockyer Valley Growers Expo – is \$120. However, this is not included in an all-access Hort Connections pass.

To register, please visit events.hortconnections.com.au/2021/tours/Site/Register or phone the AUSVEG office on 03 9882 0277 to find out more.



Caitlin Radford.



Renee Pye.



Jake Shadbolt.



Anthony De Ieso.



Jake Ryan.



Marlon Motlop.

Meet the 2021 Corteva Agriscience Young Grower of the Year award nominees

Announcing Australia's best young growers: A potato grower from Tasmania, a native herb supplier from South Australia, and a mixed crop farmer from Western Australia are among the shortlist nominees for the prestigious 2021 Corteva Agriscience Young Grower of the Year award.

Celebrating fruit and vegetable producers aged 35 and under, the Corteva Agriscience Young Grower of the Year Award will be presented at the National Awards for Excellence on 9 June.

The national award celebrates outstanding young growers who champion the horticulture industry's success and show a commitment to innovation in an effort to define the next generation of future leaders.

The shortlisted nominees for the 2021 Corteva Agriscience Young Grower of the Year award are:

- Kane Busch, Busch Organics – Bairnsdale, VIC.
- Anthony De Ieso, Thorndon Park Produce – Adelaide, SA.
- Marlon Motlop, The Native Co./ Quality Harvest – Adelaide, SA.
- Renee Pye, Zerella Fresh – Parilla, SA.
- Caitlin Radford, CO Agriculture Pty Ltd – Moriarty, TAS.
- Jake Ryan, Three Ryans/Goodooga Farms – Manjimup, WA.
- Jake Shadbolt, Scotties Point Farms – Swan Hill, VIC.
- Sam Spirli, Spirli Strawberries – Wandin North, VIC.
- Zac and Justin Vanstone, Vanstone Produce – Crowley Vale, QLD.

- Xavier Toohey, XP Toohey – Wallace, VIC.
- Mitchell East, Willarra Gold – Manjimup, WA.
- Christina Kelman, Rita's Farm – Wallacia, NSW.
- Matthew Griggs, Lucaston Park Orchards – Lucaston, TAS.
- Loose Leaf Lettuce Company – Gingin, WA.

Tasmanian nominee, 22-year-old Caitlin Radford, works on her family's multi-generational farm. She said she's thrilled to have made the award shortlist and plans to make the most of the opportunities that come with being a Young Grower nominee.

"I feel incredibly humbled and proud to be nominated for the 2021 Corteva Agriscience Young Grower of the Year award," Caitlin said.

"I'm excited as it will be my first Hort Connections. We're making the journey to Brisbane to get as much out of the experience as possible. I really look forward to meeting and networking with the other finalists."

Marlon Motlop, 31-year-old Director and Farm Manager of The Native Co in Adelaide, is also delighted to be nominated. He hopes the recognition will be an opportunity to bring awareness to

the native food industry.

"Being nominated is a huge achievement and great recognition for a lot of hard work," Marlon said.

"My driving force is to shine a light on the world's oldest surviving flavours and inject them into the new world, creating opportunities for the community throughout Australia to learn about Aboriginal and Torres Strait Islander culture and ancient farming."

Third-generation Manjimup grower, 26-year-old Jake Ryan, is also shortlisted. He said the nomination was unexpected and that the national awards were essential for the industry development.

"I was surprised at first, but I'm very grateful and excited to be nominated," Jake said.

"It's important to honour young growers to keep inspiring them to be creative with their approaches to current issues. It also helps to show older generations that there may be different solutions to current or old issues and sometimes change is needed."

For Nick Koch, Corteva Agriscience Marketing Manager, the 2021 Young Grower nominees showcase the wealth of talent in Australian horticulture.

"Corteva Agriscience is delighted to continue our sponsorship of the Young



Daniel Hoffmann.



Stephanie Tabone.



Nick Koch and Chris McLoughlin.

Supporting previous nominees and winners

Grower of the Year Award and play a role in the career progression of the leaders of tomorrow,” Nick said.

“Congratulations to all the nominees. They are the best and the brightest young growers in Australia today and demonstrate the incredible depth of talent in the industry.

“We welcome each nominee into the Young Grower Alumni and look forward to getting to know them all before we announce the overall winner at the National Awards for Excellence in Brisbane on Wednesday 9 June.”

AUSVEG CEO James Whiteside said the Corteva Agriscience Young Grower of the Year award is a strongly contested and important category.

“Corteva Agriscience’s ongoing support of Australia’s young growers is a terrific illustration of industry leadership. We need to recognise the leaders of the future and celebrate the ability, innovation and enthusiasm of young people who have chosen a career in horticulture,” James said.

Stephanie Tabone was 23 years of age and working as a production manager for one of Australia’s largest carrot producers when she was nominated for the 2019 Young Grower of the Year. She explained that her career has since gone from strength to strength.

“Being an award finalist has led to valuable career opportunities for me, and I’m still really grateful for the recognition by the industry,” Stephanie said.

“As a young female who didn’t grow up in agriculture, the nomination helped me make connections with respected and emerging horticulture leaders. Most significantly, it also led to the development of my relationship with Corteva Agriscience and the next milestone stage in my career as Corteva Agriscience’s ANZ Regulatory and Stewardship Manager.

“The Young Grower of the Year award is highly respected and can be transformational. It shows nominees that their dedication to horticulture is valued, not just in the business they’re working within but also across the broader industry.

“It also provides networking and business exposure opportunities and builds confidence to step up to new challenges and roles with greater responsibility.”

Nick Koch said the ever-increasing profile of the Corteva Agriscience Young

Grower of the Year award is a huge positive for young people and the industry more broadly.

“The importance of the award is growing each year, and that benefits everyone in horticulture,” Nick said.

“For the nominees, they receive the public honour at the National Awards as well as the networking, learning, and career opportunities that such wide recognition provides.

“The broader industry also benefits. By celebrating young growers’ achievements, we’re helping to keep the best people in horticulture and supporting the sector’s sustainability.

“Previous award winners, Daniel Hoffmann and Chris McLoughlin, have become respected horticulture leaders, and 2019 finalist Stephanie Tabone is now a valuable part of our Corteva Agriscience team.

“That’s something Corteva Agriscience is committed to, helping young growers connect and develop, whether through the awards, creating networking opportunities or just making ourselves available.”

Find out more

For more information about the 2021 Corteva Agriscience Young Grower of the Year award and the nominees, please visit alliancewithscience.com.au.

Offering disease control and value to vegetable growers

There is a new fungicide on the Australian market offering targeted control of key diseases in berries, leafy vegetables, grapes and potatoes. This product attacks fungi at multiple sites, while reducing the risk of resistance.

A new fungicide from Syngenta has been recently registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA) for the control of diseases sclerotinia, botrytis and powdery mildew in fruit and vegetable crops (as per the approved label).

MIRAVIS PRIME combines proven fludioxonil (Group 12) with pydiflumetofen (Group 7) to attack fungi at four development stages in different parts of the plant. Not only do these complementary active ingredients provide optimum protection for increased yield and superior quality, but with two modes of action, they also help delay the onset of resistance.

Registered to control sclerotinia and botrytis in lettuce and all leafy vegetable crops, including rocket, kale and Asian leafy greens, it offers a new standard in disease control (see Figure 1).

Figure 2. Incidence of botrytis on Iceberg lettuce (2013), Los Agnades, Spain. Means followed by the same letter are not significantly different (P = 0.05).

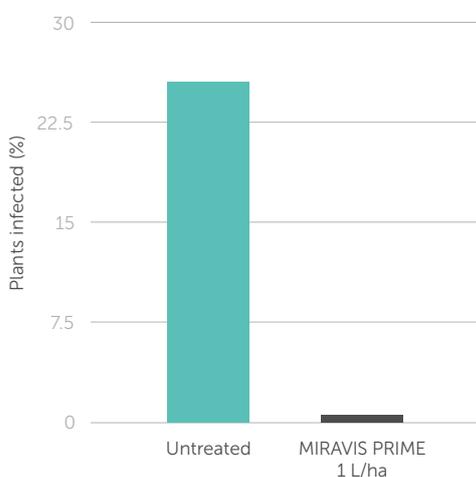
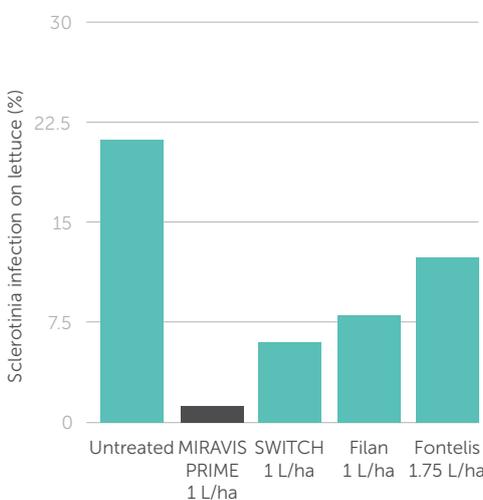


Figure 1. A range of fungicides were applied at 8-to-10-day intervals on green oak lettuce (cv. Kiribati), Richmond Tasmania (2016). Assessments 16 days after the last application showed significantly better control of sclerotinia within the MIRAVIS PRIME treated areas.



“Trials and field demonstrations of MIRAVIS PRIME have shown outstanding control of sclerotinia, even in high disease pressure situations,” Syngenta Technical Services Lead, Dr Brandy Rawnsley, said.

“What is really exciting to see is the extrapolation of our research trials into commercial situations. At one grower site, there were 80 infected heads of lettuce in a competitor product program and only 33 in the MIRAVIS PRIME treated area (16 beds x 50m). With current prices to growers at around one dollar a head, that’s a significant increase in profit.”

Botrytis can also be a major issue for lettuce and leafy vegetable growers, particularly in protected cropping scenarios where ventilation is more limited. This fungicide has demonstrated control of botrytis in this environment as well (see Figure 2).



A South Australian grower trial, with treated crops pictured on the left. Image courtesy of Syngenta.

MIRAVIS PRIME offers Australian potato grower’s confidence to combat white mould (*Sclerotinia sclerotiorum*), while also providing control of early blight (*Alternaria solani*) and botrytis (*Botrytis cinerea*). No other fungicide has the spectrum and power to fight several hard-to-control potato diseases in one product.

Sclerotinia in potatoes occurs at early pre-row closure when the plant is young and relatively weak or late in the season after the crop starts to senesce. This product can be applied early in the season before row closure if weather conditions are conducive for sclerotinia or later in the season before the end of leaf drop.

The image above shows sclerotinia control in a grower trial that was conducted in South Australia. The grower used a program of two applications of MIRAVIS PRIME (on left) applied at week three and week five, compared to their standard program that included boscalid (Filan) and mandestrobin (Intuity) at week three and week five. This was in February 2020 (an eight-week crop from planting to harvest). This program resulted in 43 per cent more marketable yield than the grower’s normal program.

Short withholding periods, long residual and a one-hour rainfastness provides flexibility to growers. This – combined with a highly compatible suspension concentrate formulation that readily mixes with water and has built-in wetting, anti-foaming, anti-freeze and dispersing agents – ensures ease of use.

“With everything MIRAVIS PRIME has to offer, it will be the go-to product,” Brandy said.

“It offers a new standard of control on many levels.”

Find out more

Please speak to your local Syngenta representative or visit syngenta.com.au/miravis-prime.

HOW WELL DO YOU KNOW YOUR SOIL?

Come and chat to the IPF Agronomists about optimising your most valuable asset... your soil.

Visit us at Stand #177 at Hort Connections to find out more. www.incitecpivotfertilisers.com.au

Fungicide technology extended to new crops



Syngenta Technical Services Lead – Horticulture and Viticulture Dr Brandy Rawnsley.

Although many growers manage fungicide resistance and background disease pressure through crop rotation, irrigation timing, and removal of infected plant material, the question, 'when are we getting a new fungicide for this disease?' is still often raised. In this column, Syngenta Technical Services Lead – Horticulture and Viticulture Dr Brandy Rawnsley reflects on the ongoing pydiflumetofen research and the positive impact it has had on the industry.

Fungicide technology tends to evolve slowly – particularly when compared to the onset of fungicide resistance – and this makes the arrival of new, effective options highly anticipated.

It has been a field of persistent research, especially here at Syngenta. We know and appreciate the challenges that growers face with the onset of devastating diseases, and we're committed to helping farmers from around the world produce more as arable land becomes increasingly precious.

It's easy to forget perhaps that Syngenta only launched MIRAVIS in 2018, which marked the first registration of the active ingredient pydiflumetofen. Grape, potato and wheat growers were the first in Australia to benefit from this technology, a new sub-group of succinate dehydrogenase inhibitor (SDHI) that interrupts mitochondrial respiration, shutting down energy production within target pathogens.

Pydiflutofen was widely described as a 'next generation fungicide' at launch,

due to its unique molecular structure and related properties.

Andy Corran is a leading biochemist from our Jealotts Hill research facility in England. Andy noted that its unique molecular structure gave it intrinsically higher potency against the target enzymes, compared to previously released commercial SDHI fungicides.

"Pydiflumetofen is surprising because it is active on a whole range of different succinate dehydrogenase enzymes," he said.

Ten years after work began at Jealotts Hill, the arrival of MIRAVIS was particularly welcome in Australia's grape and potato industries. Powerful in its activity on powdery mildew, many grape growers have since made it their go-to. It was just as well-received in potatoes, where late early blight (*Alternaria solani*) can rapidly bring about early defoliation of crops and severely limiting yield potential. Growers of grapes and potatoes quickly realised just how valuable this product was, especially with it being rainfast within one hour. This is due to the way it quickly binds to the waxy layer yet moves slowly into the plant for lasting protection.

Branching out

Powered by MIRAVIS, MIRAVIS PRIME now extends the value of this technology into more crops, including lettuce, leafy vegetables and berries. It combines pydiflumetofen (Group 7) with a new mode of action, fludioxinyl (Group 12). This means the product attacks fungi at four stages, in different parts of the plant.

Field biologists with Syngenta here in Australia trialled MIRAVIS PRIME extensively, taking it from the greenhouse

into field trials across the country. Armed with extensive data, Syngenta Australia sought registration across numerous crop types. Through this robust review process, growers can now have confidence in its performance when it comes to devastating diseases like sclerotinia (in lettuce and leafy vegetables) and botrytis (in berries). It is also registered for the control of sclerotinia in potatoes.

MIRAVIS PRIME has been a long time coming. Talk to your advisor about making this fungicide part of your disease management strategy, as we look forward to keeping this in the toolbox for years to come.

Find out more

Please visit syngenta.com.au/miravis-prime.

For more information or to ask a question, please contact your local Syngenta Territory Manager, the Syngenta Advice Line on 1800 067 108, visit syngenta.com.au or email Vegetables Australia: communications@ausveg.com.au. Please note that your questions may be published.

The R&D content for this article has been provided to *Vegetables Australia* to educate Australian vegetable growers about the most relevant and practical information on crop protection technologies and their on-farm applications.



Two types of "dark seed" (centre and right) compared to internal mould (left) of capsicums.

Special investigation: What's this grey fluff inside my capsicum?

Since late 2019, a project has been investigating the causes behind internal fruit rot in capsicums, as well as developing management techniques for growers to prevent infection and minimise the risk of sending damaged fruit to market. Project Lead Dr Jenny Ekman from Applied Horticultural Research reports on the latest findings.

Internal mould of capsicums is a major issue in many growing regions. While external rots are bad enough, trying to detect and control a fungus that only appears once the fruit matures and is invisible from the outside – that's a challenge.

Yet, this is what is expected by the capsicum-consuming public, who can be quick to complain on discovering a ball of fluff inside an otherwise apparently perfect red fruit. The result is that retailers have minimal tolerance for internal mould, a requirement enforced by cutting samples of fruit on receipt.

A strategic levy investment under the Hort Innovation Vegetable Fund, *Internal fruit rot of capsicum* (VG17012) has been examining the causes of internal mould and trying to develop management strategies for this disease.

The organism responsible

While it is generally thought that infection occurs during flowering, it has been unclear as to which organism is responsible.

Therefore, the first step of the project

was to identify the cause of disease and confirm whether infection did indeed occur at flowering.

"We isolated a number of different fungi from infected capsicums sourced in Sydney Basin as well as sent from Bundaberg and Bowen. These included *Alternaria*, *Fusarium*, *Penicillium* and *Cladosporium*," plant pathologist and project team member, Dr Len Tesoriero, said.

"While *Alternaria* spp. was the most common, at least two different species were present. There were also several species of *Fusarium*, with visibly different symptoms between fruit."

To test whether these fungi could cause the observed symptoms, University of Sydney Honours student Ryan Hall conducted greenhouse trials inoculating spores onto the flowers of four different capsicum varieties, then re-isolating fungus from any infected fruit that developed.

Two *Alternaria* and one *Fusarium* were confirmed as causing internal mould. Ryan then used molecular techniques to identify the isolates to species. This revealed the three fungi to be *Alternaria tenuissima*, →



The Richmond lowlands trial site on 15 March (left) and 30 March (right). Images and graphs courtesy of Dr Jenny Ekman from Applied Horticultural Research.

Alternaria alternata and *Fusarium oxysporum*. All three are common in the growing environment and can cause disease in a large range of plant hosts.

Fusarium lactis, which is the main cause of internal mould in greenhouse crops in the northern hemisphere, was not found. It is also interesting to note that infection rates under the 'ideal' conditions in the greenhouse ranged from 8 to 17 per cent, which is lower than has been observed under field conditions.

Myth busted: Dark seed does not turn into mould

As well as internal mould, capsicums can develop a condition known as 'dark seed'. On occasion, capsicums with dark seed have been classed as mouldy by Quality Assurance staff, leading to product rejections. However, while this condition may look like the start of disease, there is now good evidence this is not the case.

"We plated out more than 50 samples of dark seeds onto agar plates to see what would develop," Dr Tesoriero said.

"The answer was nothing. Instead, this is most likely a physiological issue. There is certainly no evidence dark seed can turn into internal mould."

Variety trials

While internal mould is a curse in many production regions, it is rarely found in South Australia. This could be due to fruit being produced undercover, a generally dry climate or differences in varieties grown – Adelaide growers favour the longer, more pointed varieties than the blocky types grown in other districts.

"Assessments of capsicums from Bowen and Bundaberg suggested that new varieties might be less susceptible to the disease," Project Lead Dr Jenny Ekman explained.

"We wanted to set up trials in Queensland, but COVID-19 restrictions meant we couldn't travel. Fortunately, staff from Bayer-Seminis were able to step into the breach. They set up two trials involving a total of 11 varieties near Stanthorpe, Queensland, which was incredibly helpful."

"We also planted our own trial with six varieties in Richmond, New South Wales. These included new varieties as well as traditional blocky types favoured by local growers and a couple of the 'half longs', commonly grown under protected cropping."

The two sites near Stanthorpe were assessed in February and March 2021.

At least 100 fruits and varieties were cut and examined for signs of internal mould.

"Unfortunately, there were no clear differences between old and new varieties, or between blocky and half-longs," Dr Ekman said.

"However, it was clear that rates of internal mould were much higher in February than in March. While symptoms were often very slight, a massive 28 per cent of red fruit had signs of internal mould in February! This halved to a still significant 14 per cent of fruit affected in March. This may reflect weather conditions at flowering – something we really need to look into closely."

It was also clear that internal mould only becomes a problem as fruit ripen to full red colour.

"Picking fruit while half red or chocolate greatly reduced the likelihood that it would contain internal mould, while the disease was almost never found in green fruit," Dr Ekman said.

"In contrast, dark seed does not change significantly as fruit mature. This seems to further confirm that this condition is entirely separate to internal mould."

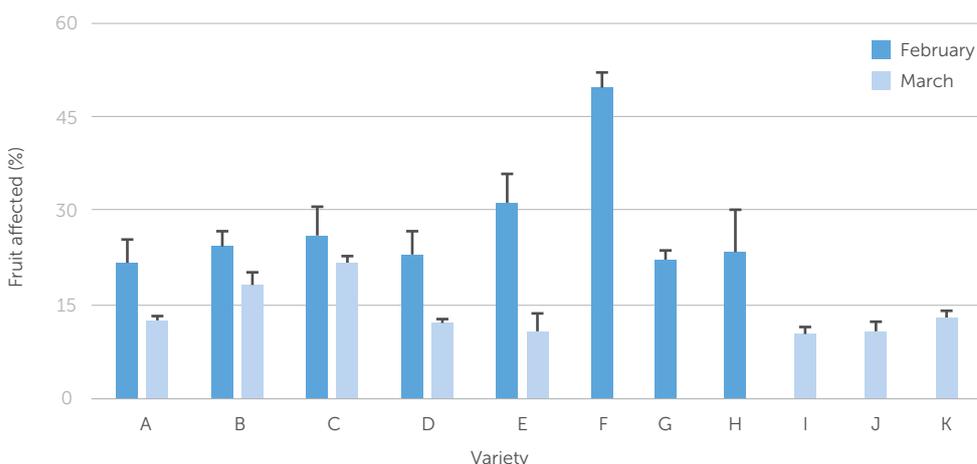
At the Richmond trial site, red fruit was ready to pick during March.

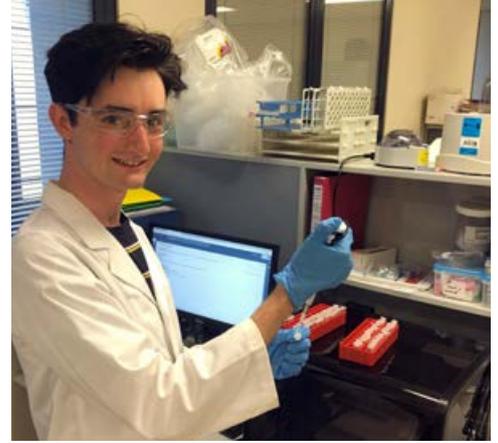
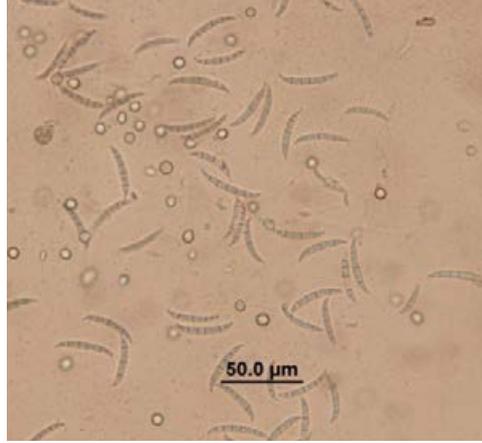
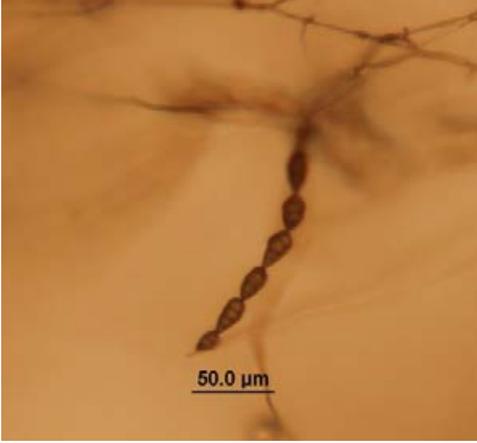
"We were all set to assess the varieties and had started a second trial examining combinations of various fungicides. That's when the rain started," Dr Ekman explained.

"The rest is history – the water came up and the capsicums went out to sea, leaving us with nothing but some muddy stumps. We are keen to replant but it's getting too cool, so will have to wait until next summer."

Red capsicums look and taste great, so can attract premium prices. However, leaving the fruit on the plant for longer certainly adds risk. Understanding when risk is higher, and so being able to decide which crops to pick green and which to leave as reds, will form the next stage of the project.

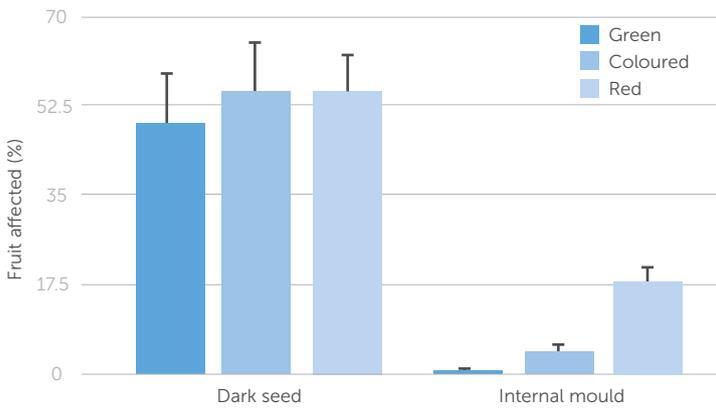
Internal mould in 11 different varieties of red capsicum. Some varieties were present at both Stanthorpe trial sites, whereas others (F to K) were only planted at one. Assessments were conducted in February and March, bars indicate the standard error of each mean value (n=4).





University of Sydney Honours student Ryan Hall infected flowers with spore solutions, re-isolated fungi from infected fruit (left and centre) then extracted DNA from fungi to enable identification by PCR (right).

Internal mould and dark seed in eight varieties of capsicums assessed when green, half coloured or red. Bars indicate the standard error of each mean value (n=8).



Find out more R&D

For more information, please contact Dr Jenny Ekman from Applied Horticultural Research at jenny.ekman@ahr.com.au.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG17012



**CHOOSE SUSTAINABLE
PACKAGING**

See you at Hort Connections stand #322



gbpackaging.com
1300 738 865

Lauren East: Making her mark in the west

Located in Western Australia's Manjimup region, Willarra Gold is a thriving mixed cropping enterprise run by the East family. In this edition, Michelle De'Lisle speaks to co-owner Lauren East about her role within the family business and the vegetable industry, and the advice she has for young people eyeing off a career in the horticulture space.

Willarra Gold is a third-generation family-owned farm and business located near Manjimup, Western Australia. The operation currently produces passionfruit, avocados and sheep on around 1,000 acres. The farm has a diverse history of growing vegetables from brassicas through to potatoes.

At the forefront of Willarra Gold is Lauren East. Lauren is a partner in the business alongside her parents Garry and Tracey, and has a hands-on managerial role that varies from day-to-day.

"My primary responsibilities are running the livestock program and growing avocados, which requires me to supervise staff, planting of trees, weed spraying, quality control, harvesting, administration – just to name a few," Lauren says.

Leading the way

Lauren's involvement in the vegetable industry escalated when she stepped off the farm in 2015 and participated in *Growing Leaders*, a strategic levy investment under the Hort Innovation Vegetable Fund.

"The *Growing Leaders* program was a great course that helped to equip me with skills and networking that could benefit our business," Lauren says.

"It was one of my first leadership courses, which gave me the confidence in public speaking and opened doors through networking. It is an excellent starting block, and something I recommend to any younger members in the industry.

