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Next Grower BBQ: Wednesday 18 March

- Diamondback moth, Mike Furlong, UQ
- Diadegma, Jessa Thurman, UQ
- Impact of Pesticides on Beneficial Arthropods, Lara Senior, DAF
- Weak links in Cold Chain Management, Moudassir Habib, USQ
+ more

Hope to see you there. More details to come.
Presidents Report

Last year seems a distant memory as the beautiful Lockyer Valley has seemingly transformed overnight due to the beautiful rainfall we have received. With most of us running on empty leading into Christmas, it is amazing how a change in the weather and our surrounds has had such an impact on our wellbeing. Rainfall was varied across the region, with falls of approximately 150mm received by most, although falls of in excess of 300mm were received in the catchment areas of the Valley. The local creeks received a much-needed cleanout and many of the underground aquifers, particularly in the upper regions, had some recharge.

Many media outlets have been asking me what this rain will mean for the Valley. For most, it has meant a huge number of dormant weeds that have been sitting below the soil surface have emerged and quickly smothered the ground. Growers have been scrambling amongst the local chemical dealers searching for supplies of the ever-shortening herbicide, Glyphosate. This time last year, our local growers were struggling with lack of soil moisture required to adequately prepare the soil for planting. Fast forward 12 months and we look to have a good supply of sub soil moisture and some of the salt build up over the last few years should have flushed through the profile. “As for availability of water for irrigation?” We are not out of the woods and further rainfall in the upper catchment is required. I think we would all like to see more rainfall before the autumn/winter period kicks in.

In other news, many local irrigators attended the water demand assessment workshops run by Jacobs on behalf of the Lockyer Valley and Somerset Water Collaborative. Whilst the initial feelings amongst many of the attendees was one of scepticism, there is now a sense of belief amongst the community that this project is very real and will provide a fantastic opportunity to the region. The demand assessment forms have been submitted back to Jacobs and from all reports, demand for the new water exceeded expectations. Well done to the representatives of the Water Collaborative for their inputs thus far.

The Lockyer Valley Growers Industry Development Officer, Zara Hall, has been busily preparing handouts and flyers to make available to the Brassica growers this season. The Insecticide resistance management strategy developed by the Diamond Back Moth Committee has been well received thus far by the growers. Our upcoming grower BBQ will feature well renowned DBM expert Mike Furlong, who will share his knowledge with the growers. I encourage growers to take advantage of this fantastic opportunity.

The East Gippsland Vegetable Innovation days are approaching fast. The Committee has put together a fantastic program with the International Spinach Conference starting on Wednesday 6th May and the In ground Vegetable displays being held Thursday (7th) and Friday (8th) of May. I encourage growers who are looking to attend the field days to get organised as accommodation traditionally books up fast due to the popularity of the event.

Hope the year ahead is kinder to everyone and that Mother Nature continues to play her part. I look forward to catching up with everyone at the Grower BBQ next month.

Michael
It is thought that natural field margins have characteristics that support populations of beneficial insects such as *Diadegma*, ladybird beetles and predatory wasps. Jessa Thurman, an entomology PhD student at University of Queensland, suspects this may be because field margins have alternative and diverse food sources not found in crops, such as insect prey or flowering plants for nectar.

Thurman, under the guidance of Professor Mike Furlong, UQ, is studying the interaction of field margins on pest suppression of the Diamondback moth and developing innovative management strategies to replicate the benefits that field margins perform in pest control.

Initial studies conducted in organic *Brassica* farms in the Lockyer Valley demonstrated the positive interaction field margins have on natural mortality of Diamondback moth. Diamondback moth had lower survival when they were closer to field margins, than located further into the crop. This was partially due to predation, but parasitism rates by *Diadegma* contributed to the majority of pest suppression. In contrast, Diamondback moth survival in the middle of the crop (90m from the field edge) was significantly higher. This suggests that field margins may play an important role in the natural pest suppression of Diamondback moth. This is thought to be largely due to the resources provided by natural habitat, primarily nectar resources which may improve parasitism rates by released natural enemies.

In follow up studies, Matt Crust of Crust farms has assisted Thurman and Maria Melo in testing innovative management strategies for Diamondback moth based on the theory of field-margin effects. They have planted beds of flowering plants at strategic intervals throughout the field and is measuring these effects on Diamondback moth mortality. This work is ongoing with trial results not yet finalised.

Initial observations from Matt suggest a higher population of *Diadegma* in the 2019 season compared to previous seasons. Matt attributes this to a combination of the nectar sources provided in the field by the flowering plants which is necessary for parasitoid development as well as the changes made to the farms’ spray program implemented in 2019 which has a strong focus on Bt sprays.

On farm trials has provided Thurman with the opportunity to evaluate the practicalities of flowering strips in a commercial setting. Matt has advised “next time, I would plant the flowering rows in spray runs as they are left unsprayed, not in the field itself. That way, *Diadegma* or ladybird beetles won’t be killed if we have to go in with a knock-down insecticide. It also means we aren’t losing any cropping land by planting the flowering rows”.

Art: Jessa Thurman
Vanderfield and John Deere Connected Support™ Has Your Back

Vanderfield offers its customers a comprehensive, integrated suite of John Deere Connected Support™ tools that allows easy connection to their machines, with enormous potential for saving both time and money while increasing productivity.

‘We are able to support our customers right where and when they need it most,’ says Vanderfield Service Operations Manager, Mark Wallace, ‘when the unexpected happens in the field.’ This is partly achieved through the functionality offered by JDLink™.

‘We received a call from a grower who was sitting in the cabin of his new tractor, hoeing up cane beds and struggling with his hitch and implement settings,’ recalls Technical Support and Training Specialist, Richard Harris. ‘We utilised the Remote Display Access function to view his display and, together, we were able to get him up and running in no time.’

This function also allows the owners themselves to connect to and support operators in need, or to check work progress, just by using any internet-connected computer or mobile device.

An additional key advantage is the potential to eliminate travel costs through Remote Display Access and Service ADVISOR™ Remote, allowing machine diagnostics, operation optimisation, settings adjustments and software updates. With these features, travel costs could be significantly reduced when faults are analysed remotely by the team at the Vanderfield Technical Assistance Centre, as this enables the right technician, with the right parts and tools, to be sent to the field.
‘Our goal is to ensure our customers don’t have to wait for one of our field technicians to get to them or return to complete a job unless absolutely necessary’, explains Mark. ‘The functionality even extends to the potential of predicting, and avoiding, certain failures and associated downtime.’

Vanderfield customers can also use the Wireless Data Transfer (WDT) function of JD Link to automate the transfer of agronomic data from the machine’s GreenStar™ display to the MyJohnDeere Operations Centre. Examples include digital records of planting, product application and crop yield. In addition, WDT allows machine setup files such as product tank mixes, prescriptions and GPS guidance