"One of the most rewarding outcomes from participating in *Growing Leaders* was the opportunity to become a vegetablesWA committee member."

Being on the vegetablesWA Committee of Management is highly beneficial for Lauren and her horticultural career.

"As the only female member of the Committee, it is rewarding to have a voice and an opinion in the industry," she says.

"It's great to get off the farm and catch up with other members of the industry who may be doing things differently to you. I enjoy being part of a group where I can have a say and have the chance to make a difference. In an ever-changing industry, organisations like vegetablesWA

are a great asset for growers to call upon to share information on any changes that could affect or benefit them.

"These could be changes to the horticulture award, Freshcare information updates, benchmarking, new law updates, courses and export ready workshops – these are just a few topics that could benefit any grower to improve their own farming practices."

In addition, Lauren has participated in other vegetable industry activities such as the *2017 Vegetable Young Grower Industry Leadership and Development Mission*, which saw a group of 10 young growers travel to the Netherlands, Belgium and Germany. This was a strategic levy investment under the Hort Innovation Vegetable Fund and facilitated by AUSVEG.

Production challenges

The horticulture industry has many challenges, Lauren says, but the labour shortage due to COVID has been Willarra Gold's most pressing issue throughout 2020 and into this year.

"We usually grow broccoli in the summer and autumn months but decided not to plant this season as it was too risky if we didn't have access to staff," Lauren explains.

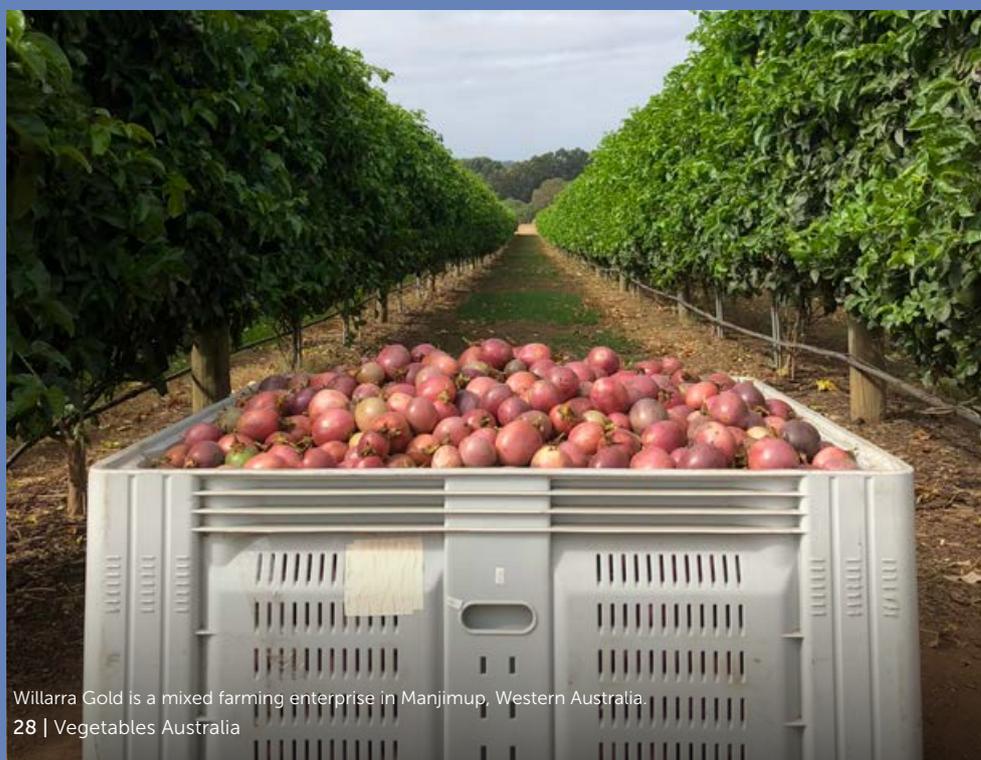
"That's the thing with vegetables – they're not forgiving; you only have a small window to harvest. With broccoli, it can be a marketable piece of produce one day and unsellable the next.

"Due to the backpacker shortage, we decided to focus all our energies into our fruit and sheep production this year."

Despite these challenges, Lauren thoroughly enjoys working on the farm and the variety it brings.

"Working outdoors is what I love the most. I go a little stir crazy if I'm indoors for too long," she says.

"My greatest enjoyment is working the land to watch something grow and flourish to then harvest that crop. That is really rewarding."



Willarra Gold is a mixed farming enterprise in Manjimup, Western Australia.

Breaking the stereotype

Throughout her career, Lauren has had to overcome the perception of women in the industry.

"Farming is a male-dominated field. It is something that I have personally had to overcome to forge my own path within our business and the industry," she explains.

"As a woman in the industry, you have to not only challenge this stereotype – but smash it. There are so many great options for women within the industry and I believe encouragement at a school level – where it is taught as a subject – is a great place to start.

Lauren's tip for a successful career in horticulture is to join industry organisations.

"These are guaranteed to give great network opportunities where you can gain so much from other industry members," she says.

In the meantime, Lauren is continuing to achieve her horticulture goals and paving the way for the next generation of growers.

"I am proud that I am inspiring the next generation – my nieces and cousins – to consider pursuing a role in the industry," she says.



Lauren East.

5 REASONS TO SWITCH TO FLOWCONTROL DRIP TAPE

Growers are switching to FlowControl drip tape. Why?

For starters, better uniformity and better clog resistance.



Here are 5 reasons to try FlowControl drip tape now:

- Better uniformity – even in hilly terrain
- Clog resistance
- Increased profitability through higher yields and lower system cost
- Exceptionally better value compared to PC drip tapes
- Longer run lengths

AUSTRALIAN MADE AQUA-TRAXX® FLOWCONTROL™



Call for a quote today!

1300 130 898
toro.com.au



/toroaus



/toroaus



/toroaus



/toroaustralia

TORO



Biostimulants: The importance of using quality products

Biostimulants have become extremely popular throughout recent times. Good biostimulants will assist with aspects like stress, limiting salt intake, enhanced nutrient uptake, better soil biology and increased disease resistance that are beyond the limits of basic nutrition. In this article, Campbells Fertiliser Australasia Product Manager, Valagro, Heinrich van der Westhuizen, discusses how to evaluate biostimulant products to find out which one is right for you.

Biostimulants are defined as products that are applied to plants or soil to regulate and enhance the plant's physiological processes, therefore making them more efficient. These biostimulants would typically include ingredients derived from seaweed and other plant extractions, humic/fulvic substances, amino acids, microbials and vitamins.

One of the biggest challenges for the industry is the fact that the biostimulant market is unregulated and is getting flooded with products of inferior quality. Concerns are that low-quality products may not be able to deliver the desired results and even have a negative impact on production and the quality of produce. The question we have to ask is: how do we know that the biostimulant is of good quality?

We have to understand not all biostimulant products are manufactured equally. Even compounds manufactured from the same seaweed species can produce very different products based on the extraction methods used.

When evaluating solutions, it is best to ask the following questions:

1. Is the manufacturer a reputable R&D company?

The manufacturing company needs to have a solid foundation based on proven science. These types of companies would have a proper R&D department with large capital investments in a research team, infrastructure like proper laboratories as well as access to phenomics and field sites.

2. Are products manufactured for a proven result?

There are plenty of companies in the field making all kind of anecdotal claims based on assumptions of the capabilities of raw products. The reality is that growing conditions and the physiological challenges that need to be overcome are highly complex. For instance, when plant stress has to be addressed, it can take many years of testing various raw ingredients in different ratios to produce a product that will deliver optimal results. It is also important to make sure that these products do not cause any side effects and are safe to crops and in tank mixes with other chemicals.

3. Are raw materials consistent and from quality resources?

Many biostimulant companies are dependent on suppliers owning concessions where raw materials might be sourced for industries other than the agricultural market. Most good manufacturers will use raw products where prototypes are obtained through the use of proper extraction and quality control methods. If these protocols are not followed, the product would not be of consistent quality which would lead to variable field results.

4. Are products of the highest concentration?

It is important that products are concentrated to maximise the efficacy of each unit. No one likes paying for watered down products.

5. Are products properly packed and stabilised for good shelf life?

The majority of products are manufactured from bioactive ingredients, meaning they would be exposed to fermentation and other chemical processes after being packed. It is important that products are properly stabilised and packed with the right preservatives to guarantee a good shelf life.

Campbells Fertilisers Australasia is a company that focusses on selling the highest quality plant nutrition and biostimulants. For these reasons, Campbells partnered with Valagro Italy utilising the latest genomic and phenomic technology to manufacture world class biostimulants. Valagro has recently become part of the Syngenta group.

Find out more

Please contact Heinrich van der Westhuizen on 0437 954 306 or at heinrich@campbellsfert.com.au or Wayne Mattschoss on 0447 134 952 or at wmattschos@campbellsfert.com.au.



Join us @
Hort Connections
 7-9 June 2021
 Booth #268/269

Complete
 Vegetable
 solutions
**designed
 for your
 business**

- Produce Handling & Storage
- Peeling, Grading, Washing
- Electroporation
- Cutting, Pureeing
- Value-added Processing
- Product Handling
- Weighing & Filling
- Inspection & Packaging



Across industries and applications, we design specialised solutions.

Bringing together leading brands in processing, inspection and packaging equipment for the vegetable industries. Our solutions set the standard for yield, efficiency, and safety across a wide range of industries. Whatever your product needs, we can meet it with precision and passion.





Images courtesy of Jacyntha Hunt Photography.

Glowing with (orange) pride in north Queensland

Shaun Jackson's dedication to growing the perfect pumpkin has paid off, with his operation Daintree Fresh establishing a new variety. In this column, Jayne Caddihy speaks to Shaun about this variety – Orange Glow – and what makes it unique. This article has been provided by Growcom, and first appeared in the November/December 2020 edition of *Fruit and Vegetable News*.

It has taken more than a decade, but Shaun Jackson has cultivated the perfect pumpkin. It's better for you, rich in colour and in a win for home cooks everywhere, it is very easy to cut.

As the Director of Daintree Fresh, Shaun has a lengthy history of changing the dinner tastes of Australians.

"My life has been about finding variety and making change," he said.

"I actually look forward to it and try to keep my mind open."

The new pumpkin variety is called Orange Glow. It is a vibrant and rich colour, with a small seed cavity, firm, dry flesh, up to four times more beta-carotene (provitamin A), low GI and an exceptionally palatable skin.

"It's also really easy to cut. The skin is almost clear; translucent and very thin," Mr Jackson said.

"We've had people saying, "wow this is amazing, I can now go back to eating pumpkin again because I can cut it!"

Daintree Fresh is based at Lakeland, in far north Queensland, in what has traditionally been a banana growing area. Orange Glow is grown there during the northern winter and, in cooler regions, subcontractors grow the crop during the summer.

Health benefits

The new variety is higher in beta-carotene than normal pumpkins and has a lower GI, making it not as sweet as the Kent pumpkin variety. That is good news for the health conscious.

Beta-carotene is the pigment that gives fruit and vegetables like carrots, pumpkins and mangoes a vibrant colour.

It is also an antioxidant that the body converts to Vitamin A. It's essential for healthy immune systems as well as for keeping healthy skin and vision.

"You can make flour out of Orange Glow," Shaun says.

"100 grams of that flour has double the antioxidant value as 10 kilos of blueberries."

Daintree Fresh is also pushing the fact the new vegetable is versatile.

"With this particular variety, I tried to get one that's dry and with better colour. When it's like that, the pumpkin can be used in salads," Shaun explains.

"It's actually really good raw and has quite a nutty taste. Instead of cutting up carrot, you can cut this up and use it to dip in hummus! We make this beautiful puree at home, where you just roast it, throw it in the food processor with a bit of coconut cream and a bit of fennel. You can use that as a dip and put it on your biscuits or you can heat it up, put it on the plate and then add some crispy skinned salmon on top."

A pioneer in horticulture

Shaun has always been an innovator and chances are, you may have already sampled some of his previous work.

More than three decades ago, Shaun was part of a group of 10 people that started South Pacific Seeds – the company that introduced Broccolini, Kent pumpkin and the seedless watermelon into the Australian market.

Now at Daintree Fresh, Shaun prides himself on farming his own way.

"We're making sure our organic carbon levels are always going up. We're applying pro-biotics and haven't sprayed hard insecticide for close on three years now," he says.

His focus on soil health and constant improvements enables the company to produce passionfruit, melons and pumpkins in a variable climate.

Shaun says he uses 'bugs for bugs'. They keep a close eye on the climate and watch planting and harvesting cycles closely to correspond with ideal conditions.

"We've cut our insecticide costs by three quarters," he says.

"We've achieved this by increasing the ecology of our crops and working with what we have in the soil already – and improving on it."

Find out more

To read the full article, you can sign up to Growcom's Fruit and Vegetable News publication at growcom.com.au/services/news-information/fvnonline.



JOHN DEERE

THE BEST LUBRICANTS WEREN'T TOUGH ENOUGH!



SO WE DEVELOPED OUR OWN.

When you work your equipment off road, in hot, rugged and harsh conditions, you need lubricants that are made for the job, not the road. Don't compromise the performance and productivity of your John Deere equipment. Discover how John Deere lubricants are tougher than you think.

Specifically developed to be used in harsh conditions under increased stress.

Saves money by reducing wear and downtime, and prolonging equipment life.

Designed to extend service intervals and ensure peak performance.

Find out more at your local John Deere Dealer or visit JohnDeere.com.au/MadeTough

Combating the hunger challenge facing Australian society



In recent times, many ordinary Australian families have had their lives turned upside down by events such as natural disasters or the COVID-19 pandemic. Many affected have endured financial hardship, which has led to increased reliance on food charity services. In this report, Foodbank Australia provides a snapshot of how these events have affected Australians, the ongoing challenges it faces, and how donations from horticultural businesses are helping those in need.

The last 24 months have been characterised by disruption and significant challenges for growers, packers, transporters and almost everyone involved in the food supply chain. As a community we have faced a global pandemic, significant labour shortages, drought, bushfires, cyclones and floods, to name a few.

These same challenges have also impacted and devastated everyday households through changes to employment, health, family caring needs and changes to circumstances no one expected would happen to them. The impacts have been felt far and wide across the Australian community and was immediately evident in the sharp 75 per cent increase in the demand for food relief assistance. This surge in demand occurred at the same time Foodbank was experiencing a drop of 27 per cent in donation volumes as the drought continued and panic buying was taking hold across key groceries and produce lines. A perfect storm of simultaneous supply and demand challenges.

Lending a hand

As the day-by-day supply chain challenges were being navigated collectively, Foodbank was able to provide 87.9 million meals in 2020, to ensure the families and individuals who were struggling the most were able to access sufficient, nutritious food. This vital and much needed support was distributed nationally and was able to reach more than three million people needing our help.

One of those recipients is Shirley in South Australia, whose own orchard was devastated by the 2020 summer bushfires.

She visits the mobile Foodbank Hub once a week.

"I only come for the fruit and veggies and just to see the company, the people," Shirley says.

The support Foodbank provides simply wouldn't be possible without the generous support of fruit and vegetable donors and produce program partners. The organisation is ever-grateful to the families and businesses across Australia who have donated fresh produce to help those in crisis, despite their own challenges. It is humbled by the contribution from the horticulture industry throughout 2020, and every single donation – big or small – helps to make a real difference to someone's life. In fact, more than 28 per cent of our total volume distributed to charities and school breakfast programs in 2020 was fresh fruit and vegetables.

Growing donations

Queensland-based operation Kalfresh is one of Foodbank's valued National Produce Donors.

"Kalfresh has been working with Foodbank for many years now, donating fresh produce which we know will benefit many people and organisations within our community," Kalfresh Chief Executive Officer Richard Gorman explains.

"We are constantly amazed and impressed by Foodbank's logistical agility, and the direct and immediate benefits Foodbank is able to deliver to those people who need support the most. As vegetable farmers we particularly enjoy knowing that the produce we have worked hard to grow, is not going to waste."

There are also broader benefits of working with Foodbank: the immediate



Foodbank South Australia warehouse volunteers and staff holding a fantastic donation from Perfection Fresh of delicious tomatoes. Tomatoes, like all fruit and vegetables that Foodbank receives, simply go out as quickly as they come in and these tomatoes were no exception.

community benefit, and the environmental benefit of redirecting perfectly edible waste to Foodbank. In 2020, its activities saved 92.7 million kilograms of carbon dioxide (CO2) emissions, from perfectly edible waste being redirected as opposed to unnecessarily going to landfill. This is a win for the community and the environment.

Costa Managing Director and CEO Sean Hallahan said Costa was proud of its long-standing relationship with Foodbank.

"We congratulate Foodbank on the outstanding work it has done supporting communities in need through natural disasters and COVID-19. Over the past year, Foodbank has collected 294 tonnes of produce from across our farms, which not only provides healthy and nutritious produce for those most in need but has the added environmental benefit of avoiding waste to landfill and reducing carbon emissions.

"We look forward to continuing this valuable partnership."

Minimising waste

With so many in the community in need and still feeling the impacts of the past 24 months – through COVID-19 job losses or still getting back on their feet following impacts of a natural disaster – there are lots of ways to get involved and fight hunger in Australia.

To help capture and avoid great product going to waste, we can work together to redirect it to the Foodbank network to help those in need. It can be product that is surplus, out of specification, too big, too small, rejected produce (utilising the HarvestMark disposition option with Woolworths or Aldi), private label/proprietary packaged product, bulk product, a one off or ongoing donation – if it's available and fit for consumption, please get in touch.

Foodbank would like to extend a big thank you to AUSVEG and the horticulture industry for your support over an incredibly challenging 24 months. If you would like to find out more or visit our operation to see where your donations go, please get in touch with Jacqui by emailing supplychain@foodbank.org.au, or visit our website.

Find out more

Please visit foodbank.org.au.



AN IMPLEMENT RANGE THAT'S GROWING WITH YOU

1.9% FINANCE
PA UP TO 60 MONTHS*

ACROSS THE IMPLEMENTS RANGE



Ploughs



Precision Planters



Power Harrows



Spreaders



Tine Cultivators



Vegetable Planters

CULTIVATING, SEEDING AND EVERYTHING IN BETWEEN.

Kubota offers an extensive package of effective and efficient implement solutions to the professional farming community.

We have everything you need, when it comes to spreading, cultivating and seeding equipment.

Every Implement in the Kubota Implements range is designed for performance and precision, with a strong focus on innovation and high build quality.

For Earth, For Life

KUBOTA.COM.AU

*Offer is available for business borrowers only. 1.9% p.a. finance rate, no repayments for the first 6 months then monthly repayments. Maximum term 60 months, a minimum 20% deposit, minimum financed amount of \$4,000 and no residual payments. Terms, conditions, fees, charges and credit criteria apply. Different term and different deposit may result in a different rate. Credit provided by Kubota Australia Pty Ltd ABN 72005300621. This finance offer is available until 30/06/2021 with finance application submitted by 31/07/2021 and applies to all new Kubota Implement models.

Vegetable Industry Export Strategy 2021-2025

A new export strategy has been developed for the vegetable industry, with input from Australian vegetable exporters and AUSVEG via a methodology including market analysis, industry consultation and a program ideation workshop, to guide investment and activities to assist exporters increase exports in the coming years. AUSVEG National Manager – Export Development Michael Coote provides an overview of the strategic direction, export targets and operationalising the strategy.

The 2020 strategy wrap-up

The *Vegetable Industry Export Strategy 2020* was rated highly successful by industry members and stakeholders consulted. The previous strategy's target to grow the value of vegetable exports by 40 per cent to \$315 million by 2020 was on-track, until disruptions from bushfires in 2019/20 and the impact of the COVID-19 pandemic.

While the previous strategy had successfully contributed to creating an export culture and lifting export capability across the industry, the new iteration of the vegetable industry export strategy needs to be more targeted and strategic. Vegetable growers have clearly indicated the importance to keep evolving and improving on the industry export program to achieve the strategic outcomes set out in the export strategy.

Over the life of the 2020 export strategy, Australian fresh vegetable exports recorded strong growth with achieving \$267 million in trade in 2020, despite the disruptions caused by the COVID-19 pandemic. The industry program created approximately \$93 million of cumulative revenue for exporters participating in the program, which has had flow-on economic multiplier effects to regional Australia.

Strategy mission

The *Vegetable Industry Export Strategy 2025* mission has a focus on driving growth in value. This will be achieved through a combination of targeting high value customers, product differentiation through improved branding and an increased focus on value-adding.

STRATEGY MISSION

To grow the value of Australian vegetable exports by supporting industry to market premium products, targeting higher value market segments.



Strategy targets

The targets that have been set in this strategy of achieving \$300 million of export value by 2023 and \$400 million by 2025, reflect the challenges and opportunities arising from the

COVID-19 pandemic which are likely to endure for a number of years.



Recover and sustain trade of **\$300 million** of export value by **2023**



Achieve **\$400 million** of export value by **2025**

The 2025 strategy

In response to the findings from the situation analysis that explored both the blockers to export growth and the opportunities, the *Vegetable Industry Export Strategy 2025* includes five strategy pillars. The five strategy pillars are structured around two distinct time horizons with a focus on activity to 'Regain Momentum' in Horizon 1 and 'Drive Growth' in Horizon 2. The pillars are not sequential and activity under each pillar may

commence concurrently.

The previous strategy had a key performance indicator (KPI) of growing the total number of export capable growers. However, on the advice of industry, the new strategy takes a tiered approach with different programs of activity for aspiring, emerging and experienced exporters. This reflects the fact that there are now varying levels of export maturity across the vegetable industry.



Operationalising the strategy

To implement the export strategy, the industry needs to continue to invest in delivering the operational functions that are highly valued by exporting growers. The core operational functions of delivering the export strategy for industry include the following three functional areas:

Capability Building

Industry to deliver a suite of export capability development activities that cater for the different needs of mature, emerging and aspiring exporters.

Market Development

Industry to deliver a range of targeted market development activities across core, emerging and frontier markets and channels, that caters for the different requirements of branded and commodity fresh vegetable exports.

Market Access

Industry to continue to pursue technical market access and market improvements for existing and new industry priorities, as well as addressing specific trade barriers inhibiting export growth.

The enablers

The following enablers are necessary to assist the industry to achieve the strategy mission and growth targets:



Find out more

Any growers interested in receiving a copy of the *Vegetable Industry Export Strategy 2025* can contact the AUSVEG Export Development team on 03 9882 0277 or export@ausveg.com.au.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG16061

Hort Innovation | **VEGETABLE FUND**
Strategic Levy Investment

AUSVEG Advocacy update: Focus on harvest labour intensifies

Harvest labour shortages continue to be central to AUSVEG's advocacy activities as growers battle with declining backpacker numbers and international border closures.

At the time of writing, there are just 34,000 Working Holiday Makers still in Australia – this is significantly down from the 141,000 backpackers as of 1 January 2020. This is obviously a concerning statistic for Australian vegetable and potato growers, as it has intensified a harvest labour shortage that already existed even before the COVID-19 pandemic began.

Meanwhile, as the COVID vaccination rollout struggles to meet its own government targets, further strain is put on the active workforce that remains in Australia. The slowdown in the vaccine rollout means it's less likely international borders will reopen, and therefore backpacker numbers will continue to decline.

Despite this, industry and the Federal Government have tried a number of different incentives and programs to get people working in the sector and fill the shortfall.

Visa extensions have been granted for workers if they continue to work in agriculture, while student visa working hours have been extended and horticulture remains classified as an essential service. Relocation assistance programs have been offered by the Federal Government, with up to \$6,000 available for those who move to regional locations to take up a job. While this has had minimal interest from Australian citizens, the government has added in a further incentive – offering \$2,000 of the \$6,000 available upfront. In addition to that, \$2,000 is also available to backpackers who wish to work in horticulture and require relocation assistance. This is on top of the various state schemes and payments available to workers.

For the most part, these schemes have failed to make any reasonable dent in the sizeable issue facing our sector. Unfortunately, the reality is that domestic workers have always chosen against

undertaking the harvest labour roles industry requires.

International assistance

The largest policy change to industry has been the restart of the Seasonal Worker Programme and Pacific Labour Scheme.

These two visa programs are the only pathways that are operating at any real scale outside of the overseas returning travelers. They are also the only chance growers and industry have had at accessing a guaranteed workforce. Industry can have confidence that when these workers arrive in Australia, they are here to work.

So far, 4,492 Pacific workers have entered the country since the restart began in June 2020. More than 3,000 workers have received conditional approval, or are near conditional approval, so will make their way to Australia over the next six weeks.

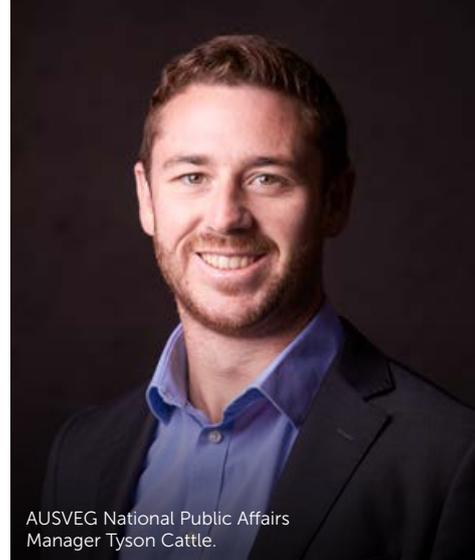
However, the challenge with the Seasonal Worker Programme and the Pacific Labour Scheme continues to be the ability to bring in workers at the scale that is required.

The key to this limitation across the country is the quarantine capacity. That's not the international returners cap, as Seasonal Worker Programme and Pacific Labour Scheme workers fall outside the cap numbers; it's the quarantine capacity of the hotels, and the number of beds available for the workers to carry out their 14 days of quarantine before they can begin on farm.

This has been the challenge for most states, and it continues to be central to the challenge of horticulture growers being able to access more of this guaranteed workforce. The quarantine capacity lies with the states and without increased capacity, growers will continue to struggle to access harvest workers.

State of labour

South Australia and Tasmania's state governments have proven that bringing in workers can be done efficiently and effectively. South Australia set up a facility



AUSVEG National Public Affairs
Manager Tyson Cattle.

in Paringa and were able to bring in a number of workers, while Tasmania had a dedicated hotel and fully subsidised the cost of quarantine. This allowed growers to have confidence in the system and get on with the job of running a farm.

Quarantine capacity is the reason why Queensland has looked at on-farm quarantine as an option, but it is also the reason why New South Wales and Victoria have struggled.

AUSVEG raised this issue with the Federal Government and urged it to look at a bubble with the Pacific islands, or a one-way bubble, otherwise known as a 'greenlane'. This means workers can come in, but they can't go home.

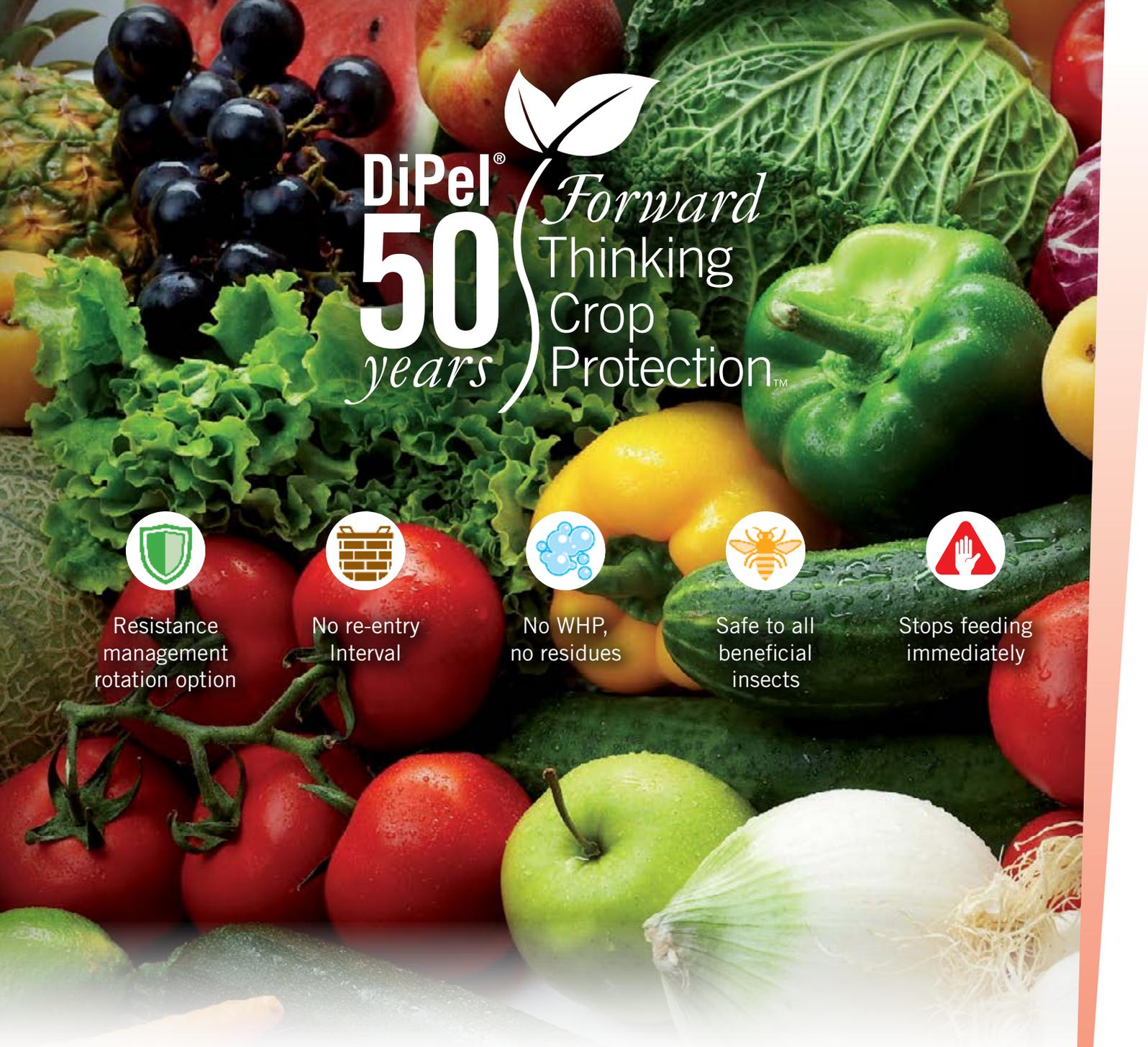
This was where pre-departure quarantine was born and created by the Federal Government as a pilot to bring workers in from Fiji and Vanuatu. This is essentially a pathway for workers to do their quarantine in a country that has had minimal – if any – COVID cases, and for the workers to be able to conduct their quarantine in country before coming to the country.

Disappointingly, only South Australia has opted-in to the pilot so far. AUSVEG is urging the other state governments to improve quarantine capacity for Pacific Islander workers and opt-in to the pilot for pre-departure quarantine.

In this fragile environment when we do not know when the next outbreak will occur, it is important that governments have as many quarantine options available to them as possible.

Find out more

Please contact AUSVEG National Public Affairs Manager Tyson Cattle on 03 9882 0277 or email tyson.cattle@ausveg.com.au. Further details can be found at ausveg.com.au/ausveg-advocacy.



DiPel®
50
years

Forward
Thinking
Crop
Protection™



Resistance
management
rotation option



No re-entry
Interval



No WHP,
no residues



Safe to all
beneficial
insects



Stops feeding
immediately

Be Biorational



Scan here to see more information about Sumitomo products



 **SUMITOMO CHEMICAL**
AgroSolutions Division

www.sumitomo-chem.com.au

DiPel is a registered trademark of Valent BioSciences LLC,
a Delaware limited liability company.

Cover crop and strip till combination a winner in the west

In September 2020, the Soil Wealth and Integrated Crop Protection (ICP) project team produced a case study that focused on the Three Ryans farm in Western Australia. *Vegetables Australia* has published excerpts of the study and spoke to Jake Ryan to discuss the benefits of being involved in the Soil Wealth/ICP project.

Gary, Tracey and Jake Ryan operate Three Ryans farm in Manjimup, approximately 290 kilometres south of Perth.

Their 500-acre growing operation encompasses vegetables including broccoli, cauliflower, red and white cabbage and green and red kale. In addition, the Three Ryans' property includes 1,000 sheep, 62 heifers and 4,000 chickens.

Jake Ryan oversees the vegetable growing aspect of the operation and has been interested in soil health for years. He studied agribusiness at Western Australia's Curtin University, and has engaged in a wide variety of resources including YouTube videos, books and podcasts to gain further knowledge of soil health and the regenerative ag movement.

Jake is also part of a new generation of vegetable growers that recently came together and joined the Warren Improvement Group in Western Australia. The group is currently working with the Soil Wealth and Integrated Crop Protection project, which is jointly delivered by RM Consulting Group and Applied Horticultural Research.

With assistance from the Soil Wealth and Integrated Crop Protection project team, the Three Ryans decided to try the cover crop and strip till combination to see what benefits there are for their vegetable farm. In November 2019, an on-farm strip till demonstration plot was established in a broccoli crop, with positive results.

Soil Wealth ICP Phase 2 (VG16078) is a strategic levy investment under the Hort Innovation Vegetable Fund.

A cost- and time-saving initiative

At the Three Ryans, broccoli was grown in either cover crop plus strip till or conventional till following a short fallow. This allowed a direct comparison of the two soil prep approaches.

The cover crop and strip till combo has cut the Three Ryans' work drastically when compared to the fallow plus conventional cultivation used beforehand. The biggest impact was the reduced tractor passes to prepare the ground for transplanting of the broccoli crop.

"We used to do five or six passes with the tractors, now we've gone down to two passes. We just roll a cover crop and then put strip till into it," Jake said.

About 50 per cent less irrigation was required to prepare the ground for transplanting in the strip till area – the strip tilled area retained moisture better, which has led to savings in irrigation costs.

"The soil in the strip till area was more friable and appeared to have a better structure compared to the soil in the conventionally grown area. The strip till area was also noticeably wetter during the broccoli growing season compared to the conventional area. We may be able to irrigate less when growing crops using the strip tillage method," Jake said.

Savings were made not only in a reduction in the number of passes required across the paddock, saving fuel and man-hours, but also in equipment.

"A smaller tractor is required for the cover crop and strip till machinery, compared to when we prepare the ground using conventional methods. Being able to use smaller tractors that cost less to purchase, maintain and run, is an additional benefit of using strip till in our farming system," Jake explained.

"Broccoli yield was about the same in the strip tilled and conventional areas, which is a good start for a first go at strip till. In a further six plantings, yields have improved compared to our expected broccoli yield as we fine tune everything."

The health of the soil has also increased through the cover crop and strip till combo.

"During the trials, we did an earthworm count that was conventional tillage versus strip tillage in side-by-side plots. There were five earthworms per shovelful in the conventional and in the strip till, it was up to 25 per shovelful, which is really positive," Jake said.

Despite being on some steep land, no soil movement in the alleyways of the strip till area occurred, even after 50 millimetres of rainfall. Over the winter, the soil under subsequent strip tilled crops has held together well with no obvious erosion.

Growing success

Gary, Tracey and Jake were impressed with the substantial time and cost savings of the strip till method, combined with observable improvements in soil health. The cover crop plus strip till combination makes the transition from cover crop to broccoli much more manageable and helps lock in the benefits from cover crops.

The demo trial allowed the Three Ryans' growing operation to work through the practical challenges of replacing its usual fallow and conventional cultivation, with a cover crop plus strip till combo.

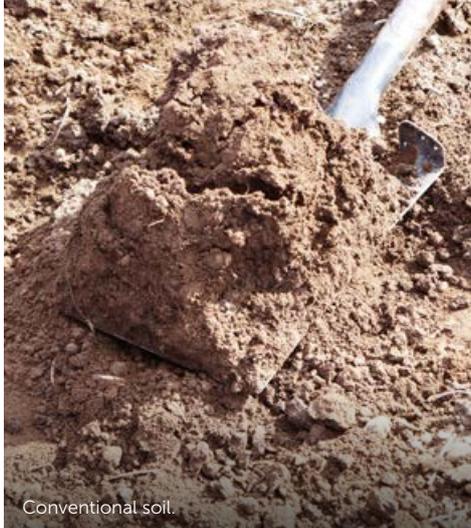
After the demonstration trial, it has transitioned to growing all vegetables using this method.

"The benefits of cover cropping and strip till will be great for our farm. We intend to keep using the method in the future and will experiment with different types of cover crops, when they are sown and the timing between stopping cover crop growth and the transplanting of the vegetable crop using the strip till method," Jake said.

Jake recommends becoming involved in the Soil Wealth project. It has had a beneficial impact on not only his operation, but on others in the Manjimup region. There is growing interest in moving towards a strip till approach, with one potato grower even purchasing a strip tiller after seeing it on the Three Ryans' property.

"There's a wealth of knowledge within the Soil Wealth team, through Kelvin Montagu and Doris Blaesing and everyone else involved – they're all switched on in their field," he says.

"There are plenty of things out there that you want to trial and give back to the community by demonstrating the changes that you can make in the horticulture sector. I think there are a lot of things we can do better than what we're doing currently."



Conventional soil.



Strip-tillage soil with structure and worms.



Strip till.



Broccoli strip till area.



Garry and Jake Ryan.

Cover crop + strip till combination: The key benefits

- Strip till makes cover crops more manageable and helps lock in the benefits of cover crops.
- Reduction in costs:
 - Less paddock preparation required
 - Can use smaller tractors – less compaction, less capital, less weight and cheaper maintenance
 - 50 per cent less time required for watering the ground prior to transplanting.
- Broccoli yields similar to conventional cultivation
- Weed suppression
- Soil holds more water
- Improved soil structure
- Increase in earthworms.

Find out more R&D

To read the whole case study, please visit soilwealth.com.au/imagesDB/news/ThreeRyansStripTillageCaseStudy_FINAL.pdf.

For more information about the Soil Wealth/ICP project, please contact project leaders Dr Gordon Rogers on 02 8627 1040 or gordon@ahr.com.au and Dr Anne-Maree Boland on 03 9882 2670 or anne-mareeb@rmcg.com.au.

This project has been funded by Hort Innovation using the vegetable and potato research and development levy and contributions from the Australian Government.

Project Number: VG16078

Hort Innovation | **VEGETABLE FUND**
Strategic levy investment

Latest mail on the snail: Watch out for this giant pest!

Currently sitting at number 12 on the National Priority Plant Pests list, the Giant African Snail (*Lissachatina fulica*) poses a significant threat to vegetable growing regions around the country. *The Front Line* discusses the snail's unwanted presence in Australia and the recent increase in interceptions with the Australian Chief Plant Protection Officer, Dr Gabrielle Vivian-Smith.



Giant African snail is destructive to many horticultural crops, including vegetables. Image courtesy of Shutterstock.

Giant African snail (GAS) is one of the world's most invasive plant pests due to its insatiable hunger for over 500 plant species, including many important vegetable crops. Originating from East Africa, the snail has already established itself around the globe, including Asia, the Pacific, the Americas and parts of Europe. While the snail thrives in non-arid subtropical to tropical climates, it is still active below 10°C and can survive subzero temperatures by entering dormancy. Although it is yet to establish in Australia, GAS poses a significant threat to Australian plant production, the natural ecosystem and human health if it were to reach our shores.

An invasive, damaging pest

Giant African snails can completely wipe out crops with the capacity to eat entire plants, including the stem, leaves, flowers, fruits and even bark. The snail has a vast host range from fruit and vegetable crops such as bananas, citrus, beans, brassicas, cucurbits, sweet potato and solanaceous species, to nursery, ornamental and native plants. In countries where this giant pest is established, horticultural crops experience reductions in yield and quality, and in some instances, entire crop loss can occur early season.

The snail's high reproductive capacity is the key driver behind our concern for this pest as they are difficult to eradicate. GAS are hermaphrodites, meaning they are able to self-fertilise. They have been observed laying up to 4,000 eggs per year

in laboratory conditions. If a single snail were to enter Australia undetected or unreported, rapid increase in population could easily occur.

These snails can also be detrimental to human health. If handled incorrectly, GAS can transmit bacteria, parasites and disease. Most notably, GAS is a host of a harmful parasitic nematode (*Angiostrongylus cantonensis*) – commonly known as rat lungworm – that causes meningitis in humans.

Detections on the rise

Expert international hitchhikers, these snails commonly enter Australia as stowaways on imported farm machinery, vehicles and shipping containers, with the eggs transported in soil or plant imported goods. However, the biggest threat of an outbreak is the intentional and illegal importation of GAS for medicine, food or even as pets.

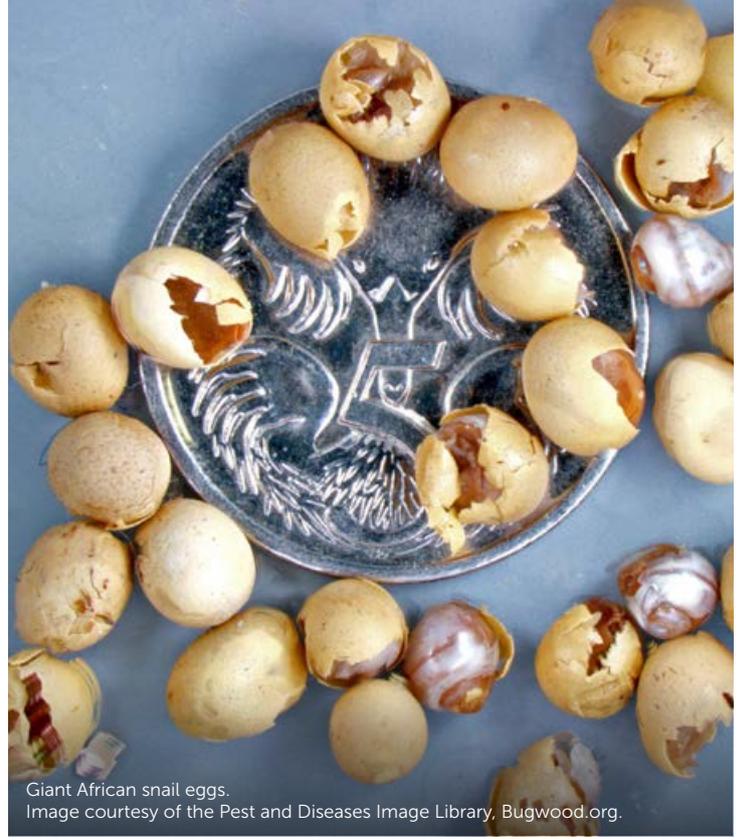
Since 2013, GAS interceptions at border have been on the rise with 28 in 2020. At the time of writing, there have been four this year (to April 2021). Despite Australia's outbreak history suggesting most GAS interceptions occur at Queensland's borders, Australian Chief Plant Protection Officer Dr Gabrielle Vivian-Smith said that the interceptions were made in a variety of imported cargo and at different border locations across the country.

Dr Vivian-Smith also noted that the increasing number of interceptions could be linked to the pandemic.

"There has been a bit of disruption



Giant African snail.
Image courtesy of Dr Jessica Lye from Cesar Australia.



Giant African snail eggs.
Image courtesy of the Pest and Diseases Image Library, Bugwood.org.

and change in terms of container movement patterns and the ability of countries to apply their normal inspection protocols, so that is possibly one reason why we're seeing an increase in Giant African snail detections," she said.

However, irrespective to the pandemic, Australia does have a steady number of Giant African snail interceptions at the border each year.

Reducing biosecurity risks

Early detection and reporting are key to keeping these giant pests out of Australia.

Australia's biosecurity system has strict import conditions and other measures to manage pest incursion risks. Shipping crates and containers from countries identified as high risk for GAS are routinely inspected. There are several established control procedures that are put in place upon detection of GAS, including physical inspections.

"A salt ring is applied to ensure live snails do not escape. Containers are fumigated, washed and reinspected to ensure freedom from live snails," Dr Vivian-Smith explained.

Post-border, Australia has nationally consistent response guidelines under the Emergency Plant Pest Response Deed that can effectively respond to a pest incursion.

Dr Vivian-Smith also noted that while our biosecurity system helps manage the risk of GAS and other plant pests arriving in Australia, everyone – from importers and growers to the general public – has a role to play. Being aware of this giant pest increases our chances of detecting them before they start to cause any issues.

"Make sure you follow our conditions when importing cargo to Australia. Keep an eye out and report any potential biosecurity pests such as Giant African snails," Dr Vivian-Smith said.

By implementing biosecurity best management practices, growers can greatly reduce the chance of the snail's entry onto their properties.

Have you seen this international hitchhiker?

- A snail six times the size of the common garden snail.
- Narrow, conical shell with brown and cream bands.
- Shell length ranges from five to 20 centimetres.
- Eggs are ovular and cream-yellow, approximately five millimetres in diameter and laid in batches of 100 to 400.

Previous outbreaks of the Giant African snail in Australia

- **1977 – Gordonvale, Queensland:** Around 300 snails were found. This was followed by an intensive eight-month eradication program, which was successful.
- **2004 – Currumbin Valley, Queensland:** A single snail found at a steel factory.
- **2013 – Brisbane, Queensland:** A single snail found in a container yard.

Find out more R&D

Any unusual plant pest should be reported immediately to the relevant state or territory agriculture agency through the Exotic Plant Pest Hotline (1800 084 881).

For further information, please contact AUSVEG on 03 9882 0277 or email science@ausveg.com.au. The Farm Biosecurity Program is funded by the Plant Health Levy.

Sexual harassment in the workplace



Around the country, the topic of sexual harassment has been a common theme of late. According to the Australian Human Rights Commission, a staggering 72 per cent of Australians over the age of 15 have experienced sexual harassment in their lifetime, with 23 per cent of women and 16 per cent of men reporting they have been sexually harassed at work in the last 12 months. The Growcom Fair Farms team investigates the practical methods that horticulture employers can implement to effectively tackle this issue.

The Fair Farms Standard promotes that businesses have policies and procedures in place to ensure workers are free from sexual harassment.

What is sexual harassment?

Sexual harassment is any unwanted or unwelcome sexual behaviour where a reasonable person would have anticipated that behaviour would make someone feel offended, humiliated or intimidated. It has nothing to do with mutual attraction or consensual behaviour, or whether or not behaviour is unwelcome is subjective. This means that the recipient of the behaviour is the ultimate decider of whether it is acceptable. Therefore, it is important to not make assumptions, treat everyone with the utmost respect and place your employees at the heart of your policies and procedures.

Examples of sexual harassment include:

- Staring, leering or unwelcome touching.
- Suggestive comments or jokes.
- Unwanted invitations to go out on dates or requests for sex.

- Intrusive questions about a person's private life or body.
- Unnecessary familiarity, such as deliberately brushing up against a person.
- Emailing pornography or rude jokes.
- Displaying images of a sexual nature around the workplace.

You may be found vicariously liable for sexual harassment in your workplace if you did not take 'all reasonable steps' to prevent the sexual harassment from occurring. What constitutes 'all reasonable steps' is different for every business. Generally, the larger your business is, the more resources and effort you should be able to input into preventing harassment.

What can employers do?

Sexual harassment can have very negative effects in the workplace beyond the harm made to victims, including reduced morale, absenteeism and injuring your reputation. As an employer you have a responsibility to take all reasonable steps to actively prevent sexual harassment in the workplace. Ways of doing this include:

- Creating a healthy and safe work environment based on respect.
- Developing and implementing a sexual harassment policy and procedure.
- Providing or facilitating education and training on sexual harassment.

An important aspect to preventing sexual harassment is developing and implementing a written policy and procedure outlining that sexual harassment will not be tolerated in the workplace. This policy can form a part of your broader bullying, harassment, abuse and discrimination policy. You should develop the policy based on your unique business needs, but generally the policy should identify the following elements:

- Communicate that sexual harassment will not be tolerated.
- Communicate that sexual harassment is unlawful.
- Outline the procedures for addressing

and dealing with sexual harassment.

- Explain the consequences of breaching the policy.
- Identify everyone's responsibility for dealing with sexual harassment, including staff and management.
- Outline any external avenues for staff dealing with sexual harassment.

Once you have developed your policy and procedure, ensure it is implemented. Communicate your expectations to staff through their induction process and meetings to ensure managers and supervisors are trained in how to implement the policy.

While policies and procedures are very important, they have no teeth without a culture and work environment that is healthy, safe, and based on courtesy and respect. You can promote a healthy and safe work environment by:

- Setting expectations with any senior management and supervisors to model appropriate behaviour and response to complaints swiftly and fairly.
- Responding promptly to any concerns raised.
- Supporting and encouraging bystanders to report inappropriate behaviour.

The Fair Farms Standard addresses this topic and much more in a way that is as simple as it can be for Australian growers to comply with legislation and consumer expectations. Fair Farms stands by farmers who stand for fair work. We are here to help raise awareness and improve culture one business at a time for the entire Australian horticulture industry to thrive.

Find out more

Please visit the Fair Farms website at fairfarms.com.au.

Visit fairwork.gov.au and growcom.com.au for more information regarding your obligations as an employer.

Fair Farms is developed and delivered by Growcom with support from the Federal Department of Agriculture, Water and the Environment and AUSVEG.



Woolworths partners with farmers to feed growing appetite for organics



Jimmy Kalafatis and Woolworths Group Manager for Shepparton, James Hogben.

The Woolworths Organic Growth Fund has been established to support eligible Australian growers in their organic farming projects. Established in 2018 in partnership with Heritage Bank, the \$30 million fund aims to assist fruit and vegetable growers to start the journey to organic farming or grow existing organic production.

Australians are buying more organic fruit and vegetables, with demand increasing around 20 per cent annually over recent years. To continue serving consumers' growing appetite for organic produce, Woolworths is providing grants and interest-free loans to farmers looking to convert to or expand organic production.

The Woolworths Organic Growth Fund is a \$30 million program that was established in 2018 to partner with Australian growers to increase the local availability of organic fruit and vegetables. It has already delivered millions of dollars in funding to 13 family businesses across the country. The fund provides farmers with the boost they may need to take the next step in their organic business or transition to organic growing for the first time.

Grants and loans have been awarded for projects including research and development of new varieties, implementing new growing methods and renewing existing plantings. The fund has also supported the purchase of practical infrastructure for organic production like above ground irrigation, packaging machinery, commercial mowers and sweepers, and shade and netting structures.

"We're working in close partnership with innovative and entrepreneurial Australian farmers to help meet the growing demand for organics," Woolworths Organic Fruit &

Vegetable Manager Jessica Loader said.

"We know diversification is high on the agenda for growers and through the fund we've helped conventional growers branch out into organics, while maintaining their existing core business.

"The fund also supports established organic producers who are ready to increase production, and we work with them to understand what infrastructure and investments will increase their output."

An organic vision

Conventional grower Jimmy Kalafatis and his family have supplied fruit to Woolworths from their Shepparton property for 50 years. In a first for his business, Mr Kalafatis will grow organic pears and plums after receiving a grant through the Woolworths Organic Growth Fund last year.

"Consumers are putting more organic produce into their shopping baskets every week – that's what we're seeing, and what the statistics are telling us," Mr Kalafatis said.

"We applied for the grant because we want to be at the forefront of potential growth markets in Australian fresh produce."

The Woolworths Organic Growth Fund will invest up to \$30 million over a five-year period through grants and interest-free loans. All loans are issued by Heritage Bank.

The next annual round of applications will open in May, and Woolworths invites all interested fruit and vegetable growers to apply.



The Kalafatis family (from left to right) Jimmy, Sarah and Emily Kalafatis. Images courtesy of Woolworths.

Find out more

To apply for a loan or for further information, please visit [woolworths.com.au/organicgrowthfund](https://www.woolworths.com.au/organicgrowthfund).

Saving edible food from landfill to feed Aussies in need

Australia is considered a 'lucky country', yet up to one in five Australians are affected by food insecurity and don't have access to the safe, nutritious food they need. This can have a significant toll on their physical, emotional and social wellbeing. Monica Logan from SecondBite reports.



CARAD volunteers Ian and Montgomery unpack a SecondBite delivery. Image courtesy of Craig Kinder.

More Aussies are experiencing hunger

In recent times, the effects of drought, floods and COVID-19 have turned lives upside down. People who were already experiencing food insecurity are going hungry even more frequently. The proportion of Australians experiencing food insecurity and seeking food relief at least once a week has more than doubled in 2020, with charities seeing new groups of Aussies needing food relief for the first time.

Rescuing food from waste to feed hungry Aussies

While many Aussies go hungry, huge amounts of edible food is going to landfill. Each year, an estimated 7.3 million kilograms of food is wasted in Australia. Much of the fresh food that goes to waste occurs in the sorting and grading process where fruit and veggies that don't meet market quality and aesthetic standards are thrown out.

SecondBite is one of the largest food rescue organisations in Australia, working with growers, manufacturers and retailers to divert edible food from going to landfill. During the 2020 financial year (FY20), it rescued and redistributed 22.7 million kilograms of food, including nearly 11 million kilograms of fruit and veggies.

Rescued food is provided to charities free of charge

SecondBite provides the rescued food completely free of charge to charities that run food programs helping to feed hungry Aussies. These charities turn the food into food relief packages, comforting meals and much more. In FY20, the redistributed food was equal to 45.4 million meals.

Over 1,300 charities around Australia rely on the organisation to provide free

food for their programs. One of these charities is the Centre for Asylum Seekers, Refugees and Detainees (CARAD) in WA.

"SecondBite plays a critical part of CARAD's food relief work. More than 500 kgs of fresh produce each week helps us provide much needed food to over 100 people seeking asylum in our community," CARAD Client Services Manager Esther Deng said.

Minimised pick costs make it easier for growers to donate

SecondBite partners with growers across Australia to divert edible food from landfill and minimises pick costs as much as possible to make it easier for growers to donate produce. When growers donate surplus or unsellable food to the organisation, it frees up valuable storage space, reduces waste and disposal costs. It also saves valuable time, provides tax benefits and supports environmental sustainability. Plus, it's a great feeling knowing that edible food is going to people who need it most rather than to waste.

Red Gem Growers and Packers in Victoria has been donating potatoes to SecondBite for several years.

"It's great to see potatoes that don't meet the market specifications going to good use. These potatoes are only a peeler away from making a beautiful mash or roast to feed someone in need," Red Gem General Manager Robert Cerchiaro said.

The need for more food is great

Charities have seen a significant increase in the demand for food relief in recent times and the demand is still great. More food is needed to help feed people.

Find out more

Further details about donating to SecondBite can be found at secondbite.org or phone 1800 263 283.

A stalling dollar and shifting economy: What this means for Australian business



The COVID-19 pandemic has seen business and economies evolve at a rapid pace. A report has been released exploring the business sectors that have benefited or struggled over the past 12 months, as well as highlighting the potential changes for the Australian and global economy throughout the next decade.

The Australian Dollar (AUD) has pushed sharply higher over the last six months as low interest across the world and hopes for a global recovery sent financial markets, especially US shares, to new highs.

However, the rally in the AUD to US Dollar (USD) paused once it hit the major technical zone up near 0.8000, a market level that has seen the pair turn lower on every approach for five years.

The Australian economy faces a major shift as the Federal Government's JobKeeper program winds down.

Australian employment, along with growth numbers, have been remarkably strong thanks to the mostly effective containment of COVID-19 and strong government support.

The flagship JobKeeper ended in March and could see Australian employment, which fell from a high of 7.5 per cent in August 2020 to 5.6 per cent in March, rebound.

The local central bank, the Reserve Bank of Australia (RBA), will take some comfort from the recently weaker AUD.

However, rising house prices mean that there is building pressure for the RBA to consider rate hikes. Any suggestion of tighter policy could boost the AUD.

Global industry outlook

While sentiment has improved across the globe, the upcoming year will undoubtedly prove to be one of transition as business leaders continue to assess the damage caused by COVID-19 and recalibrate their plans for the future.

Western Union Business Solutions recently published its Global Industry Outlook report – prepared with Oxford Economics – that looks at how the Australian and global economy might change over the next few years. Some highlights include:

- Which business sectors have benefited the most over the last 12 months?
- Which sectors are most resilient to COVID-19 lockdowns?
- Where could we see post-pandemic acceleration over the next decade?

The report can be found here: business.westernunion.com/en-au/learning-centre/articles/industry-outlook-report.

Background information

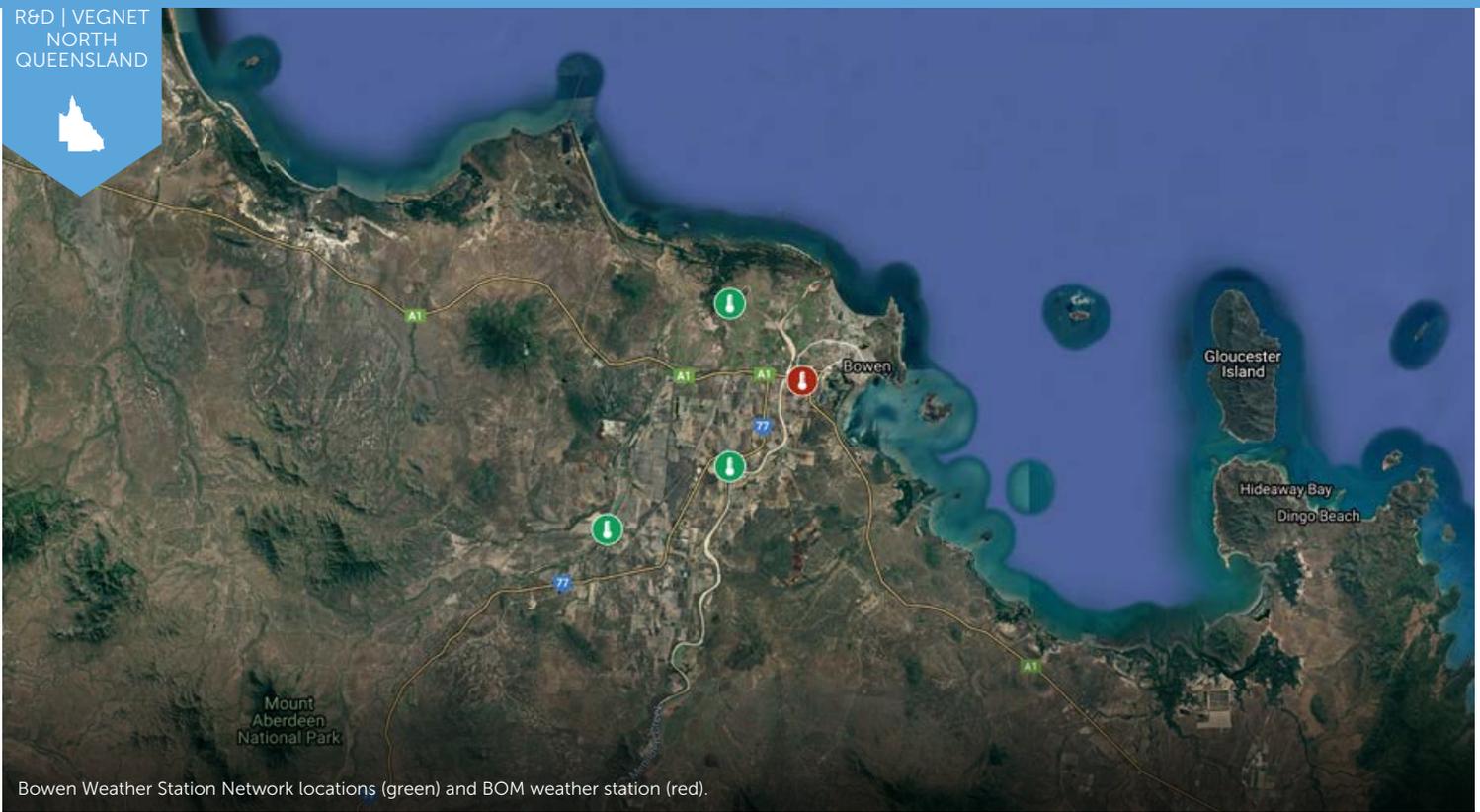
Western Union Business Solutions enables companies of all sizes to send and receive cross-border payments and manage foreign exchange. With deep expertise in moving funds around the globe and access to more than 130 currencies, it helps companies spend less time managing international financial transactions and more time growing their businesses.

Western Union Business Solutions has extensive experience working with clients in a variety of sectors, including manufacturing, non-governmental organisations, charities, agriculture and mining. It also offers customised solutions for legal, financial and educational institutions, and works with its clients to ensure it understands their unique business needs.

Whether you require an online payment solution or personalised support to help guide you through the world of foreign exchange, the industry expertise and distinguished service portfolio enables you to make international payments and manage currency risk with confidence.

Find out more

Please visit business.westernunion.com/en-au.



Bowen Weather Station Network locations (green) and BOM weather station (red).

Monitoring micro-climates in the Bowen horticultural region

Small weather stations have been installed across Queensland's far-north Bowen region, with great success for vegetable growers. In this column, VegNET Regional Development Officer Sarah Limpus outlines the project's activities as well as its long-term aims and strategy.

In late 2019, the Department of Agriculture and Fisheries, Queensland – in partnership with the Bowen Gumlu Growers Association – initiated a project to establish a small sensor network of weather stations across the Bowen horticultural production region.

Bowen may be the home of the mango but during winter, Bowen is a major producer of capsicum, sweet corn, green beans, pumpkins and eggplant.

Three automated weather stations were deployed in strategic biomes within the Bowen region to monitor micro-climatic conditions: The Don River delta on the coast, Don River flood-plain and East Euri Creek.

One weather station host, Dobe's Farms, previously relied on the Bureau of Metrology (BOM) weather station located at the Bowen Airport just over six kilometres away from the farm.

Preliminary analysis of data collected from the automatic weather station at Dobe's Farm last year indicates that

minimum temperatures are up to 2°C cooler than those recorded at the BOM site, while annual rainfall was 107 mm lower at the farm.

Brooke Dobe from Dobe's Farm said that the operation uses the new weather station religiously several times a day to monitor spraying conditions and irrigation. During harvest windows, temperature and rainfall is monitored to guide the harvest schedules to ensure fruit is harvested at ideal temperatures and picking staff are working safely in hot conditions.

"The weather observations here [at Dobe's Farm] are much more accurate. We don't even look at the BOM site anymore," Ms Dobe said.

Wide-ranging benefits

Although farm weather stations are not new, a community-owned weather station network has far reaching benefits to the region – from more effective pest and disease suppression to identifying biomes within the region that support niche or specialty crops.

Bowen is not known for its winter frosts; however, data at the other two weather stations are also showing significant variations to the BOM station, with one farm even recording temperatures below 2°C. A community-owned weather station network could alert growers to the risk of frosts, thanks to the strategic location of these weather stations that could prevent

crop damage and yield loss.

Regional temperature differences result in local variations in fruit ripening, and in this time of labour shortages, fruit ripening predictions can be used to estimate harvest schedules and potentially share labour forces.

The next phase of this project will focus on developing fruit ripening and disease forecasting to assist vegetable growers in disease prevention and mitigation strategies.

The long-term strategy is to gain funding to expand the network into other locations – particularly Gumlu, where a large portion of the region's capsicums are grown and develop the sensor network into a hyper-local forecasting system for micro-climatic conditions, and pest and disease control.

Find out more R&D

Please contact VegNET – North Queensland Regional Development Officer Sarah Limpus at Bowen Gumlu Growers Association on 07 4785 2860 or email ldm@bowengumlugrowers.com.au.

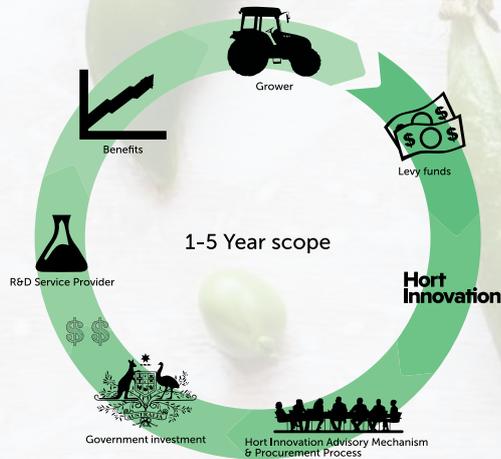
VegNET – North Queensland is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19008

THE VEGETABLE R&D LEVY AT WORK

STRATEGIC LEVY INVESTMENT



WHO PAYS THE VEGETABLE R&D LEVY?

The levy is paid by growers who produce and sell vegetables in Australia. The charge is set at 0.51 per cent at the first point of sale. The Federal Government also provides funding in addition to grower levy payments. Once paid, the research and development levy funds are managed by Hort Innovation.

HOW IS LEVY MONEY INVESTED?

Hort Innovation has two funding models for investment in research and development. The industry's levy is invested with Australian Government contributions through the Hort Innovation Vegetable Fund, which is part of the organisation's strategic levy investment activities.

All investments through the Vegetable Fund are made with advice from the industry's Strategic Investment Advisory Panels (SIAPs) – skills-based panels made of panellists from across the vegetable industry, the majority of whom are levy-paying growers.

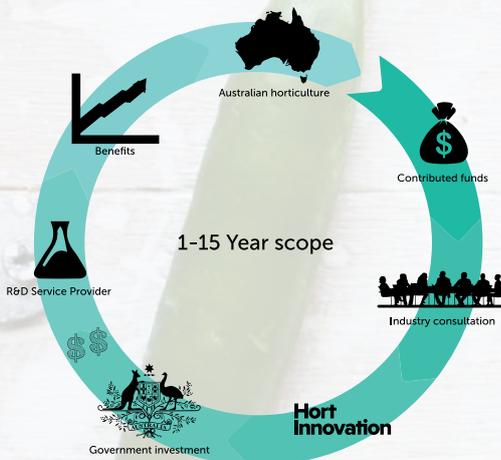
Strategic levy investments have a one- to five-year scope and the R&D is designed to directly benefit growers in the vegetable industry. Project topics range from pest and disease management to biosecurity matters, with findings communicated through a variety of channels, including *Vegetables Australia*.

You can find information on all current strategic levy investments, and details of the SIAP, on Hort Innovation's Vegetable Fund page at horticulture.com.au/growers/vegetable-fund/.

The second Hort Innovation funding model is the strategic partnership initiative known as Hort Frontiers. Hort Frontiers projects do not involve levy dollars, unless an industry chooses to become a co-investor in them, through advice of the SIAP. Instead, Hort Frontiers facilitates collaborative across-horticulture projects involving funding from a range of co-investors. These projects have a long-term focus and are designed to solve major and often complex challenges to secure the future of Australian horticulture.

You can read more about Hort Frontiers and the seven funds within it at hortfrontiers.com.au.

HORT FRONTIERS



HOW CAN GROWERS GET INVOLVED?

All vegetable growers are encouraged to share their thoughts and ideas for the research they want to see, both within the levy-specific Vegetable Fund, and within the wider Hort Frontiers strategic partnership initiative.

Ideas can be submitted directly to Hort Innovation through the online Concept Proposal Form at horticulture.com.au/about/investing-is-our-business/concept-proposal-form/. Growers are also encouraged to reach out to the SIAP panellists for the industry (available from the Vegetable Fund page).



Mr Su Tran with his recently adopted digital soil moisture monitoring set.

Meeting 'Mr Su': A leader in the west's Vietnamese veg growing community

Over the last 12 months, Australia has suffered and survived fire, drought, floods and the COVID-19 pandemic. From coast to coast, the agriculture and horticulture sectors have really struggled, but through sheer strength and tenacity we've continued to get up, put on our boots and get our hands dirty. Because of this, the VegNET – Western Australia team wanted to highlight the true essence of 'The Little Aussie Battler' kept alive by ALL growers. Below is a Q&A with one of the team's Carnarvon growers, Mr Su Tran.

Can you please give me a brief overview of your business and the produce that you grow?

Tran Quoc Su, known to Vietnamese grower community in Carnarvon as Mr Su, runs a small scale but impressive tomato farm in Carnarvon, Western Australia. His enthusiasm for learning, efficiency on farm and ability in overcoming the language barrier are just some of his notable traits. Mr Su grew up in a remote province in far south of Vietnam, just off the U minh Melaleuca forest. The land is rich with culture, but widespread poverty and illiteracy means college isn't an option for most.

In 2005, when he was just 26, Mr Su moved to Australia and settled in Carnarvon. He initially took a job as a seasonal worker on a tomato farm making minimum wage, with his sights set on developing his skills enough to own his own farm. By 2011, he had progressed to share farming and leased a 14-acre farm. In 2015, he bought the adjacent 15-acre property and is now running both growing tomatoes, melons and a few fruit trees like avocado, mango and jackfruit.

What do you enjoy most about being involved in the vegetable industry?

Initially, Mr Su believed with his very basic level of education and limited English, working in the field as he had done with his family in his home country, was his only option. Today he acknowledges that while running his own vegetable growing business takes hard work and dedication, it also offers him great satisfaction and fulfilment; he enjoys being "the boss of himself". He meets every challenge with hard work and welcomes the opportunity to increase his

knowledge when faced with problems. Through continuous learning, his hard work is consistently rewarded with success at the end of the season.

"I am happy that I make decision for what I do in my own business. Although things do not always work out the way you wish, but I am still happy because I could learn why thing has gone wrong and I make decision for the improvement of my own business."

By being "the boss", Mr Su is also able to enjoy a positive work-life balance. He has the flexibility to schedule his time spent on farm, with his family and on his own personal interests like fishing and catching mud crabs. Whilst Mr Su and his wife appreciate their life in Australia, they maintain strong links to their families and life in Vietnam. With time spent among friends, most of whom are growers themselves, it not only strengthens community relationships but allows for the much-needed kinship he grew up with in his home country.

"When you work for the others, you must follow the contracted conditions that you hardly make sure to be available when your family need you."

What challenges do you face as a vegetable grower?

The language barrier is a LOTE grower's biggest hurdle. Finding ways to improve his skills and abilities, with limited literacy, to maintain sustainable business practices under the constantly changing environment is difficult. Providing a strong

extension service network is vital to growers, especially the extension service that speak “grower language”, like the one provided by VegNET WA.

“Earlier, I rarely attend a meeting because I can’t understand English while language assistance is not always provided. Now things have changed – a Vietnamese development officer working in VegNET WA helps to do translation in meetings and convert document to our language, which is very helpful.”

Maintaining financial fitness is also a major concern, which puts Mr Su under constant pressure. Much of the business investments come from bank loans and while the fixed costs, such as the mortgage, rent and operational expenses, must be budgeted, while income returns are dependent on volatile market prices.

“The investment money lays out in the field in forms of growing crops. They are threatened by several known and unknown problems such as pests and diseases, bad weather and so on. Every mistaken crop care practices or business management may lead to disaster.”

A strategy to deal with these challenges is cultivating strong relationships for grower-to-grower information transfer. Genuine engagement with service providers like input suppliers, government agencies and the VegNET WA RDOs, to keep informed of industry innovation, standards and R&D is also essential. Like many growers, learning through on farm trial and error is Mr Su’s preferred learning style.

What new innovations, research and/or practices has your business implemented recently?

In 2017, Mr Su implemented a digital soil moisture monitoring device for a one-year trial. During this trial, Mr Su learned the benefits of soil moisture monitoring for irrigation decision making. He has since invested in two more devices for

additional plots on his tomato farm. Mr Su reveals that his adoption of this innovation has helped him to understand the sub-surface soil moisture levels, which assists him in his irrigation scheduling. He has also recently started using an automatic and internet linked irrigation controller, saving him a lot of time and hard work. It also allows him to monitor irrigation operations remotely, even while visiting family in Vietnam.

In terms of research and development, what do you think is vital to the vegetable industry right now?

R&D into disease resistant varieties plays a large part his decision-making process. Developing new varieties that are adapted to the local growing conditions and have better pests and diseases resistance is essential. For the last two years, this has greatly informed which seedlings he chooses.

“Using resistant varieties give significant benefits in terms of better crop growth, saving time and money for disease control and obtaining better produce quality.”

So, what does the future hold for Mr Su?

He admits mounting pressure, such as rising input costs, labour and imbalanced return to growers, is creating a tougher industry landscape. However, it’s pushing him to innovate for a better work-life balance; like converting part of his property to a fruit orchard. Although Mr Su is unsure whether his children will continue in the vegetable industry, he is certain that through his continued work in the industry, they will be able to pursue the education and profession they desire.

See the Vietnamese translation of this article on the next page. →

Find out more R&D

For further details about VegNET – Western Australia activities, please contact Regional Development Officers Sam Grubiša at sam.grubisa@vegetableswa.com.au or Truyen Vo at truyen.vo@vegetableswa.com.au.

VegNET – Western Australia is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19016

Hort Innovation | **VEGETABLE FUND**
Strategic levy investment



Hỏi đáp với Trần Quốc Sự - Nông gia Carnarvon

Anh vui lòng tóm tắt về công việc làm nông và các loại hoa màu anh đang canh tác?

Trần Quốc Sự, thường được gọi là “Mr Su”, đang canh tác một nông trại hoa màu có qui mô nhỏ nhưng rất ấn tượng tại Carnarvon, Tây Úc. Sự phấn đấu học hỏi, làm việc hiệu quả và khả năng khắc phục trở ngại ngôn ngữ là một vài mặt nổi trội của anh. Anh Sự lớn lên tại một tỉnh cực Nam của Việt Nam, Thời Bình Thôn, bên dòng sông Trẹm. Đây và vùng đất phong phú về văn hóa nhưng nghèo nàn về kinh tế và học vấn, nơi mà ít người vươn tới trình độ cao đẳng hay đại học.

Anh sang Úc năm 2005 khi mới 26 tuổi và định cư tại Carnarvon. Ban đầu anh kiếm sống bằng việc làm công cho các nông gia địa phương, nhưng anh luôn có suy nghĩ phải học hỏi và rèn nghề để tự làm chủ cho chính mình. Năm 2011 anh chuyển sang làm hùn rồi thuê một trang trại nhỏ 14 mẫu tây. Đến năm 2015 thì anh mua hẳn một nông trang diện tích 15 mẫu liền kề mảnh đất đang thuê. Hiện anh đang trồng cà chua, dưa hấu và một vài loại cây ăn trái như bơ, xoài, mít, đu đủ trên cả 2 khu đất.

Là người trong ngành trồng hoa màu anh cảm thấy tâm đắc nhất điều gì?

Lúc mới sang Úc, anh nghĩ đơn giản rằng với trình độ hạn chế và rào cản tiếng Anh thì nghề nông, nghề anh từng làm với gia đình ở quê nhà, là chọn lựa khả dĩ nhất. Nhưng hiện tại thì anh trân trọng công việc này, cho dù rất cực nhọc và ràng buộc nhưng cũng mang lại sự hài lòng và thỏa mãn; Anh thích được làm chủ chính mình. Anh chấp nhận thử thách khó khăn và hoan nghênh cơ hội được mài dũa kiến thức và kinh nghiệm khi đối mặt với vấn đề. Sự học hỏi liên tục và làm việc siêng năng đa phần mang lại kết quả khả quan cho anh vào cuối mùa.

“Tôi cảm thấy hài lòng rằng tôi là người quyết định cho những gì tôi làm trong công việc trồng trọt. Mặc dù không phải lúc nào cũng có kết quả như mình tính nhưng tôi vẫn

cảm thấy hài lòng vì tôi học được lý do dẫn đến thất bại và chính tôi lại quyết định làm gì để chỉnh sửa tốt hơn cho nông trại của mình”.

Nhờ tự làm chủ chính mình nên anh Sự có cơ hội thu xếp cho công việc và đời sống được cân bằng. Anh có thể uyển chuyển thu xếp thời gian cho đồng áng, cho gia đình và có thời gian cho bản thân đi câu cá, bắt cua. Sống ở Úc nhưng vợ chồng anh duy trì mối liên kết chặt chẽ với gia đình ở quê nhà. Đoàn tụ với người thân, bạn bè (đa phần cũng là nông dân) ở quê nhà không chỉ làm cộng đồng gắn bó thêm mà cả tình cảm nơi chôn nhau cắt rốn.

“Làm công cho người khác thì phải chịu sự ràng buộc nên đôi khi không chắc có mặt được khi gia đình cần mình”.

Là nông gia anh thường đối mặt những thử thách nào?

Rào cản ngôn ngữ là thử thách lớn nhất cho nông gia sử dụng ngôn ngữ không phải tiếng Anh. Tìm cách này cách khác để tăng cường hiểu biết và kỹ năng làm nông, trong khi học vẫn có giới hạn để làm sao cho nông trang mình ổn định trong khi bên ngoài thay đổi liên tục, là cả vấn đề. Chính vì vậy mà cung cấp mạng lưới khuyến nông mạnh mẽ là điều tối quan trọng cho nông dân, đặc biệt là khuyến nông nói cùng thứ tiếng với nông dân như cách mà VegNET WA đang làm.

“Hồi xưa tôi ít khi đi hội họp bởi vì có hiểu gì đâu khi không phải lúc nào cũng có thông dịch. Bây giờ thì thay đổi rồi, có chuyên viên phát triển cộng đồng làm việc cho VegNET WA giúp thông dịch các cuộc họp và dịch tài liệu ra tiếng Việt là hỗ trợ rất lớn”.

Duy trì tình trạng tài chính ổn định cũng là lo lắng hàng đầu làm cho anh luôn phải suy nghĩ. Nhiều khoản đầu tư trong nông trang là vốn vay trong khi các chi phí cố định như tiền trả góp hàng tháng, tiền thuê đất và các chi phí vận hành khác bắt buộc phải chu toàn thì thu nhập lại phụ thuộc vào giá cả nông sản bấp bênh.

“Tiền bạc đầu tư rải ngoài đồng thành hoa màu. Chúng thường xuyên bị vấn đề này vấn đề khác đe dọa như sâu bệnh, thời tiết bất lợi. Bất cứ sai lầm nào trong canh tác hay điều hành việc làm ăn đều có thể dẫn đến thảm họa”.

Cách đối phó với các khó khăn là xây dựng mối gắn kết giữa nông dân với nông dân trong cộng đồng để chia sẻ với nhau. Quan hệ tốt với các thành phần khác như nhà cung cấp giống và vật tư, các ban ngành của chính phủ và chuyên viên phát triển của VegNET WA để luôn được cập nhật thông tin về tiến bộ kỹ thuật, các tiêu chuẩn và các nghiên cứu có liên quan cũng là vấn đề thiết yếu.

Như các nông gia khác, trao đổi bằng cách thử nghiệm và rút kinh nghiệm trực tiếp trên đất của mình là cách học anh ưa thích nhất.

Gần đây anh có ứng dụng tiến bộ kỹ thuật mới nào cho nông trang không?

Năm 2017 anh sự tham gia thử nghiệm áp dụng thiết bị theo dõi ẩm độ đất trong 1 năm. Trong thử nghiệm này anh đã học được lợi ích của việc theo dõi ẩm độ đất để quyết định cách tưới tiêu trong canh tác. Từ đó anh đầu tư thêm 2 bộ thiết bị nữa cho các lô đất khác trong nông trại. Anh cho biết rằng việc ứng dụng kỹ thuật này giúp anh hiểu được ẩm độ các tầng đất bên dưới để điều chỉnh mức tưới hợp lý. Anh cũng mới vừa áp dụng bộ điều khiển tưới tự động có thể kết nối qua internet. Việc này giúp tiết kiệm nhiều thời gian và công sức so với cách làm trước đây. Thiết bị mới này cũng cho phép anh theo dõi và điều khiển hệ thống tưới từ xa, kể cả nếu anh về Việt Nam thăm gia đình.

Anh nghĩ thế nào về tương lai?

Anh Sự tâm sự rằng áp lực đè nặng, chẳng hạn như giá vật tư tiếp tục tăng, nguồn nhân công ngày càng khó tìm, lời tức trả về cho nông dân không thỏa đáng, làm cho ngành trồng hoa màu ngày càng khó khăn. Tuy nhiên điều này lại thúc đẩy anh phải luôn tiếp tục



Anh Sự bên cạnh thiết bị kỹ thuật số theo dõi ẩm độ đất.

tìm tòi, cải thiện để có sự cân bằng giữa công việc và đời sống, chẳng hạn như chuyển bớt một phần đất sang vườn cây ăn trái. Cho dù anh Sự không chắc liệu con cái anh có tiếp tục nghề nông hay không, nhưng anh chắc rằng ngày nào anh còn làm việc hiệu quả trong ngành này thì con cái anh có thể theo đuổi việc học và phát triển nghề nghiệp mà chúng muốn.

Acknowledgements

Vegetables Australia would like to thank VegNET – Western Australia Regional Development Officer Truyen Vo for conducting the Q&A with Mr Su, and for supplying the Vietnamese and English versions of this article.



Addressing resistance management for diamondback moth

A highly destructive pest that affects vegetable and canola crops, diamondback moth continues to be a focus for Lockyer Valley Growers Inc. In this article, VegNET – Southern Queensland Regional Development Officer Zara Hall provides an update on the Lockyer Valley region's response to the challenges posed by diamondback moth.

Lockyer Valley Growers Inc. has recently led a number of initiatives to communicate best management practices for diamondback moth management in brassicas as part of its ongoing program, *Insecticide Resistance Management for Diamondback Moth in the Lockyer Valley*.

A grower seminar held earlier this year included a presentation by Dr Mike Furlong from the University of Queensland about climate change impacts on *Diadegma* distribution.

In efforts to maximise the productivity of beneficial species in brassica crops, growers have planted flowering nectar sources for *Diadegma* that is understood to increase the parasitoids' longevity from a couple of days (in the absence of a nectar source) to several weeks (with a nectar source present).

This temperate parasitoid is likely to contract its' range as a result of warmer conditions expected under climate change predictions. This does not bode well for brassica production in northern regions of Australia, where *Diadegma* forms an important component of

management of diamondback moth.

Grower resources

Growers now have access to a handy reminder about chemical resistance management through the recently published *Pest Management in Brassicas in the Lockyer Valley* poster. This poster includes a handy chart showing the impacts of pesticides on beneficial arthropods of importance in Australian vegetables. Products including Belt®, Coragen® and Movento® have low toxicity to important parasitoids like *Diadegma*, whereas Fipronil is highly toxic.

Brassica producers who may have missed the webinar entitled *Take Back Control*, which was hosted by AUSVEG and Bayer earlier in the year, can now access the webinar online. This webinar includes presentations from John Duff from the Department of Agriculture and Fisheries, Queensland, and Zara Hall from Lockyer Valley Growers Inc. The webinar shares insights and key learnings from diamondback moth management in the Lockyer Valley.

Find out more R&D

Please contact VegNET – Southern Queensland Regional Development Officer Zara Hall on 0456 956 340 or at ido@lockyervalleygrowers.com.au.

VegNET – Southern Queensland is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19010



Useful resources for diamondback moth management

Flyer: *Impact of pesticides on arthropods of importance in Australian Vegetables*
soilwealth.com.au/resources/articles-and-publications/new-guides-pesticide-effects-on-beneficials-in-vegetable-crops/

Poster: *Pest Management in Brassicas in the Lockyer Valley*
lockyervalleygrowers.com.au/wp-content/uploads/2021/04/Poster-9.pdf

Webinar: *Take Back Control*
youtube.com/watch?v=bBvR31AePzM

Introducing Michelle Flowers

Works at: **Koala Farms**

Michelle Flowers is the Human Resources Manager at Koala Farms, which is located in Queensland's Lockyer Valley region. Koala Farms produces vegetables over 1,500 acres and employs around 80 people. VegNET – Southern Queensland Regional Development Officer Zara Hall sat down with Michelle to chat about her role, the programs she has implemented in the HR space and the impact they have had on the growing operation and its employees.

What is your role at Koala Farms?

My role is to assist in driving business strategy and growth by designing and delivering overall human resources strategy, leadership, and administration.



Flowering plants – including Alyssum and Buckwheat – at Crust Farms form an important nectar source for *Diadegma*.

Can you describe the program that you have implemented and how you went about it?

There have been several programs designed that are all integrated to support our business strategy. One that we are starting to see the results for is our cultural program. When I first started, Anthony [Staatz; Koala Farma CEO] said he felt very strongly that as the company grows, he really wants Koala Farms to be a workplace where our people feel valued and want to come to work each day. So, our cultural program was designed to support our strategic plan, develop and embed our company values and align our leadership team.

For the development and embedding of our company values, we took a very different approach and wanted to include our employees. Our reasoning for this is that we felt individual values are the underlying beliefs that guide how we make decisions and operate day to day. Company values are an extension of this. Therefore, we asked our employees to contribute by answering three anonymous questions from a list of values:

1. Select 10 values that represent their own personal values.
2. Select 10 values that represent the values they saw in the company.

3. Select 10 values they want to see in the company going forward.

The results were very interesting, with four values (Innovation, Teamwork, Employee Development, Environmental Awareness) rising to the top from all the data collected. The interesting thing about this exercise is that the involvement of our employees in this process instilled an ownership in our values.

Innovation rated highly among participants. This was expected because Anthony places a lot of emphasis on innovation and implementation of R&D in the business. Environmental Awareness was no surprise as a lot of focus has gone into this area over the last 18 months; for example, trialing Bioballs on dams to reduce evaporation.

What have been the key learnings from the program?

I'm not sure if there have been key learnings – we knew that when rolling out a cultural program that it starts at the top with your leadership team and works its way through to the types of systems and processes you have in place. They all need to support the outcomes you are trying to achieve. This meant our annual performance review process needed to be tweaked to comprise of two components:



Michelle Flowers.

technical skills and behaviors linked into our values. Employee development is one of our values so that formed an important component of the annual performance review process as well and demonstrated our commitment to training and upskilling our employees.

As these programs became more and more embedded into our business, we started to see them come to life not just in WHAT our employees were doing, but also in HOW they were doing them.

How do you feel about your role?

I think I hit the jackpot. There is a big responsibility on my shoulders – I love working at Koala Farms because I know I have Anthony's support; I know I am adding value to the business and to our employees. I also feel very lucky to have an amazing team of people I work with. I really couldn't ask for more.

In dispute? Contact the Ombudsman

The Australian Small Business and Family Enterprise Ombudsman Bruce Billson is encouraging vegetable growers and traders involved in a dispute to contact her office.

The Ombudsman can provide growers and traders with information and dispute resolution options, including access to mediation services and produce assessors.

Assessors can address issues such as whether a trader was entitled to reject produce or whether a grower has received the correct payment from the trader.

The Ombudsman's approach is to focus on fair outcomes for growers and traders whilst maintaining good working relationships.

Our assistance team can help resolve disputes that arise over produce transportation and delivery.

Small businesses that need information or help with resolving a dispute can visit www.asbfeo.gov.au/assistance/horticulture-code or call the ASBFEO hotline on 1300 650 460.





The Advanced Waste Management in Vegetable Production workshop was held at the South Australian Produce Market in early April.

Extension update: Full steam ahead for South Australia

AUSVEG SA is the state-wide representative body for South Australia's \$2 billion vegetable industry. It works with governments at all levels to advocate on key issues and deliver a number of key industry development programs that includes facilitating VegNET – South Australia, an investment that keeps vegetable growers informed about current R&D activities, results and resources. VegNET – SA Regional Development Officer Yanyu Liang provides an update

An upcoming event not to be missed!

AUSVEG SA will hold its first-ever South Australian horticulture conference on Tuesday 18 May. As part of this event, VegNET SA will work with AUSVEG SA to have a number of R&D speakers planned as a development and learning opportunity for South Australian growers.

The inaugural Hort SA conference will be held at the SA Produce Markets, featuring over 30 industry exhibitors along with a full program of leading industry speakers and early evening social networking drinks (kindly sponsored by the SA Produce Markets).

The event will offer an opportunity for growers and industry supporters to see a large number of exhibitions and catch up with industry colleagues at

South Australia's home of fresh produce, the SA Produce Market.

Project update

AUSVEG SA has established a Production Advisory Group of agronomists and researchers to help guide its production-related extension activities for the coming year (trial site development, workshops, training etc). As part of this program, there are plans to establish a trial site in the state, conduct practice change trials and hold periodic farm walks and workshops over the coming years.

In the recent Regional Extension Advisory Group meeting, AUSVEG SA provided an overview of planned activities for VegNET SA for the coming year, focusing on the priority areas of Business Development, New Product and Market Development and Salinity Issues. There were several key discussions around the proposed workplan for the coming year, which included opportunities investigation for SA growers to access apprenticeships and other support available from the Department of Innovation and Skills for traineeships.

Waste in-focus at workshop

On 1 April, VegNET SA worked with AUSVEG SA to hold a workshop entitled *Advanced Waste Management in Vegetable Production*.

Held at the South Australian Produce Market, the workshop achieved a strong attendance of 30 industry members. Overall, the event received positive feedback with attendees rating the

content and delivery as good to excellent.

There was also a substantial increase in knowledge for attendees in waste management in vegetable production. Some of the attendees intended to make practice changes as a result of the day including adoption of compostable packaging options.

VegNET SA support for growers

VegNET SA is investigating some gross margin tool resources available to the industry, and ways to extend this to the industry either via a future workshop or the development of resources for communication with the industry. It will continue to work to advance the interests of our industry in 2021 and looks forward to working with growers to deliver results in the coming season.

Find out more R&D

Please contact AUSVEG SA CEO Jordan Brooke-Barnett on 0404 772 308 or at jordan.brooke-barnett@ausveg.com.au or VegNET – South Australia RDO Yanyu Liang on 0432 742 896 or at yanyu.liang@ausveg.com.au.

VegNET – South Australia is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Quick chat with Marlon Motlop

Works at: **Native Co.**

Marlon Motlop works with a company called the Native Co., which specialises in native herbs and native plants. Previously, Marlon played with the Port Adelaide Football Club in the Australian Football League (AFL). He is also heavily involved in the music industry as also a singer, songwriter and musician. Marlon speaks to VegNET – SA Regional Development Officer Yanyu Liang about his role in the horticulture industry.

Can you please give me a brief overview of your business and the produce that you grow?

We specialise in premium native herbs. We grow and sell up to 16 different species of native herbs in the Adelaide region as well as around South Australia and interstate.

What challenges do you face as a vegetable grower?

Primarily, the challenges that we are facing is that the native herbs are quite new. As it's a new market, the herbs are unfamiliar to the general public. So, we've got the challenge of not only growing and selling them but also educating the public on how to use the native products within their everyday meal.

How do you manage these challenges, or try to overcome them?

We are distributing our products into restaurants and getting the customers to sit down and experience the natives in meals. Hopefully, we market that through the restaurant well enough for the public. Eventually, we hope it would be one of the condiments that Australian people can use in their homes every day.

We understand the marketing and branding of all these products is not easy, but we are consistently trying to figure out ways on how we can showcase the native product to the general public. I also want to do a bit of advertising about Native Co. at the upcoming Hort SA Conference. I am interested to showcase our products at the event on 18 May, and let people know about their value.

What can you be found doing when you are not working on the farm?

I enjoy playing football. I played for Port Adelaide in the AFL for five years, and I've played in the South Australian National Football League (SANFL) for the last eight years. I'm also a singer, songwriter and musician.



Marlon Motlop.



Harvest Trail
INFORMATION SERVICE

AN AUSTRALIAN GOVERNMENT INITIATIVE

Looking for workers?
We can help.

1800 062 332

www.harvesttrail.gov.au





Filming at Hussey & Co's Newry farm for the 'This is my job' series.

A hive of activity in Victoria's Gippsland region

The first half of 2021 has brought sweet relief to the VegNET – Gippsland project and Regional Development Officer Bonnie Dawson as growers and industry members have been able to reacquaint themselves with each other in person. In this column, Bonnie provides an update on recent activities in the Gippsland region.

On-farm biosecurity

In February, Gippsland played host to Callum Fletcher and Zarmeen Hassan from AUSVEG. Their visit presented an opportunity to bring growers, agronomists and industry representatives together for an open discussion and to share insights regarding recent pest incursions and threats, particularly that of fall armyworm.

The informal nature of the meeting provided an opportunity for three-way information exchange – an overview of current knowledge and resources from AUSVEG Biosecurity Coordinator Callum, updates 'from the field' courtesy of the agronomists and growers in the room, and sharing of tips and knowledge between them. This was a worthwhile gathering, and there is enthusiasm for further similar occasions to be organised. If you want to make sure your operation is represented in these discussions, please contact myself (details can be found on the next page).

Going forward, Callum and myself will be supporting growers to develop or update on-farm biosecurity plans to minimise the ongoing threat of incursions of pests, weeds and disease foreign to the

region or property. Support is available for growers who have acknowledged their need for these plans but have yet to get them done.

Protecting waterways

AUSVEG EnviroVeg Coordinator Danielle Park spent a week in Gippsland in March and visited 10 different growing operations. Each of these growers indicated they will be completing EnviroVeg self-assessments online this year. Having this many growers in the region responding to the self-assessment will enable a regional profile to be drawn that identifies Gippsland's strengths, and identifies any gaps for targeted extension activities going forward.

By the time this issue has gone to print, Schreurs & Sons will have played host to a farm walk at their Middle Tarwin property. Schreurs & Sons have implemented a number of features on their new farm and adopted practices that increase the efficiency of their nutrient use, as well as protect the surrounding environment from any potential off-site impacts.

Silt traps, plantings of native grasses and shrubs which integrate into the property's wetlands and recycling of irrigation runoff and therefore nutrients all minimise the impact of nutrients being exported off-farm and impacting the natural environment. The growers also heard from a representative of the West Gippsland Catchment Management Authority, who shared their perspective on the effectiveness of Schreurs & Sons' efforts.

From an industry perspective, it is hoped that this engagement with the CMA, other authorities and the broader community will improve their understanding and perception of the industry's impact on the local environment.

Growers were also invited to share ideas on how the industry can better engage with the local community and authorities to improve their understanding of on-farm practices.

Workforce development

Collaboration between VegNET and Food & Fibre Gippsland's Employment Program has enabled filming and production of a series of videos that showcase the breadth of career opportunities in the local industry.

Four vegetable growing businesses have been featured – Bulmer Farms, Flavorite, Schreurs & Sons and Hussey & Co – with a total of 26 videos and different roles being produced. These videos have already received a positive response over social media and will also be shared through other avenues, including with local schools and careers teachers, employment agencies, Local Learning and Employment Networks (LLENs), neighbourhood houses and government agencies.

Mulgowie Farms in Maffra hosted a farm tour and information session for community members who are from culturally and linguistically diverse backgrounds (CALD). This was organised by Agriculture Victoria.

Following the farm visit, lunch was provided at the Valencia Creek hall, where a collection of other local organisations were available to share insights into the local community and information about available resources to support integration into the industry and community.

Despite being held at the tail end of the season, all involved felt that this event is a worthwhile model to pursue over the coming year to increase engagement with a potential, readily available local workforce.



Kim Martin.

Quick chat with Kim Martin

Works at: **Frai Farms**

Frai Farms is a small Victorian vegetable growing, packing and marketing business. It has three properties, one of which is an organic system. Based in Lindenow, East Gippsland, the growing operation produces salad lines and brassica varieties, including kale, baby broccoli and baby cabbage. In this column, VegNET – Gippsland Regional Development Officer Bonnie Dawson chats to Kim Martin, owner of Frai Farms. Kim established the business in 2008.

How did you become involved in the vegetable industry, and how did you get to where you are today?

Our family has always farmed going back generation. I went to an agriculture college – Glenormiston in western Victoria – and landed in the processing vegetable industry. My first job was working at Gardenland Frozen Foods in their agricultural team. Gardenland was a frozen food business that processed vegetables from the Lindenow Valley and beyond. I then moved on to work for VegCo (now OneHarvest). While in this role, I spent time researching the industry and products in France. I established Frai Farms in 2008, as I wanted to have more control over my own destiny. I also worked for the Costa Group prior to Frai Farms and gained some very valuable experience in marketing fresh produce.

What is your proudest achievement as a vegetable grower?

My time overseas resulted in being the first to commercialise a number of new varieties and genetics in Australia, including Mache Rosettes in 2009. I also introduced a leading baby broccoli variety that was earmarked for the United Kingdom only, but I convinced the genetics business that Australia was a viable market for the product.

What do you enjoy most about being involved in the vegetable industry?

The vegetable industry is such a fast-moving business. Results from decisions become evident very quickly, as crops turn around extremely fast – particularly in the fresh produce industry, where you need to be in touch with where the consumer market is at the time to be growing what is selling at that time (unlike the frozen market).

What new innovations, research and/or practices has your business implemented recently?

We've recently adopted micro-filtered drip irrigation for most of our production across all of our farms. The fertigating filter controls the pressure and filters organic matter (for example, stones)

out of the water to prevent blockages. As a result, we've become much more efficient with our water use, and can now water during any weather conditions regardless of wind.

In terms of research and development, what do you think is vital to the vegetable industry right now?

I think investment in mechanisation innovations needs to be prioritised, as there are great challenges attracting willing and suitable labour. Not just mechanisation of crop material handling (planting and harvesting), but also other elements of the production system such as opportunities to mechanise pest control and minimise chemical use, while also decreasing reliance on labour to suit changing roles.

Find out more

Please contact VegNET – Gippsland Regional Development Officer Bonnie Dawson from Food and Fibre Gippsland on 0407 683 938 or email bonnie.dawson@foodandfibregippsland.com.au.

VegNET – Gippsland is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19001



Flood recovery journey continues for New South Wales' veg growers

Earlier this year, parts of New South Wales and south-east Queensland experienced the worst flooding seen in decades. Vegetable growers – particularly those in Greater Sydney – were greatly affected, losing millions of dollars in crops and infrastructure. In this column, VegNET – New South Wales Regional Development Officer Sylvia Jelinek discusses the flood impact and how the VegNET project is helping growers through the recovery process.

The Hawkesbury-Nepean River is one of the biggest river catchments east of the Great Dividing Range and is renowned for its risk of flooding. The Nepean River represents the upper half of the river system with the Hawkesbury below. Deerubbin is the Aboriginal name for the Hawkesbury-Nepean River, which is believed to mean wide and deep water.

The river is a reliable source of irrigation for many Greater Sydney agricultural industries, including the vegetable market. The recent flooding emergency is the worst seen in more than 30 years. Prior to

that, like many places in Australia, Greater Sydney endured a 10-year drought that culminated with the worst fire season seen in generations. The drought finally broke in February 2020 and was followed by regular rain resulting in the significantly saturated catchment.

In late March, two major weather systems collided over the east coast creating a slow-moving low-pressure trough, which started in south-east Queensland and gradually moved south. Vegetable growers on the New South Wales north coast and in Greater Sydney experienced major storm damage and flash flooding.

The Hawkesbury Valley is a major turf growing area, but there is a significant vegetable growing industry which includes brassicas, lettuce, Asian vegetables, sweet corn and pumpkin production. Growers in South Creek and Kemps Creek were also impacted, with crops destroyed from sustained heavy rain and water logging. The estimated cost to the vegetable industry in the Greater Sydney region is \$19 million in crop loss and infrastructure damage.

Grower impact

Long-time resident and vegetable grower Mario Muscat has lived through several floods in the Hawkesbury Valley.



Dead capsicum trial (crop) was underwater for a few days at 'River Farm'.

"This one rose faster than any I have seen before, catching many growers unaware. The new generation has never experienced a flood before and were under prepared," Mario said.

Growers usually have time to bring machinery to higher ground, but roads were very quickly cut off as water backed up into lagoons from the overflow of the river.

They had not long planted their winter crops of brassicas, which were destroyed in the flood waters. The window for replanting a winter crop in the Hawkesbury region has been lost due. Any summer heat absorbed by the soil – that gives winter plantings a head start – was also quickly lost due to the cold flood waters.

Clubroot is endemic in the Hawkesbury Valley and growers have learnt to manage the disease; however, spores of the pathogen are carried in flood waters and have potential spread to new growing areas.

Another hazard that vegetable growers need to be aware of is biological contaminants in the flood waters. Getting a soil test is a good way to determine the full impact of the flood waters on crops.

The VegNET – NSW team is playing a key role in the flood recovery process. It is providing information and advice for growers and can give advice on flood recovery, best practice management, soil testing for contaminants, plant pest and diseases and food safety.

Flood assistance resources for affected regions

Further information and flood assistance is available online through a range of channels.

- Special Disaster Grants – Storms & Floods: raa.nsw.gov.au/disaster-assistance/special-disaster-grants-floods
- Natural disaster recovery assistance for primary producers: dpi.nsw.gov.au/climate-and-emergencies/emergency/community/after-an-emergency/natural-disaster-recovery-assistance
- Recovery centres and hubs: service.nsw.gov.au/floods/recovery-centres-and-hubs
- NSW Storms and Floods – 10 March 2021: disasterassist.gov.au/Pages/disasters/current-disasters/New-South-Wales/storms-floods-10-March-2021-onwards.aspx
- Disasters and emergencies: salvationarmy.org.au/need-help/disasters-and-emergencies/
- Hawkesbury City Council: hawkesbury.nsw.gov.au/

Find out more R&D

Please contact VegNET – NSW Regional Development Officer Sylvia Jelinek from Greater Sydney Local Land Services on 0427 086 724 or sylvia.jelinek@lls.nsw.gov.au, or Matthew Plunkett on 0428 978 390 or matthew.plunkett@lls.nsw.gov.au.

VegNET – New South Wales is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19011

Hort Innovation | **VEGETABLE FUND**
Strategic levy investment



The dam wall is prepared for native vegetation plantings at AAA Farms. Image courtesy of Dimi Kyriakou.

Bring on the good bugs: Native vegetation insectaries trial underway

After 18 months in the making, a trial of native vegetation insectaries kicked off in April this year at two vegetable farms in Werribee South. This is a focus area of the VegNET Victoria Phase 2 project, and the trial will aim to test and showcase the multiple benefits that native vegetation insectaries can provide to vegetable growers. VegNET – Victoria Regional Development Officer Dimi Kyriakou explains more.

On-farm insectaries are areas of flowering plants that attract and maintain beneficial insect populations by providing them with a source of shelter and alternative food sources, particularly pollen and nectar.

The goal of on-farm insectaries is to enhance the diversity and abundance of beneficial insects on a farm to build resilience, particularly against seasonal variations and pest incursions. Acting as a 'fixed home address' for beneficial insects to interact with a nearby vegetable crop, they complement cultural and biological control methods of an integrated pest management (IPM) program.

There are many advantages of planting native vegetation compared with non-native vegetation. This includes a reduced likelihood of harbouring pests and diseases that can affect crops; longer flowering windows; lower maintenance and water requirements; and increased habitat and connectivity that better support native biodiversity, including

native beneficial insects.

Planting an insectary of flowering native vegetation for beneficial insects is a simple farm practice that can be achieved at a relatively low cost and without affecting existing production.

Werribee South trial in focus

Vegetable growers Anthony Mason at Mason Fresh Produce and Jason Agosta at AAA Farms are working with Karen Thomas at the Port Philip and Westernport Catchment Management Authority (PPWCMA) to trial native vegetation insectaries in Werribee South. Since April, they have been hosting a diverse range of native vegetation plantings on dam walls and small test strips along drainage channels to encourage beneficial insects into the area.

This will not only encourage natural predators to attack pests in the nearby vegetable crops, but it will also improve some of the most under-utilised areas on the farms. The plants can potentially increase the integrity of the dam walls by helping to prevent erosion, act as a wind buffer in thoroughfares and filter runoff to reduce sediment and nutrients from entering waterways.

This trial was driven by an industry event around two years ago where growers were updated on a strategy levy investment under the Hort Innovation Vegetable Fund, *Field and landscape management to support beneficial arthropods for IPM on vegetable farms* (VG16062). The PPWCMA was invited to present at the grower meeting regarding trials on several horticulture farms in the Yarra Valley using indigenous native plants.

From this presentation, growers showed interest in testing out a similar concept that would suit vegetable farms in the Werribee South district and complement their existing IPM efforts. There was a win-win outcome involving the PPWCMA as the insectaries benefit growers' production systems and the environment.



Dichondra (kidney weed) ready for planting. Image courtesy of Dimi Kyriakou.



Planting native vegetation at Mason Fresh Produce. Image courtesy of Karen Thomas, PPWCMA.



Before

Before and after: The trial site at Mason Fresh Produce before and after weeding and planting. Images courtesy of Fais Yakat.



After

Western Crew Teams
Environmental-Agriculture
PPWCMA

Choosing the native plants

Insectaries are not necessarily regular 'native plantings'; there are much more complex interactions that occur which should be considered when planting an insectary, including species selection.

The native plants chosen for the Werribee South trial have a variety of flower structures which will support a diverse range of beneficial insects by providing habitat and nectar. It is expected that the flowering plants will attract ladybirds, lacewings, parasitic wasps and hover flies, all of which are extremely beneficial for seeking out pests such as

aphids and caterpillars in vegetable crops.

The plants used were a mixture of shrubs such as:

- *Leptospermum* (tea tree), a known nectar plant for beneficial insects
- *Myoporum* (boobialla)
- *Correa*
- *Australoma* (cranberry heath)
- *Brachyscome* (basalt daisy)
- *Acacia* (heath wattle) and
- *Dianella* (flax lilly).

Shallow rooted groundcovers included:

- *Carpobrotus* (pigface) and
- *Dichondra* (kidney weed).

A full plant list is available at ppwcma.vic.gov.au/wp-content/uploads/2021/04/

New RDO for Victoria: Dimi Kyriakou

Earlier this year, I took on the VegNET Victoria Regional Development Officer (RDO) role from Hugh Wardle. I am based in Melbourne but grew up in Yarrowonga in north-east Victoria, where my family ran a fruit shop for 43 years.

My background is in journalism where I have written and edited technical magazines for the construction industry and business publications. Some of you might remember me from my time at AUSVEG where I edited *Vegetables Australia* and *Potatoes*

Australia magazines.

I joined RMCG in March 2020 and am looking forward to continuing the good work of VegNET so far.

Over the last few weeks I have been able to visit growers in our northern, western and south-eastern regions, and catch up with others at industry events. Please feel free to contact me on 0488 124 626 or dimik@rmcg.com.au to chat about any issues you may have on-farm and I will do my best to link you with R&D that could help to make your business more productive and profitable.

Q&A with Jake Shadbolt

Works at:
Scotties Point Farms

Jake Shadbolt is a third-generation vegetable grower based in Beverford near Swan Hill in northern Victoria. He currently manages the business, Scotties Point Farms, alongside his father Peter and brother Ryan.

Scotties Point Farms was started by Jake's grandfather in the 1960s and currently produces pumpkin, beetroot, broccoli and onion.

What challenges do you face as a vegetable grower?

Having young, passionate people who are eager and interested in

Werribee-South-Insectary-Plant-List.pdf. As the trial is in its early stages, we'll keep growers and industry members updated on its progress over the coming months on how well the plants establish and the benefits and lessons for the future. In the meantime, this fact sheet shares more information on the benefits of native vegetation insectaries: ausveg.vic.com.au/wp-content/uploads/2019/10/Native-Veg-Insectary-Fact-Sheet_Oct-2019_v4-5.pdf.

Find out more R&D

Please contact VegNET – Victoria Regional Development Officer Dimi Kyriakou on 0488 124 626 or email dimik@rmcg.com.au.

More information on farm biodiversity can be found at ppwcma.vic.gov.au/what-we-do/sustainable-agriculture/farm-biodiversity.

VegNET – Victoria (South-East, West and Northern Regions) is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19012

Hort Innovation | **VEGETABLE FUND**
Strategic levy investment

working on a farm to join the business in a permanent role. I am passionate about getting people involved in the horticulture industry, and love to show others what I do in the hope of sparking interest for other people that may lead to a career as a grower.

How do you manage these challenges, or try to overcome them?

A lot of our family is involved in the business, including my cousins. We have also gotten involved in some good industry initiatives such as Alice Zaslavsky's *Hort Heroes* videos through the Phenomenom program, which aims to educate kids about how food is grown. It shows how young people can make a career in the vegetable industry and the work opportunities that are available. It's a very rewarding business and job. I have recently started making a few farming vlogs shared on social media and YouTube in the hope of showing what I get up to from day-to-day.

What new innovations, research and/or practices has your business implemented recently?

We've trialled strip tilling to decrease passes through the paddock, reduce the amount of fuel and labour and help productivity in the soil. It still needs some fine tuning, but we're confident that we're across the basics.

How do you maintain your disease resistance and ongoing sustainability of the farm?

We use crop rotations because of our land availability. We have also trialled cover cropping, which we've stripped for seed and cut for hay to cover the soil over summer. We also have a brilliant agronomist who we work closely with monitoring soil and plant health throughout the growth phases.



In terms of research and development, what do you think is vital to the vegetable industry right now?

Fine tuning some of the technologies that are available. We recently automated our irrigation, which has helped us to water more efficiently and reduce man hours. In the past we would be waking up every few hours during the night to change shifts of water, but now operating from the computer we can set the whole watering schedule and get some great sleep.



INDUSTRIAL RUBBER AND POLYURETHANE MANUFACTURER

Our family owned business was established in 1975, specializing in engineering grade rubber and polyurethane.

We have extensive experience in the agriculture, mining and food processing sectors. All of our products are made in Australia from the finest quality polymers and thoroughly tested for performance and durability.

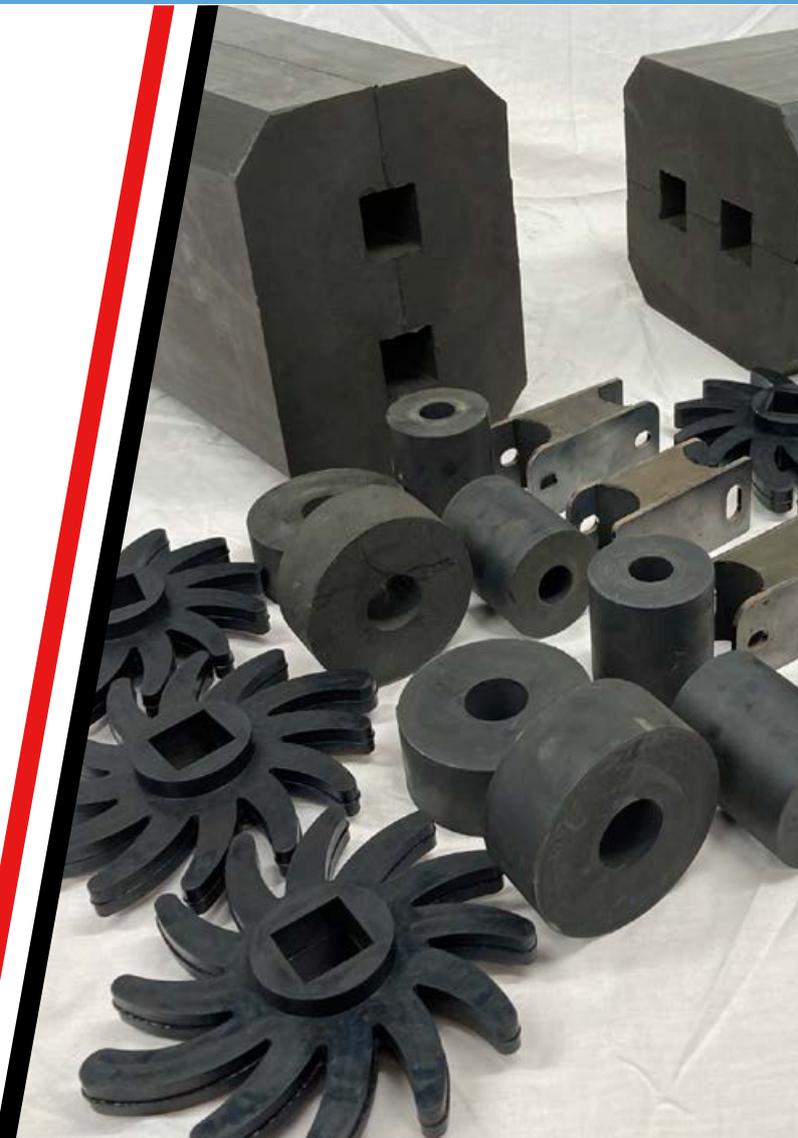
We have an extensive range of existing products and are able to assist with designing and prototyping new products.

Please contact us for any polymer products to meet your agricultural needs.



CONTACT AUSTRALIAN TECHNICAL RUBBER

sales@australiantechnicalrubber.com.au
(08) 8359 6655
www.australiantechnicalrubber.com
4 Duncan Road, Dry Creek SA 5094





Top End welcomes Irrigation Efficiency Masterclass and Field Days



In February, VegNET RDO Simone Cameron and her Western Australian counterpart, Truyen Vo, visited Vu Farm Produce in the Carabooda area north of Perth. The theme of Simone's visit was understanding water efficiencies and capacities across industry and jurisdictions, as well as developing networking opportunities.

Regional growers in Darwin and Katherine gathered in March to attend an Irrigation Efficiency Masterclass, which was conducted by Irrigation Australia and jointly hosted by the Australian Mangoes Industry Association, Northern Territory Farmers Association and the Northern Territory Department of Industry, Tourism and Trade (DITT). VegNET – Northern Territory Regional Development Officer Simone Cameron provides an overview of the event.

Held over two separate days, the Irrigation Efficiency Masterclass and Field Days attracted over 87 attendees and showcased over 20 industry trade exhibitors. The field days were an opportunity for Northern Territory producers and industry to be brought up to speed on the latest in irrigation technologies and how growers can improve on water efficiency practices, maximise crop yields and productivity, resulting in saving money and seasonal water consumption.

The Darwin Field Day was held at Arnhem Mangoes in Lambells Lagoon. The second was in Katherine and took place at the Godinymayin Yijard Rivers Arts and Culture Centre. This day included a field visit to the Katherine Research Station (KRS).

Paul Willmott from Irrigation Australia conducted the training for the field day events. He covered a jam-packed agenda including:

- Basic irrigation scheduling.
- Determining irrigation water requirements.
- Basic troubleshooting.
- System maintenance strategies.

In-field monitoring techniques were conducted in orchards at both Arnhem Mangoes and at KRS. These measured water distribution uniformity, line pressure, flow rates and assessments on soil texture were demonstrated.

Australian Mango Industry Association NT/ Western Australia Industry Development Officer Sarah Hain, NT Farmers Association Water Industry Development Officer Di Renfree and Rowena Eastick from the Territory Natural Resources Management, provided a snapshot of the various water use efficiency projects currently underway to engage growers in understanding how to be more efficient with their water.

The organisers received positive feedback from attendees and exhibitors alike. The exhibitor attendees were impressed with a huge amount of information given to the growers who attended the two days.

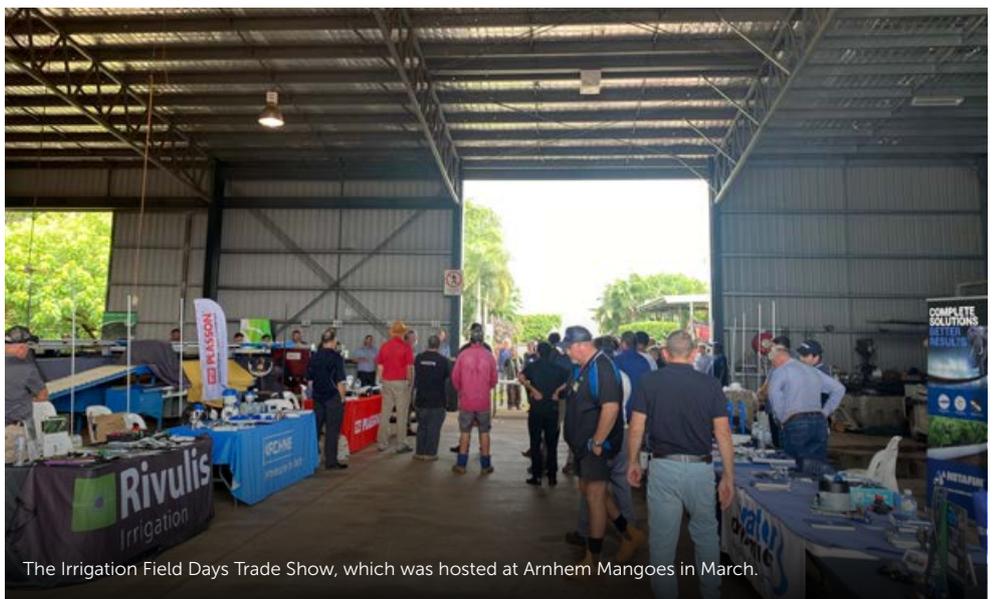
“Paul Willmott was very knowledgeable and tailored the delivery of the masterclass presentation and in field demonstration in

a manner that was insightful, valuable and relevant to NT production systems,” one attendee commented.

Attendees and organisers were grateful for the efforts of the exhibitors to travel to the Northern Territory. They provided valuable product displays and expertise for the latest equipment and technological systems, while conducting farm visits in between field days.

Alignment with ‘Modern Water Efficiencies’

Over 80 per cent of NT vegetable growers surveyed recently do not have established sets of water efficiency measures and are unaware of total seasonal volumes of water used on crops grown. Businesses –



The Irrigation Field Days Trade Show, which was hosted at Arnhem Mangoes in March.

both corporate and small family-operated – are the main drivers behind negating the understanding and implementing water efficiency practices to enable long term sustainability of this environmental resource. They played a large role in the aforementioned field days.

While the corporate entities generally prioritise water as part of their production system and can monitor and afford to upgrade systems as required, many of our smaller land holders and producers do not necessarily have the financial capacity to do this. They can then find themselves in the situation of using old systems that are inefficient and limit productivity.

A five-year project is being undertaken to improve grower uptake of water efficiency practices and adoption on new technologies. The target is 50 per cent, which will be measured through the replacement of old technologies,

engagement in workshopping to improve current methodologies used and educating growers on the values and importance of correct and adequate water usage. Events such as the Irrigation Efficiency Masterclass are a key pathway to seeing this cultural practice change and are the first steps to implementing the project.

Irrigation Australia is offering further extension opportunities for growers and affiliated industries through online virtual pathways focusing on water efficiencies and irrigation pumps and systems. This short course is designed for those who are looking to install and upgrade existing on-farm irrigation systems. It is a great initiative for our northern growers and provides further momentum for the implementation of the 2020-2025 VegNET Regional Extension Plan.

Find out more R&D

Please contact Simone Cameron at bio@antfarmers.org.au.

For more details about Irrigation Australia's activities in the Northern Territory, please contact Irrigation Australia National Membership & Regions Manager Tracy Martin on (08) 6263 7774 or at tracy.martin@irrigation.org.au.

VegNET – Northern Territory is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19017



Organic Ag flourishing in the Top End

Works at: **Organic Ag**

Bluey Stoldt and Mike Scott are the backbone behind Organic Ag, an organic fruit and vegetable farm and local community retailer based in Darwin.

VegNET – Northern Territory Regional Development Officer Simone Cameron spoke to the pair about their involvement in the horticulture industry, the challenges it presents and what lies ahead for the business.

Please give a brief overview of your business/farm and the produce that you grow?

Formed in 2017, Organic Ag is a 33-hectare organic farm located at Middle Point in the Darwin rural area.

We are entering our fourth year of production at the farm where we produce upwards of 25 different seasonal crops to ensure we provide a great variety of

fresh fruit and vegetables every week. This produce includes melons, salad and herb crops, cucumbers, zucchini, various root crops, tomatoes, eggplant, corn, onions plus other seasonal crops.

Our growing season is restricted to the months of May-October. During our dedicated dry season months, we have introduced other certified organic farm produce – direct produce from like-minded interstate growers who provide us and our valuable customers with the best seasonal organic products on the market all-year round. Through this model, Organic Ag has become more than just a local organic farm – it is now a farm direct organic retailer to across the local community.

How did you become involved in the vegetable industry?

We have been involved in the horticulture industry for many years. It is from the wet/dry tropics where we have drawn most of our experience from, including Darwin



Mike Scott and Bluey Stoldt from Organic Ag.

and Kununurra in Western Australia. Over the years, we have seen the increasing challenges of declining soil health and a strong industry focus on factory farming models or rather large scale commercial conventional enterprises. We believe that chemical dependency in tropical agriculture is out of control and the efficacy of this conventional approach continues to decline.

For us, there is no other way other than organic. We decided to take on the challenge to see if there is another option for industry and to bring some joy back



to horticultural production and in turn, bring back this joy to our customers. Our passion is soil health, community health, personal health and giving our customers the best product in Australia.

What challenges do you face as a vegetable grower? How do you meet these challenges or try to overcome them?

The increasing effects of climate change in the tropical north and the intense build-up of insects in our crops are always a challenge. Therefore, we focus on biodiversity and improving our soil through natural fertilisers, cover crops, compost and no tillage is so vital to our farm and business moving forward. Healthy soil provides us with the best defence system to combat these challenging environmental and climatic conditions.

Our extremely short dry season provides us with very favourable conditions to grow our crops. But it is short (May-October) and is preceded by a wet season that has become increasingly unpredictable, and a build-up that is getting hotter and hotter every year. Understanding the seasons and how to best manage our crops within these parameters is something we are learning every year.

What new innovations, research and or practices has your business implemented recently?

We have been looking to farm in an alternate way. We are familiar and conditioned to using large tractors, big instruments and other technologies to become more efficient. We have chosen instead to grow smaller areas, a broad range of crops and staggered seasonal plantings. The question has been, "how do we become efficient in this scaled-down model?" And in doing so, we are getting back to using push planters, push weeders and harvesters. This has been extremely fun and rewarding.

Within the business itself, we have moved a lot of our sales to a door-to-door online delivery service. We dovetail this with a delivery app that plots out our

best route for the driver.

Innovation and improvements in that part of the business has been a must. It is something we are extremely proud of as our previous experience in this area was next to none. We are ultimately driving the paddock to plate model here in the Top End.

What do you think is vital for the vegetable industry right now?

The vegetable industry in the tropics has to focus on building our soil health and increasing biodiversity of crops that are grown. We also understand that biosecurity and biodiversity play a huge role in the farming industry and need to be balanced together. There needs to be more learning around how to grow crops with a significant focus on sustainable, local and self-sufficient crop production.

What is your proudest achievement as a vegetable grower?

Right now, the last three years has been the hardest but our proudest achievement. Making the decision to step off the cliff face and 'buck the norm' to grow organic produce in Darwin was a huge unknown. One that initially drew comments of concern, yet here we are doing it and doing it successfully.

We are achieving outside of what is considered the 'conventional' approach, and that is something we are immensely proud of. To be able to provide our local community with clean, healthy, fresh produce is most rewarding. There is a genuine respect, appreciation and dedication from our customers that we do what we do. More consumers are chasing that 'story' of where their food comes from.

Do you have future plans for the farm and what may that look like?

We will build a sustainable farming system that other people can learn from and then replicate. We need more organic farmers in the area to help us build the industry and



to make a real difference.

The need to engage our community in food production – and eating and living better – is something that we see as our responsibility. We must get the public engaged in farming. For too long, the farm gates around the world have been locked shut to the public. And we ask these growers, "what have you got to hide?". On-farm field days, school presentations, paddock to plate events, composting and gardening seminars – so our community can learn from us – is just the beginning.

A co-operative of farmers in the Top End focusing on quality, education and a strong local commitment would be such a powerful partnership.

We would love to collect waste from local food outlets, so we can recycle and reuse waste through composting and feeding the crops sustainably. Growing the food, supplying the community, collecting the waste, recycling the waste, reusing this waste, re-energising the soil growing new crops and start all over again – this is what we call farming. Nothing is more satisfying and rewarding.



Tackling the big issues facing growers across Wide Bay-Burnett

VegNET – Wide Bay-Burnett Regional Development Officer (RDO) and Bundaberg Fruit and Vegetable Growers Managing Director, Bree Grima, is continuing to engage with growers across the region through meetings, workshops and producing tailored information that meets their needs. Meanwhile, biosecurity remains a pressing issue for the region as producers deal with fall armyworm and fruit fly incursions. *Vegetables Australia* provides an update.

'Essential' is an adjective meaning absolutely necessary or extremely important. The term essential has taken on a new role in the COVID-19 context. While there is no accordingly clear definition for essential services, horticulture was recognised early on the pandemic as one. From truck drivers and pickers to packers and extension officers, we all play a vital role in supporting the industry. The community can be confident horticulture has, and will, continue to provide food products and services during these

challenging times.

Given business has not stopped for horticulture, it is important we support our producers now more than ever and VegNET – Wide Bay-Burnett Regional Development Officer (RDO) Bree Grima has continued to do just that; meeting with growers one-on-one and progressing workshops, forums, and delivering tailored information to support the region's specific needs with the flexibility that restrictions demand.

Biosecurity in the spotlight

The topic of biosecurity is dominating the region's discussions as fall armyworm and fruit fly continue to have a heavy impact on vegetable production. In response to this, an agronomists group breakfast was delivered to cover topics including fall armyworm, serpentine leaf miner, market access and cucumber green mottle mosaic virus. In addition, there were also regional activity updates.

As VegNET – Wide Bay Burnett RDO, Bree also coordinated an Authorised Inspection Person Training Course for melon thrips to support vegetable producers that are required to meet this specification. This is the second time this training has been provided, and the 10 participating businesses ranked the



Growers from across the Wide Bay-Burnett region attended the AgForum event.

day as informative and practical. A third biosecurity-themed extension activity was delivered in the southern part of the Wide Bay region to further support producers in that area and included guest presenters from AUSVEG, Growcom and private pest monitoring agribusinesses.

Finally, Bree will be attending Hort Connections 2021 in June, and she looks forward to connecting with industry members over the course of the three-day event.

Find out more R&D

Please contact Bree Grima at bree.grima@bfvg.com.au or phone the BFVG office on 07 4153 3007.

VegNET – Wide Bay-Burnett is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19009

**Hort
Innovation**
Strategic levy investment

**VEGETABLE
FUND**

AgForum success for region

Primary producers, agribusinesses and agricultural stakeholders came together on 30 April for AgForum, an annual event designed to bring industry together to discuss the most pertinent topics for the Wide Bay-Burnett region. With last year's forum cancelled due to COVID-19 restrictions, patrons were keen to attend the event.

Headlining AgForum was a keynote address on export opportunities and megatrends in international markets by Trade and Investment Commissioners from Indonesia and Hong Kong. Following this was an impressive line-up of speakers and

panellists covering several topics currently affecting agriculture, including presentations on ag-tech, water innovation, best management practice for horticulture and how to become certified, and the Wide Bay-Burnett Ag Strategy.

VegNET – Wide Bay Burnett Regional Development Officer Bree Grima facilitated a panel session with two local vegetable growers, Damien Botha from Greensill Farming and Tom Redfern from Eden Farms, along with two industry experts to discuss workforce challenges, employment law and strategies that growers are using to get through these

challenging times.

Following the AgForum, growers were then provided with free entry and a lunch voucher to be used at Agrotrend – the local two-day agricultural event coordinated by Bundaberg Rotary. VegNET Wide Bay-Burnett had a stand at Agrotrend, along with several ag-tech companies to showcase the latest R&D and products available to producers to increase their productivity and profitability. It has been great to see producers and industry back out enjoying events such as these, and we look forward to continuing to connect with growers.



The Novag T-force direct drill in action at the Ag Innovation Expo.

VegNET – Tasmania: Update from the Apple Isle

In this column, VegNET Regional Development Officer Ossie Lang discusses the latest events that have taken place in the Tasmanian vegetable industry. These events focused on pests and diseases along with the importance of biosecurity and managing incursions. Meanwhile, the Tasmanian Agricultural Productivity Group hosted its annual expo showcasing the latest in ag-tech.

Summer is a busy period for growers in Tasmania, so during autumn (towards the end of the harvest season) we have been getting out and about, conducting farm visits and various events.

The 2020/21 growing season was a bit of a mixed bag, with cooler conditions earlier in summer slowing the maturity in some crops. However, a warmer finish meant that harvest progressed well. Like other areas, Tasmanian growers have lost crops due to labour shortages. We are continuing to encourage growers to report these through to the National Lost Crop Register to ensure this information can be used in future discussions at both state and federal level.

Pest focus

We were lucky to have AUSVEG Biosecurity Coordinator Callum Fletcher visit the state in February 2021, where he met with growers and advisors to speak about current mainland pest incursions and the risks that they pose to the Tasmanian vegetable industry.

Callum presented detailed information

about fall armyworm, serpentine leaf miner and tomato-potato psyllid. Hearing first-hand about the impact these pests can have from someone who has visited impacted growing regions drove home the seriousness of these pest threats. His practical information on the biology of these pests, and what to look for when monitoring, was invaluable. We also had a short presentation from Biosecurity Tasmania about the new General Biosecurity Duty.

In early February 2021, I participated in Biosecurity Tasmania and Plant Health Australia's Industry Liaison Officer training, along with representatives from a number of Tasmanian horticultural industries. Here, we gained further insight on how an incursion is managed.

This training session also provided an important dialogue point for industry to work closely with Biosecurity Tasmania to ensure industry needs are represented when an incursion response is in progress. The industry representation from this training will also be a key point of contact for Biosecurity Tasmania at other times, and will be an important element of ensuring open and clear communication between Biosecurity Tasmania and industry.

Latest innovation on-show

The Tasmanian Agricultural Productivity Group hosted its annual expo at the Hagley Farm School on 14 April. Renamed the 'Ag Innovation Expo', the day was an important chance for growers and industry to see what technology was on the horizon, and how all can move towards implementing this technology on-farm.

Soil health was an underlying theme of the expo, with many of the technologies and techniques on display focusing on

crop improvement. While there was a huge range of things to see on the day, I want to highlight a couple of key displays.

Firstly, the cover crop demonstration plot. This plot was a simple demonstration of available cover crops and mixers. It also highlighted the diverse benefits that can be achieved from cover cropping.

Secondly knowing what you are seeking to achieve from the cover crop is a key point in determining the cover crop selection, and ultimately the success of cover-cropping in your enterprise. The autumn 2021 edition of *Vegetables Australia* published a profile about this demonstration plot and some excellent cover cropping resources.

The other highlight was the Novag T-force drill. This is an inverted T drill for direct drilling in a range of situations. This is the drill currently being used by Nick Eyles, who was featured in the summer 2020/21 edition of *Vegetables Australia*. Direct drilling peas has not only improved soil health on the Eyles' property, but also reduced herbicide requirements. The cost savings from the one pass drill plus reduced chemical costs have stacked up to be an equivalent of an additional two tons per hectare in additional yield.

Find out more R&D

Please contact Ossie Lang on ossiel@armcg.com.au or 0430 380 414.

Follow us on social media: Facebook: @VegNET_Tas and Twitter: @VegNET_Tas.

VegNET – Tasmania is a strategic levy investment under the Hort Innovation Vegetable Fund.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number: VG19014



Rob Arvier.

Q&A with Rob Arvier

Works at: **West Pine Ag**

Rob Arvier is Director at West Pine Ag, a mixed farming enterprise based near Penguin on Tasmania's north-west coast. VegNET – Tasmania Regional Development Officer Ossie Lang sat down with Rob to discuss business challenges and how its overcoming these through self-investment.

Can you please give me a brief overview of your business and the produce that you grow?

West Pine Ag farms approximately 250 hectares with a range of irrigated crops. Our crop rotation is around 80 per cent vegetables with 20 per cent cereals and poppies. Our vegetable crops include potatoes, carrots, onions, peas and a range of brassicas. Our potato cropping is a joint venture with Simplot Farming and the other vegetables grown as a joint venture with Troy Wright Holdings (TWH). We also have a small cattle herd, but they are mostly utilised as a management tool.

What challenges do you face as a vegetable grower?

Mainly the consistency in agronomic advice and technology across the industry. This has often meant that you can be nearly back at square one each season, with new tech platforms or staff rotation each year. We would love to see a higher standard of training and retention across the industry in general.

While we have been able to check and record data from our field sensors, it has been difficult to get support in how the data can be translated into action. This is partially linked to advice but is often due to differences in the data gathered and the format in which it is gathered.

How do you manage these challenges, or try to overcome them?

We are tackling these challenges by investing in ourselves. We are investing in sensors that we can retain for longer in place. That will give us more consistent data (that we own) across seasons rather than have it supplied to us by a third party. This will help us in acting on the data we receive in a beneficial way. We are also investing in irrigation technologies, and looking at alternative agronomic advice methods with a strong focus on a consistent approach to issues across crops and seasons specific to our farm.

What new innovations, research and/or practices has your business implemented recently?

Most of our new adoptions have been more infrastructure based around automated irrigation, energy (VSD's) and sensors. The main innovation we have implemented is the integration of the JD Link system from our contractors (TWH) tractors and our farm management software, Ag World. This has been excellent in retrieving data from the tractor for the farm management software, but also to feed information out of the software back to the tractor. In time, this will mean it is possible to measure crop performance directly against budgeting and accounting software.

How do you maintain your disease resistance and ongoing sustainability of the farm?

Traditional crop rotation methodology, along with chemical resistance

management, is in place, but we would like to become a lot more active in integrated pest management strategies moving forward. Getting a consistent approach to management and an overall 'helicopter' view of the property has been difficult for us but will be improved with some of the changes we are looking to implement. This has made a consistent approach to resistance difficult to implement.

We have some ongoing sustainability projects for Landcare Tasmania and carbon offset project work. We have also been revegetating some of our new land acquisitions that are not suitable for cropping or grazing in a sustainable manner.

Another key in our sustainability focus is the use of a pelletiser to process crop stubble and transform it into a useable fuel source for low carbon heat or energy generation. Our goal is to become a net zero emissions business, and transforming the stubble into a product for us to offset our own energy use on-farm is an important piece of achieving that goal.

In terms of research and development, what do you think is vital to the vegetable industry right now?

I think addressing crop losses is a vital thing for research to focus on. At the moment if a crop is profitable, we (industry) aren't too worried about what the losses along the value chain may be. We should be ensuring that when we grow a hectare of crop, every square metre is valued by the end consumer. Maximising the use of a crop can effectively increase production without growing any more or using additional resources.

Piloting digital remote monitoring to improve environmental performance



AustChilli Managing Director David De Paoli.

With an increasing range of real-time sensors and monitoring used in vegetable production, several real-time sensing options will be piloted in a new project to investigate whether these digital tools might be able to both support agronomic decision making as well as guide and record improved environmental stewardship. AUSVEG EnviroVeg Coordinator Danielle Park reports.

AUSVEG and the EnviroVeg Program – along with several horticulture industry partners – are participating in a new project to raise the horticulture sector's environmental performance.

Part of EnviroVeg's role will be investigating the use of remote monitoring to support vegetable producers automate the collection of real-time data to support management decisions, as well as allow for digital reporting of environmental performance.

The challenges of record keeping and collecting evidence to support production decisions, as well as tracking environmental performance, has been evidenced over many years through the AUSVEG-facilitated EnviroVeg Program, which is a strategic levy investment under the Hort Innovation Vegetable Fund.

Funded through the Australian Government's Landcare Smart Farming Partnerships program, the *Digital remote monitoring to improve horticulture's environmental performance* (ST19024) project is managed by Hort Innovation.

Other project collaborators include Applied Horticultural Research, Hitachi, Freshcare, Growcom, Greenlife Industry Australia, the Australian Banana Growers Council, Avocados Australia and the Australian Macadamia Society.

Current technology developments already provide a range of sensors and tools that can continuously monitor key components of farm production and performance. This could be done through identifying inefficiencies, filling in the gaps and having more efficient operations with optimised use of inputs.

Supporting improved environmental practices is a key objective of the three-year project.

Establishing a pilot farm

With a focus on protecting ecosystems in horticulture growing regions, the project is establishing pilot or demonstration smart farms in the Great Barrier Reef catchment area.

AustChilli is one of the pilot farms that will participate in the investigation and use of various digital monitoring methods. The operation's Managing Director, David De Paoli, outlined why he chose to be part of the project and pilot the automated monitoring approach.

"If you do not change, you will be roadkill as your competitor will run over you to get the market first," David said.

"We want to prevent run-off into the reef and potential contamination of waterways. The bonus is the higher productivity, better quality, lower cost of production and greater reliability of supply."

When it comes to managing crops with more frequency of extreme weather events experienced globally, David said that his staff wanted to be able to tap into weather patterns and models to be able to predict and reduce its effect on production by being proactive – and not reactive.

"Automation can improve crop efficiency and reduce leachate by reducing and adjusting inputs at critical times," he said.

Another potential benefit flagged was a future potential for automation to address gaps in the availability of experienced or appropriately skilled team members. This will take the guess work out of actions and decisions will be able to be made based on scientific information.

David said that he hoped the project would make it easier to show

that AustChilli is a good steward of the environment.

The piloting of these technologies aims to test whether these methods might provide a feasible way for vegetable producers to collect and use farm data for production decisions, as well as for automated collection of evidence of their environmental performance.

Evidence of environmental stewardship

Throughout the project, remote technology will be used in the continuous monitoring of environmental indicators such as nutrient leaching, sediment run-off, water, and energy use efficiency and more.

The sensors and tools can monitor and measure vegetable production environmental indicators to quantify baseline performance; inform decision making; drive good environmental stewardship; and natural resource use resulting in evidence to help build and support strong markets.

A digital dashboard will integrate sensors and other data to remotely monitor environmental performance and support adoption of Best Management Practice (BMP) programs, including the EnviroVeg Program.

Find out more

Please contact AUSVEG National Manager – Engagement and Extension Zameen Hassan at zameen.hassan@ausveg.com.au or phone 03 9882 0277.

This project is funded by Hort Innovation using the nursery research and development levy and contributions from the Australian Government.

Project Number: ST19024

**Hort
Innovation**

Harnessing the power of biology in horticulture

There is a growing interest in using biological products, bio-stimulants and softer chemistries to boost the soil quality in horticultural crops. In this article, *Vegetables Australia* explores a couple of biology-focused products that have been trialled together with positive results on crops.

The Holy Grail for horticultural growers is effectively using the power of nature to leverage paid inputs for their crop. Traditionally, fertiliser programs often have been applied with no consideration for the billions of living organisms in the soil that can be beneficial to soil health and plant growth. More efficient use of fertiliser and water through harnessing the power of nature is now a reality.

There is a developing wave of interest among growers in biological products, bio-stimulants and softer chemistries designed to improve soil and plant health.

The people at Omnia Specialities have a deep interest in soil health, producing a range of organic plant nutrition products, biologicals and supplying traditional foliar and water-soluble fertilisers.

"We are committed to sharing with growers what we know about biologicals and how to get the best results from them," Omnia Sales and Marketing Manager Darren Thomas said.

Omnia produces two products – Rhizovator and Bacstim – that use biology to efficiently leverage soil nutrients and water.

"Our trials have demonstrated a synergistic effect when the two products are applied together, and we have been building a library of trial results to give growers confidence to apply these products this spring," Mr Thomas said.

"Bacstim 100 contains five different strains of *Bacillus sp.* Bacteria, which provide improved nutrient mineralisation and uptake; production of phytohormones encouraging root growth; increased leaf chlorophyll levels; and increased crop biomass and yield. Healthy plants are also naturally more resistant to disease."

Winning combination

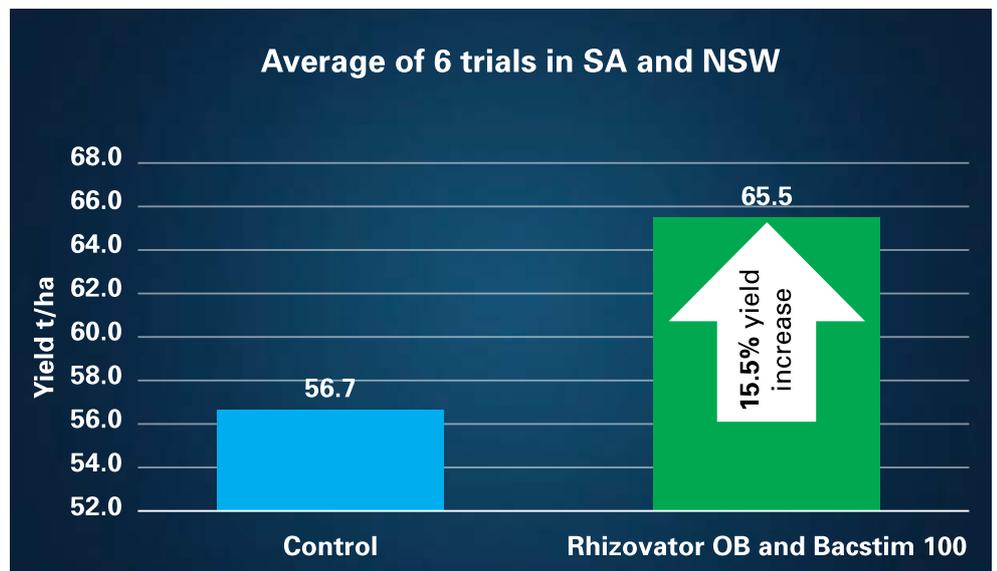
Rhizovator is the ideal tank mix partner for Bacstim products, as it has been formulated to feed the microbial life in the soil and encourage biological diversity. It feeds the native micro-organisms as well as the introduced *bacillus* species from Bacstim. Beneficial fungi spread through the soil and bring water and nutrients to the plant that might otherwise have not been available.

"Improving the biological diversity may make the soil environment naturally unfavourable for disease pathogens. This may lead to reduction in disease infection and increased water and nutrient uptake, delivering healthier plants with increased resilience to disease delivering improved crop yield potential," Mr Thomas said.

Both products can be applied to a range of perennial or annual horticultural crops. Applications are made just prior to major root growth periods. In annual vegetables, this means at least two applications at 2-6 weeks after planting. With tree or vine crops, it will be two applications in early and mid-spring.



Potato yield increase from Rhizovator and Bacstim application. Average 6 trials in New South Wales and South Australia.



Find out more

Please visit omnia.com.au or contact your nearest Omnia Specialist agronomist.



AUSVEG National Tomato-Potato Psyllid Coordinator, Alan Nankivell.

Management of TPP and CLso in potatoes nearing completion

Following a 10-month hiatus due to COVID-19, AUSVEG's Alan Nankivell has resumed his role as the National Tomato-Potato Psyllid Coordinator. In this column, Alan reports on a recent workshop that focused on the movement of seed potatoes should the bacterium that causes 'zebra chip' be discovered in Australia.

Three-year project coming to an end

The *Tomato potato psyllid* (TPP) National Program Coordinator project is ending in May 2021. The final report will be delivered to Hort Innovation in June and will be made available to the horticulture industry in the second half of the year.

In the meantime, the information gathered during the project is available on the TPP Portal (ausveg.com.au/tpp), including information for growers and home gardeners as well as Enterprise Management Plans.

Tomato-potato psyllid (TPP) was detected in Perth, Western Australia in February 2017. Subsequent monitoring determined that eradication was not possible, and a transition to management plan was initiated.

In January 2020, the Plant Health Committee (PHC) released its Communique to the potato industry outlining the movement of ware and processing potatoes across jurisdictions if tomato-potato psyllid was detected in Queensland, New South Wales, South Australia or Victoria. This assurance was important to ensure that supply chain systems' ongoing business continuity remained in place.

In addition, the PHC requested that the industry discuss how it wanted seed potato to be dealt with should the bacterium *Candidatus Liberibacter solanacearum* (CLso) be detected in TPP. The initial workshop was scheduled for March 2020; however, this was postponed due to the COVID-19 pandemic and subsequent restrictions. The workshop was eventually held in late March 2021.

During the discussions held at the workshop, 'farm save' seed was discussed. This is where seed is produced by one owner from original certified mini tubers.

The group – consisting of potato industry stakeholders from across Australia – identified the seed supply chain from tissue culture through to Generation 5 (G5) seed. The group assigned a risk level for the spread of CLso from each hazard point. The outcomes were:

1. Mini tubers can move freely between jurisdictions due to the high level of security that mini tubers are produced in.
2. Industry stakeholders acknowledged that if CLso was detected and TPP was present, it was only a matter of time before it spread across the country. This is also borne out by international experience.
3. Seed potatoes, regardless of generation, present a risk of the spread of CLso.
4. The opportunity for the introduction of an Interstate Certificate of

Assurance (ICA) – along with business accreditation – would provide the necessary tool to industry to maintain business continuity, while providing a trace back record and slow down the spread.

5. The movement of uncertified seed is strongly discouraged.
6. It was recognised that if potato seed was infected and planted in a region where TPP did not exist, it would die out without spread.

There is ongoing discussion as to what would be an acceptable level of CLso infection in seed crops. The current New Zealand certification levels of infection were discussed. Laboratory testing was also discussed, and a paper will be produced on the current international and local tests.

The current New Zealand certification system relies on a visual inspection for CLso infected plants and rouging infected plants is undertaken to meet the current criteria for certification of 0.2 per cent (one in 500). Further opportunity for laboratory testing can take place if requested by the grower however to date this option has never been taken up. During the 2021 season, New Zealand has experienced high levels of CLso infection in crops, which suggests that visual inspection for certified seed has not provided the industry with the certainty it hoped for.

The PHC will consider the industry comment at its meeting in July 2021.

Find out more R&D

For more information on this program, please contact AUSVEG National TPP Coordinator Alan Nankivell at alan.nankivell@ausveg.com.au.

Tomato potato psyllid (TPP) National Program Coordinator is a strategic levy investment under the Hort Innovation Vegetable, Fresh Potato and Potato Processing Funds.

This project has been funded by Hort Innovation using the vegetable, fresh potato and potato processing research and development levies and contributions from the Australian Government.

Project Number: MT16018

Hort Innovation | **VEGETABLE FUND**
Strategic levy investment

Minor use permits

Permit Number	Crop	Pesticide Group	Active	Pest/Plant disease/Target weed	Date Issued	Expiry Date	Permit Holder	States
*PER11768 Version 4	Pumpkin	Insecticide	Chlorpyrifos	African black beetle	28-Jun-13	28-Feb-23	Hort Innovation	All states and territories, except VIC
PER82551 Version 3	Spring onions, shallots, cauliflower, leeks, coriander and parsley	Insecticide	Diazinon	Onion maggot, onion fly and thrips (excluding western flower thrips)	26-May-16	31-Jan-24	Hort Innovation	All states and territories, except VIC
PER88170	Sweet corn	Miticide	Etoxazole	Two-spotted mite	18-Feb-21	29-Feb-24	Hort Innovation	All states and territories, except VIC
PER87878 Version 2	Snow peas, sugar snap peas and green beans	Insecticide	Spinetoram	Liriomyza leafminers (<i>Liriomyza</i> spp.)	11-Feb-20	28-Feb-23	Hort Innovation	All states and territories, except VIC
PER86245 Version 2	Sweet corn	Fungicide	Azoxystrobin + Tebuconazole	Maize rust	17-Dec-18	28-Feb-26	Hort Innovation	All states and territories, except VIC
PER12612 Version 4	Potatoes	Insecticide	Alpha-cypermethrin	Garden weevil	29-Jun-11	30-Apr-26	Hort Innovation	WA and TAS only
PER13567 Version 5	Tomatoes and capsicums (field crops only)	Insecticide /Miticide	Bifenthrin	As an aid in the management of fruit fly including Queensland fruit fly And lesser Queensland fruit fly (<i>Bactrocera</i> spp.)	07-Dec-12	31-Mar-26	Hort Innovation	Growing districts of Bowen and Gumlu (QLD) only
PER13566 Version 5	Tomatoes and capsicums (field crops only)	Insecticide	Methomyl	As an aid in the management of fruit fly including Queensland fruit fly And lesser Queensland fruit fly (<i>Bactrocera</i> spp.)	07-Dec-12	31-Mar-26	Hort Innovation	Growing districts of Bowen and Gumlu (QLD) only

Please note:

Permits are routinely approved and extended. For more up-to-date new permits and permit extensions, please refer to the AUSVEG Weekly Update or the APVMA website.

All efforts have been made to provide the most current, complete and accurate information on these permits, however we recommend that you confirm the details of these permits at the following APVMA website: portal.apvma.gov.au/permits.

This communication has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.



Dr Paul Cunningham holds a fruit fly infested papaya covered in parasitoid wasps at the Tatura mass rearing facility.

Parasitoid wasps: The focus of a new biocontrol program for Queensland fruit fly

A new national research project is underway that aims to develop a biocontrol strategy for managing Queensland fruit fly populations in Australia. The project focuses on the use of Australian parasitic wasps, or parasitoids, that specifically attack Queensland fruit fly. Project Lead Dr Paul Cunningham from Agriculture Victoria Research provides an overview.

Biocontrol – the use of natural enemies to manage pest populations – is widely regarded as a crucial component of integrated pest management (IPM) and area-wide management strategies to control insect pests. However, for the Australian pest fruit flies, surprisingly little work has been carried out to explore the potential for biocontrol in fruit fly management.

Facilitated by an Agriculture Victoria team led by Associate Professor Dr Paul Cunningham, the national fruit fly biocontrol project is a collaboration between state and territory governments, universities, the horticultural industry, and Hort Innovation. The research is exploring biocontrol strategies that utilise species of parasitic wasps, or parasitoids, as important natural enemies of Queensland fruit fly.

“Queensland fruit fly management relies on having an effective toolkit of IPM practices that work together to reduce fruit fly populations,” Dr Cunningham said.

“At present, most of the fruit fly management tools – such as bait spraying, mass trapping, and sterile insect releases – target the adult stage of the fruit fly’s lifecycle, but there are always going to be female flies that manage to evade control and go on to lay eggs in our

fruit and vegetables.

“The beauty of this biocontrol is that it targets the egg and larval stages of the fly, so it works really well alongside these other practices.”

Parasitoids: Our friend and a fruit fly’s enemy

Parasitic (parasitoid) wasps are insect predators that are commonly used as biocontrol agents in agricultural environments. These tiny insects are renowned for their amazing sense of smell, which enables them to hunt down their prey – they are essentially the sniffer dogs of the insect world!

The two Australian parasitoid species selected for the biocontrol project are highly specific and only attack tephritid fruit flies (the insect family in which Queensland fruit fly belongs). Both species of parasitoid already thrive in Queensland and northern New South Wales where they can have significant impact on fruit fly populations when conditions are right, knocking populations down by 40 per cent or more.

Bringing the enemy south

However, parasitoids of Queensland fruit

fly are rare or absent in the southern states where fruit fly populations are increasing.

“This might be because the expansion of Queensland fruit fly populations into southern regions is a comparably recent event, and the fruit flies are ahead of the game: they have moved into enemy-free space where their key predators are absent,” Dr Cunningham said.

“But it might also be because something about the southern climate is less suitable for these parasitoid species,” he said.

“Perhaps because the Victorian winters are too cold or too long for them, or the climate lacks the humidity of the north.”

A major focus of the project is to mass rear the fruit fly parasitoids for release in Victoria and Southern New South Wales. The project is still in its early stages, but scientists have already seen some promising results.

Professor Tony Clarke and his team of fruit fly scientists at the Queensland University of Technology (QUT) collected the two species of parasitoids from the wild and developed methods to culture them in captivity. The two wasp species have now been transported down to Agriculture Victoria Research’s Tatura SmartFarm, where they are being mass reared for release.

“Our stock of the first parasitoid wasp

species has reached 40,000 insects," Dr Cunningham said.

"Many of these are now out and about in Victoria doing what they do best – hunting down and killing Queensland fruit fly."

The Agriculture Victoria team has begun parasitoid trial releases in the Goulburn Valley, Shepparton, and Mildura, and will be continuing with releases next spring. The final stage of the project will examine whether the wasps have established successfully.

"Controlling fruit flies in urban areas could be of massive benefit, if these flies that are breeding in the towns and cities are dispersing into orchards and fuelling the spread of the pest," Dr Cunningham said.

"If the parasitoid wasps establish well and inflict a good level of control, this will be an extremely cost-effective strategy for growers and the horticulture industry."

Bolstering parasitoid populations up north

In Queensland and northern NSW, where the two fruit fly parasitoids are established, the project will focus on biocontrol strategies that aim to support and bolster populations of these key natural enemies.

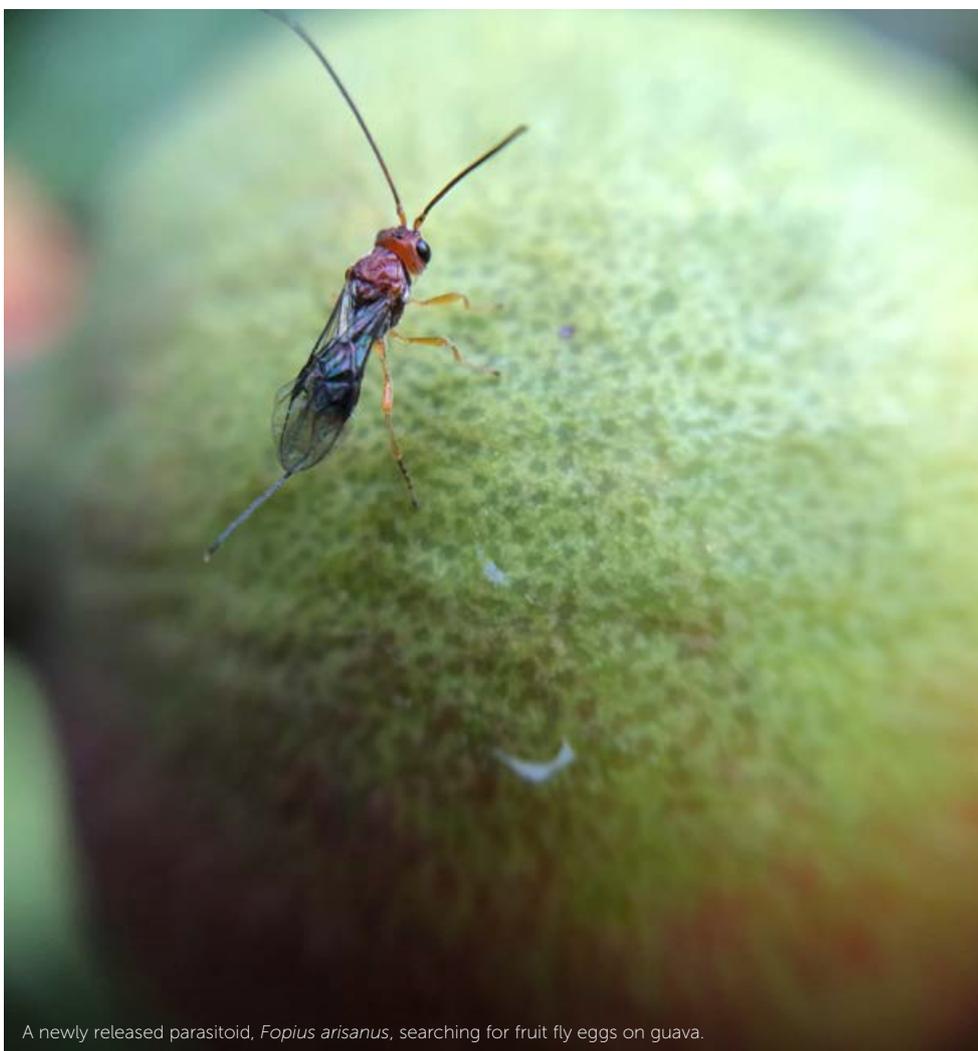
QUT scientists are designing containers called 'augmentoria' that infested fruit can be placed into, allowing larvae to emerge from the fruit and pupae. These larvae may or may not be parasitised. Only the adult parasitoids (and not the flies) can escape from the container, providing a means for home gardeners to play a role in increasing parasitoid populations in their local area.

The QUT team is also investigating how habitats can be improved to provide refuges and feeding sites (nectar sources) that support parasitoid populations in orchard environments.

The national fruit fly biocontrol strategy will benefit the horticulture industry, growers, and the environment. It's also good news for avid gardeners with fruit trees and veggie patches, as it could mean far fewer maggots in home-grown produce.



B. tryoni females on ripe guava.



A newly released parasitoid, *Fopius arisanus*, searching for fruit fly eggs on guava.

Find out more R&D

Please contact Dr Paul Cunningham at paul.cunningham@agriculture.vic.gov.au.

This project is a nationwide collaboration funded by the Department of Agriculture, Water and Resources, and Hort Innovation, using the apple and pear, citrus, rubus, strawberry, summerfruit, table grape and vegetable levies, co-investment from state governments, and Australian horticultural industries.

**Hort
Innovation**

Supporting a green future for nitrate fertilisers



Yara's plant in the Pilbara region, Western Australia.

A pilot study focusing on 'green' ammonia has commenced in Western Australia's Pilbara region. It is hoped that global carbon footprint will be reduced through using this production method, particularly in the agriculture sector. *Vegetables Australia* investigates what 'green' ammonia is and how it can assist with future on-farm sustainability.

Ammonia is an intermediary chemical used in the production of urea and nitrogen-phosphorus-potassium (NPK) compound fertilisers.

More than 180 million tonnes of ammonia are produced globally every year, with the vast majority of this used in agriculture as fertiliser.

Whereas 'brown' ammonia is produced using fossil fuels, typically natural gas, 'green' ammonia is produced using renewable ingredients, namely hydrogen obtained through the electrolysis of water and nitrogen obtained from the air.

In turn, these processes are driven by renewable energy sources such as hydro-electric, solar power or wind turbines.

Global fertiliser giant, Yara, is banking on 'green' ammonia in its bid to slash its carbon footprint by 30 per cent within a decade and become carbon neutral by 2050.

The business has commenced a 'green' ammonia pilot study at its Pilbara plant in Western Australia in partnership with ENGIE, a French energy company that specialises in developing industrial-scale renewable hydrogen solutions.

Yara Crop Nutrition Commercial Director – Australia and New Zealand, Michael Waites, said the technology is part of a range of initiatives the company is undertaking to reduce its carbon footprint.

"Our ammonia plants are energy-efficient and continuously improving leading to lower natural gas consumption and less carbon dioxide emissions. Our nitric acid plants are among the best for greenhouse gas emissions thanks to the development and adoption of catalyst technology," he said.

"This technology significantly reduces

emissions of nitrous oxide – a potent greenhouse gas – associated with the production of nitric acid.

"EU producers are recognised as being more climate-friendly due to the widespread use of nitrous oxide abatement technology, and the fact it doesn't use coal as an energy source for the production of ammonia."

Studies have reported that the carbon footprint of urea production in Russia and China (assuming 75 per cent of plants are coal-powered and 25 per cent are gas-powered), is 25 per cent and 126 per cent higher, respectively, than in Europe. Likewise, the carbon footprint for NPK fertilisers produced in Russia and China is 72 per cent and 141 per cent higher, respectively, than in Europe.

Environmental focus

Yara has adopted an industry-leading position on reducing greenhouse gas emissions and fostering the adoption of climate-smart agricultural practices.

Michael added that it is one of the few fertiliser manufacturers that has determined its carbon footprint and has had this data verified by a third-party expert.

"We are often asked by food producers to provide certified data about the carbon footprint of our products to determine the carbon footprint of their end products."

Michael said that Australian farmers have an important role to play in reducing their carbon footprint.

"Agriculture accounts for about 20 per cent of the world's greenhouse gas emissions and is the second largest contributor to Australia's greenhouse gas

emissions," he said.

"Farmers rely on their land to profitably grow food and fibre, so they have a vested interest in minimising any negative impact on the environment.

"Using quality nitrate-based fertilisers and adopting management practices that improve fertiliser efficiency are two simple ways they can reduce the carbon footprint of their farm, their industry and the world."

Additional activities

In Australia, Yara is committed to a range of other initiatives that support environmental sustainability, including its partnership of the Farm Waste Recovery and drumMuster programs.

Working in partnership with manufacturers, industry associations and local councils, the Farm Waste Recovery program aims to collect, recycle or dispose of polypropylene and polyethylene bags that are commonly used to store fertiliser and stockfeed.

drumMuster is the national program for the collection and recycling of eligible non-returnable crop production and animal health product chemical containers.

Yara is one of the largest manufacturers of nitrogen fertilisers in the world, with global sales in excess of 28.5 million tonnes.

The company began operations in Australia in 1994 to provide integrated crop nutrition solutions that support grower profitability and sustainability.

Find out more

Please visit yara.com.au.



Cover crop trial overview at Yarramundi site, New South Wales.

Boosting mycorrhizal fungi in vegetable crops: Is it required and what can you do?

The vegetable industry has a growing interest in soil health and beneficial soil microbes, including mycorrhizal fungi. Getting the benefits from mycorrhizal fungi under commercial field conditions is not easy. Intensive tillage, soil fumigation, fallow and the growing of non-mycorrhizal hosting crops – such as those in the brassica (*Brassicaceae*) and beet (*Amaranthaceae*) families – reduce the levels of mycorrhizal inoculum in the soil, and the potential for colonisation of crop roots by mycorrhizal fungi.

As part of *Optimising cover crops for the vegetable industry* (VG16068) – a strategic levy investment under the

Hort Innovation Vegetable Fund – the project team looked at the potential of cover crops, together with commercial mycorrhizal inoculants and reduced soil tillage, to boost beneficial mycorrhizal fungi in vegetable crops. A boost is needed as mycorrhizal colonisation levels in commercial vegetable crops were found to be low. However, increasing mycorrhizal colonisation levels in vegetable crops proved difficult due to very high available soil phosphorus levels.



Leek transplants at the Devon Meadows site, Victoria.

Key points and recommendations

A survey of mycorrhizal fungi in commercial vegetable crops in Australia indicated that practices to boost the beneficial fungi are required, with only 14 per cent of the vegetable crops sampled showing mycorrhizal associations.

Attempts to boost the mycorrhizal levels in vegetable crops using cover crops in combination with commercial mycorrhizal inoculants and reduced tillage in different field trials were not successful in our trials. However, inoculants may be beneficial under other conditions.

High available soil phosphorus in vegetable growing soils restricts mycorrhizal root colonisation of

cover crops and vegetable crops.

For vegetable growers interested in improving mycorrhizal association in their cover crops and vegetable crops, the following are the “best bet” conditions for improving mycorrhizal levels:

- Soils with moderate available phosphorus levels (Olsen-P < 50 ppm).
- Strong phosphorus fixing soils (e.g. northern Tasmania and southwest WA).
- Vegetable production systems using high levels of compost.

Why promote mycorrhizal fungi? Benefits through symbiosis

Arbuscular mycorrhizal fungi are the 'flagships' of beneficial fungi, with their potential benefits widely recognised across the vegetable industry and growing use of mycorrhizal inoculant products. Colonisation of plant roots by mycorrhizal fungi provides several potential benefits that include:

- Enhanced uptake of relatively immobile nutrients, in particular phosphorus and zinc
- Improved nutrition of produce.
- Improved yield.
- Biostimulant properties.
- Protection of host roots from certain pathogens.
- Improved water relations, especially under nutrient limitation.
- Reduced transplant shock.
- Improved soil aggregation via glomalin.

Mycorrhizal fungi are obligate symbiotic fungi with more than 15 genera and 150 species. In agricultural soils, mycorrhizal fungi can make up between five and 50 per cent of the biomass of soil microbes.

Virtually all soils contain some mycorrhizal fungi, but inoculum density (spores, root fragments and hyphae) and the fungal species vary. To survive and grow, mycorrhizal fungi require a living host plant that provides food (photosynthates) in exchange for the benefits associated with the symbiotic relationship.

The association between mycorrhizal fungi and the plant is assessed by measuring root colonisation levels. This involves taking root samples from field crops, staining to highlight the mycorrhizal fungi and examining roots for mycorrhizal structures (hyphae, arbuscles or vesicles). This is then used to calculate the percentage of roots colonised.

Mycorrhizal fungi in commercial vegetable crops – does it need boosting?

Mycorrhizal colonisation levels were found to be low commercial vegetable crops. Only 14 per cent of the vegetable crops sampled had mycorrhizal associations (refer to Table 1). Of those crops with mycorrhizal associations, root colonisation levels were moderate (Table 1, Figure 1). There were 57 vegetable crops sampled across 22 farms. Root samples were taken from field-grown crops in Victoria, New South Wales, South Australia, Western Australia and Tasmania. Tunnel house soil-

grown capsicum and eggplants were also sampled in South Australia.

Soil mycorrhizal inoculum levels were found to be low in three of the four farms sampled. Soil mycorrhizal fungal DNA levels at the three sites were very low (< 15 kDNA copies/g soil).

Our results show that mycorrhizal fungi levels need boosting for mycorrhizal fungi to deliver any of the potential benefits under field conditions.

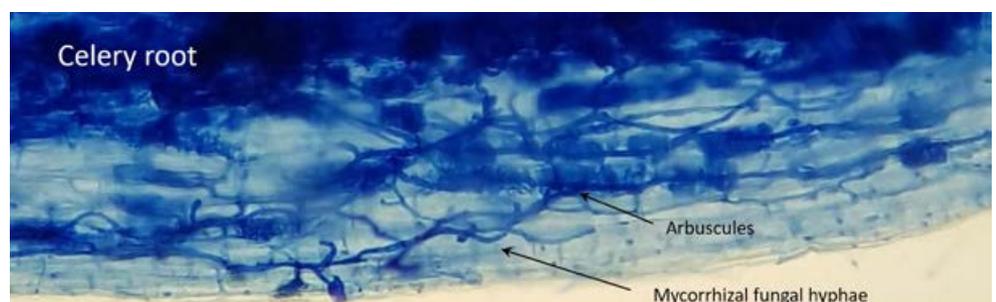
Table 1

Number of commercial vegetable crops colonised by mycorrhizal fungi. For crops colonised by mycorrhizal fungi, the percentage of the root system colonised is also given. Crops were considered colonised when the percentage of roots with mycorrhizal fungi exceeded 10 per cent. "na" = not applicable. Level of response = expected response based on literature.

Crop	Family	Level of response	Number of crops sampled	Number of crops with mycorrhizal fungi	Average root colonisation (%)
Carrot	<i>Apiaceae</i>	High	3	0	na
Celery	<i>Apiaceae</i>	High	12	0	na
Parsley	<i>Apiaceae</i>	High	1	1	37
Leek	<i>Amaryllidaceae</i>	High	23	2	12
Spring onion	<i>Amaryllidaceae</i>	High	2	0	na
Cucumber	<i>Cucurbitaceae</i>	Medium	6	0	na
Capsicums	<i>Solanaceae</i>	Medium	4	4	35
Eggplant	<i>Solanaceae</i>	Medium	1	1	15
Corn	<i>Poaceae</i>	Medium	4	0	na
Lettuce	<i>Asteraceae</i>	Low	1	0	na

Figure 1

Typical arbuscular mycorrhizal fungi root colonisation of sampled vegetable roots (example here is celery).



Boosting mycorrhizal associations

In four field trials, we tried to boost mycorrhizal colonisation in either cover crops or leeks or corn using a range of cover crops together with mycorrhizal inoculants and reduced tillage.

Cover crops had low levels of mycorrhizal root colonisation (Table 2) and did not boost mycorrhizal levels in the soil or the following vegetable

crops. Sorghum was the only cover crop which had moderate mycorrhizal root colonisation (> 10%).

Adding mycorrhizal inoculum to either the cover crop before the vegetable crop or directly to the vegetable crop did not increase root colonisation levels of the corn or leek at harvest or crop growth and yield.

High soil phosphorus levels limit mycorrhizal fungi

High available soil phosphorus levels (Olsen-P > 100 ppm) are common in vegetable growing soil. Such high available soil phosphorus levels can restrict root colonisation of cover crops and vegetable crops. Adding mycorrhizal inoculants did not overcome this limitation. In soils with Olsen-P values over 50 ppm the host plant, which controls the colonisation process, typically does not allow the mycorrhizal fungi into the root.

We did find some cover crops and vegetable crops with acceptable root colonisation rates. These sites typically had lower available phosphorus levels. For example, an oat cover crop with a 78 per cent root colonisation rate had an Olsen-P value of 7 ppm.

For vegetable growers interested in improving mycorrhizal association in their cover crops and vegetable crops, we suggest the following 'best bet' conditions:

1. Soils with moderate available phosphorus levels (< 50 ppm Olsen-P; approximate conversions for other soil tests: < 140 ppm Colwell-P, < 110 ppm Bray-P or < 105 ppm Mehlich-3-P).
2. Strong phosphorus fixing soil (e.g., Ferrosols in northern Tasmania; soils in southwest WA). Look for soils with either a high Phosphorus Retention Index or a Phosphorus Buffering Index.
3. Vegetable production using high levels of compost. In South Australia, we consistently observed high root mycorrhizal colonisation rates in *Solanaceae* crops grown in protected cropping, despite the use of soil fumigants. These systems all used high levels of compost combined with mycorrhizal inoculants.

These 'best bet' conditions provide a guide to those growers wanting to boost mycorrhizal fungi levels. However, we were unable to demonstrate what benefits of mycorrhizal fungi can be provided to vegetable crops under commercial conditions.

Table 2

Effect of mycorrhizal inoculant on cover crop mycorrhizal root colonisation in three different sites. Values are means \pm standard errors. "-" = no inoculant added, "+" = inoculant added.

Site/Trial	Cover crop	Mycorrhizal inoculant	Root colonisation rate (%)
<i>Site 1 – Devon Meadows, Vic</i>			
	Cereal rye/vetch/peas*	• -	0.3 \pm 0.32
		+	2.7 \pm 1.82
<i>Site 2 – Yarramundi, NSW</i>			
	Oat	• -	0.5 \pm 0.52
	Ryegrass	-	0.5 \pm 0.54
	Oat/Ryegrass/Vetch**	• -	0.5 \pm 0.47
	Oat	+	1.2 \pm 0.69
	Ryegrass	• +	3.8 \pm 2.48
	Oat/Ryegrass/Vetch**	+ i+	2.3 \pm 1.09
<i>Site 3 – Richmond, NSW</i>			
<i>Summer trial</i>			
	Cereal rye	• -	5.5 \pm 2.9
	Sorghum	-	10.3 \pm 6.5
	Sunn hemp	• -	0
	Cereal rye	+	13.6 \pm 7.1
	Sorghum	• +	17.6 \pm 1.5
	Sunn hemp	+	0
<i>Spring trial</i>			
	Cereal rye	• -	9.5 \pm 5.5
	Sorghum	-	24.2 \pm 8.5
	Cereal rye	• +	1.4 \pm 0.5
	Sorghum	-	15.0 \pm 3.2

*Cereal rye/vetch/field pea (60/40/10 kg/ha) mixture

** Oat/Ryegrass/Vetch (40/5/20 kg/ha) mixture

Find out more R&D

Please contact Pieter Van Nieuwenhuysse from Applied Horticultural Research on 02 8627 1040 or at pieter@ahr.com.au.

For more information on cover crops produced by project VG16068, please visit soilwealth.com.au and look for the cover crop-related resources.

This project has been funded by Hort Innovation using the vegetable research and development levy and contributions from the Australian Government.

Project Number VG16068



Nathan Richardson
Tasmanian Farmers and
Graziers Association
Vegetable Council Chair

56a Charles St
Launceston, TAS 7250
Phone: 03 6332 1800

Tasmanian Farmers and Graziers Association

As we approach the second half of 2021, the Tasmanian Farmers and Graziers Association Vegetable Council has several objectives for the rest of the year. Training, education and promotion of agriculture in Tasmania is at the top of the list.

There appears to be quite a range of employment options out there for young workers entering the industry. Some chose to go down the more traditional path of being employed directly by the farm owner; however, there are now a variety of traineeships/apprenticeship options that are also available. A focus for the TFGA Vegetable Council at the moment is reviewing these employment and training options in Tasmania and looking at how employers and employees can be supported throughout this process. As we witnessed during 2020, agriculture suddenly became really important. Despite continued efforts and strategies by respective governments, there has been very little upskilling of the agricultural workforce during COVID.

Australia's manufacturing of everyday items and appliances is basically nonexistent – we now heavily rely on other nations for many things. What do we have left? Agriculture, and that is something we need to be proud of. COVID has proven that Australia is not as self-sufficient as we were led to believe, and it has certainly highlighted the areas we need to be working on.

Technology is moving fast in agriculture. We have systems and equipment on our farms that can now do what took days, in a matter of hours. Be it irrigation, spraying, cultivation or communication, these developments and improvements in tasks now allow us more time to be just as busy doing other things. As each decade passes, we are more efficient in nearly every facet of farming thanks to the adoption of technology. As an example, would you have thought 10 years ago you could start, stop or monitor your irrigation equipment from the other side of the country on your phone? Today it is common practice.

While these technological advances have allowed for huge gains in productivity and efficiency, there is still an indisputable need for skilled agricultural workers – both seasonal and year-round. There has been a push in recent times to showcase the array of careers within the agricultural industry that 'aren't just working on a farm' and of course we welcome any kind of promotion, but at the end of the day we all need people on farms. Those who feel that agriculture is the place to be for more than just a year or two will provide stability in the work environment and within the industry. Ultimately, it is good for our communities and there are endless examples of people entering agriculture at the lowest level and working up to becoming fantastic managers and leaders both on and off the farm.



Christian Staacke
NSW Farmers' Association
Policy Director – Plant Industries

Level 4, 154 Pacific Highway
St Leonards, NSW 2065
Phone: 1300 794 000
Fax: 02 8282 4500
Website: nswfarmers.org.au

NSW Farmers Association

The New South Wales Government has recently offered a 50 per cent subsidy for the cost of hotel quarantine for overseas seasonal workers, halving the cost to \$1,500 per person. This response, which ticks off a major element of our five-point plan aimed at combating the labour shortage, should make securing workers through the Seasonal Worker Programme and the Pacific Labour Scheme more viable for growers. We have also ticked off another point in this plan, which is to achieve flexibility in the caps for international arrivals of seasonal workers coming through NSW, with seasonal worker arrivals to sit outside the existing cap of 3,000 travellers per week set for the state.

NSW Farmers' Association is pleased that calls for the subsidisation of quarantine costs for workers have been heard by the NSW Government; however, this commitment is

currently for less than two months ending on 30 June. The Association insists the subsidy should remain in place after the current financial year as we know COVID-19 related workforce supply disruptions for the agriculture sector and specifically for the horticulture industry, will continue to remain until at least mid-2022.

New South Wales is a significant producer of horticulture produce within Australia. The state's horticulture industry contributes around \$1.2 billion to the NSW economy annually, with vegetables adding \$500 million to that figure. Ongoing labour shortages brought on by COVID-19 travel restrictions are threatening the productivity of our horticulture industry, already generating over \$9 million in crop losses. Developing viable solutions for our growers remains a NSW Farmers' priority. We will →

continue to work with state authorities and industry organisations on implementing our five-point plan.

To tackle seasonal labour shortages in the agriculture sector NSW Farmers five-point plan includes the following actions:

- Lower costs – Facilitation and subsidies of quarantine costs to restart the Pacific Labour Scheme and the Seasonal Workers Programme.
- Workable visas – Expedited visa approval process and assistance to coordinate the sharing of seasonal workers during their stay and flexibility introduced to current visa requirements.

- State control of arrival caps – States being given greater control to manage the make-up of the state's arrivals cap so that international workers can be brought in.
- Encourage domestic workers – Increase incentives for agricultural work.
- Mobile workers – Ensuring labour mobility across state borders for workers in agriculture and related supply chain is maintained, despite fluctuations in new cases of COVID-19.



Karen Raybould
vegetablesWA
Operations Manager

702-704 Murray Street
West Perth, WA 6005
Phone: 08 9486 7515

Email: karen.raybould@vegetableswa.com.au

vegetablesWA

For my first 'Around the States' column on behalf of vegetablesWA, I would like to introduce myself.

My name is Karen Raybould and I have been the vegetablesWA Operations Manager since September 2019. vegetablesWA CEO John Shannon is taking some well-earned long service leave, so I am delighted to introduce myself to the readers of *Vegetables Australia*.

The first half of 2021 has certainly kept us on our toes.

Securing labour has continued to be a focus for the association. Achieving a minimum of two flights a month, we have welcomed 162 workers from Fiji in March and a further 160 workers from Vanuatu in April. The steady flow of labour into the state has been, in large part, thanks to the efforts of our Labour Scheme Facilitator, Melissa Denning.

Unpredictable weather has continued to hit our growers hard. For the second time this year, Carnarvon growers faced some devastating weather conditions, with Cyclone Seroja leaving a trail of damage and power outages. Geraldton growers were also badly impacted.

We were happy to learn that the Commonwealth Disaster Response Plan was activated, but as with any natural disaster, recovery is a long slow process. We have been working – and will continue to work – in these regions to support our members.

The vegetablesWA staff have had another busy few months.

Our VegNET Regional Development Officers, Sam Grubiša and Truyen Vo, hosted pest and disease workshops in Wanneroo and Carnarvon. This was a great opportunity for growers to meet with the vegetablesWA team and guest speakers from the Western Australian Department of Primary Industries and Regional Development.

There were discussions around fall armyworm and serpentine leaf miner, area wide management of viruses and bacteria, and Queensland fruit fly, all of which were of great benefit.

As a result of COVID-19, the Export Facilitator Project for South Australia has been extended for three months, enabling Manus Stockdale to continue supporting growers in the state to increase their exports.

Our Building Business Capability Project Lead, Bryn Edwards, is undertaking a financial and production benchmarking project that will examine all of horticulture. Bryn's article in the recent edition of WA Grower magazine entitled *Are growers getting a fair return?* is a must-read for any grower who has ever asked themselves that question.

We continue to work in challenging times and until our next catch up – stay safe.



Tim Withers
AUSVEG VIC
State Manager

3 Glenarm Road
Glen Iris, VIC 3146
Phone: 03 9882 0277
Website: ausvegvic.com.au
Email: info@ausvegvic.com.au



VGA trading as AUSVEG VIC

AUSVEG VIC

On Friday 7 May, AUSVEG VIC and E.E. Muir & Sons hosted the 2021 Victorian Awards for Excellence, which was well-attended by Victoria's vegetable and potato growers. Usually held annually, the awards were postponed in 2020 due to the COVID-19 pandemic.

Held in conjunction with a dinner, the awards night provides an opportunity to pause and recognise the tireless contributions that leading individuals make to ensure the Victorian vegetable industry remains strong and profitable into the future.

This year's awards hosted the Victorian Minister for Agriculture and Minister for Regional Development, the Hon. Mary-Anne Thomas and Victorian Senator Raff Ciccone.

The event recognised Ric Muir, one of the key directors involved in the major expansion of E.E. Muir & Sons. AUSVEG VIC President Paul Gazzola paid tribute to Ric, who received the Service to Industry award from the Hon. Mary-Anne Thomas. This is a prestigious award that AUSVEG VIC – previously the Vegetable Growers Association of Victoria Inc. – present to industry members who have dedicated their entire lives to supporting Victoria's vegetable growers.

Congratulations to this year's awards finalists. It is a great honour to be nominated for the state awards, recognising the contribution and impact each nominee has had on the vegetable and potato industries over the past 24 months. I am pleased to announce the Victorian Awards for Excellence winners below:

- E.E. Muir & Sons Grower of the Year Award: Gazzola Farms – Colin, Andrew and Paul Gazzola.
- VISY Young Grower of the Year Award: Xavier Toohey.
- Boomaroo Nurseries Women in Horticulture Award: Jo Van Niekerk.
- Butler Market Gardens Environmental & Sustainability Award: Mark and Darren Todaro.
- VegNET Victoria R&D Adoption and Industry Impact Award: 2020 East Gippsland Vegetable Innovation Days – Bulmer Farms, Elders, Food & Fibre Gippsland and Stuart Grigg Ag-Hort Consulting.
- Elders Community Stewardship Award: Catherine Velisha.

The winners will be nominated for the Hort Connections 2021 National Awards for Excellence, which will be held at the Brisbane Convention and Exhibition Centre on 9 June.

Growcom

Finding the right people at the right time and place to keep businesses running has always been a challenge in horticulture. COVID-19 has exacerbated these issues and put them into even sharper focus.

Earlier this year, the independent National Agricultural Labour Advisory Committee released the National Agricultural Workforce Strategy. One of the most important recommendations to come out of this report was the need to improve perceptions of agricultural work and careers.

Growcom recently launched a new Gap Year campaign in partnership with Australia's largest digital platform for high school leavers – Year13 – that aims to not only establish horticulture as a gap year option, but a rewarding career path.

Funded through the Federal Government's Harvest Trail Services Industry Collaboration Trail, the Gap Year campaign is an investment in young Australians, providing them with a better preview of the industry and what opportunities are available in Queensland.

Through the campaign, Growcom is also continuing its investment in safe and ethical

employers to ensure workers have the best possible experience in the industry.

Year13 is dedicated to empowering young people to follow their passions and working with government, employers, and educators to bridge the gap in youth employment.

The organisation has quickly established credibility with the 15 to 25-year-old demographic by producing engaging content that discusses the employment, education, and travel-related opportunities available to young Australians.

As part of the collaboration, participating school leavers will complete pre-induction training through FarmReady Hub and be given assistance to find employment.

Employers wanting to take on school leavers will need to prove their ethical employment practices through Fair Farms Certification or demonstrate a commitment to good work practices.

Growcom is currently seeking expressions of interest from Queensland growers to become Gap Year Employers of Choice. If you would like to register your interest or have any further questions, please contact Blair Brown on 0456 639 098 or email bbrown@growcom.com.au.



Stephen Barnard
Growcom
Chief Executive Officer

Primary Producers House
Level 3, 183 North Quay
Brisbane, QLD 4000
Phone: 07 3620 3844
Fax: 07 3620 3880



Jordan Brooke-Barnett
AUSVEG SA
Chief Executive Officer

South Australian Produce Markets,
Burma Road
Pooraka, SA 5095
Phone: 08 8221 5220

AUSVEG SA

AUSVEG SA will hold its first ever annual Hort SA Conference on Tuesday 18 May 2021, followed by the annual SA Vegetable Industry Awards on Wednesday 19 May.

The conference will feature a number of leading domestic and international speakers, including international seed experts, crop protection speakers, market research presentations and more.

The event will also feature 40 plus exhibitors under the market canopy and conclude with drinks kindly sponsored by the South Australian Produce Market.

AUSVEG SA would like to thank key event partner, the Department of Primary Industries and Regions (PIRSA), for supporting the first-ever conference and hopes industry gets behind this event, the first of its type run in South Australia.

Following the conference, AUSVEG SA will hold the state's Vegetable Industry Awards for Excellence, which will celebrate industry leaders across a number of categories.

State winners will be officially endorsed by AUSVEG SA as nominations for the National Awards for Excellence, to be held on 9 June. Many previous winners have taken out national awards following the state awards night.

Meanwhile, AUSVEG SA continues to monitor developments with the South Australian Government's quarantine scheme and arrangements for Seasonal Workers at Paringa.

The SA Government has allocated significant resources to bring in and quarantine 1,300 workers into the state until August 2021, with many of these positions used by horticulture.

At present, there are only two available flights for workers available under current quarantine caps, so interested growers should contact PIRSA with their requirements. There is a significant backlog at present for the Federal Department of Immigration to accredit new approved employers under the Seasonal Workers, so interested growers not already accredited will likely need to contact an approved labour hire company to manage access to the scheme.

AUSVEG SA is in ongoing discussions with PIRSA about future arrangements past August 2021 and is looking at arrangements, including in-country quarantine or further cohorts that may need to be allocated from August until end of year 2021. AUSVEG SA is keen to hear from any growers interested in accessing the scheme as it is in regular contact with government on these issues.



Simone Cameron
NT Farmers Association
VegNET Regional Development Officer

Phone: 0413 308 335
Website: ntfarmers.org.au
Email: ido@ntfarmers.org.au

NT Farmers Association

The above average seasonal rainfall experienced over the Wet season – thanks to La Niña – has given a renewed sense of enthusiasm among growers for vegetable production this Dry.

A planned Water Forum to be held in the Katherine region, focusing on the future of water and its direction for industry, has received significant interest as the 2021-2022 allocation plans are released to licensees.

Workforce concerns and availability of seasonal pickers continue to be high on the agenda for growers and industry to date. Unfortunately, recent plans to bring seasonal workers in from Timor Leste have been delayed and efforts are now focusing on other pathways to ensure worker capacity for growers, particularly with the Northern Territory harvest season knocking at the door.

The NT Chief Health Officer has now approved the quarantining of workers on-farm, which has alleviated the hurdles faced from last season's processes.

In other news, NT Farmers Association is collaborating with other industry bodies to

deliver the Melon Industry Support Program (MISP). This program aims to provide an incentive to producers, locals and existing visa workers to consider employment on farms this season.

Meanwhile, area wide surveillance of fall armyworm continues to be a focus in the NT, with traps positively identifying numbers in the top end as well as down towards central Australia.

Currently, the challenge is around the use and efficacy of certain insecticides to assist with population numbers – both adult moths and neonates. It is vitally important that growers feel comfortable about having conversations about this new enemy without feeling labelled.

NT Farmers has been working closely with the Department of Industry Trade and Tourism (DITT) to monitor and assist with extension activities for greater grower awareness. In collaboration with Plant Health Australia (PHA) and DITT, a two-day biosecurity preparedness and industry liaison training event will be delivered in Darwin for other non-government organisations and relevant plant industry associations.



AN IMPLEMENT RANGE THAT'S

GROWING WITH YOU

1.9% FINANCE
PA UP TO 60 MONTHS*

ACROSS THE IMPLEMENTS RANGE



VPI250 VEGETABLE PLANTER

CULTIVATING, SEEDING AND EVERYTHING IN BETWEEN.

Kubota offers an extensive package of effective and efficient implement solutions to the professional farming community.

We have everything you need, when it comes to spreading, cultivating and seeding equipment.

Every Implement in the Kubota Implements range is designed for performance and precision, with a strong focus on innovation and high build quality.



Ploughs



Precision Planters



Tine Cultivators



Power Harrows



Spreaders



Compact Disc

KUBOTA.COM.AU

For Earth, For Life
Кубота

*Offer is available for business borrowers only. 1.9%p.a. finance rate, no repayments for the first 6 months then monthly repayments. Maximum term 60 months, a minimum 20% deposit, minimum financed amount of \$4,000 and no residual payments. Terms, conditions, fees, charges and credit criteria apply. Different term and different deposit may result in a different rate. Credit provided by Kubota Australia Pty Ltd ABN 72005300621. This finance offer is available until 30/06/2021 with finance application submitted by 31/07/2021 and applies to all new Kubota Implement models.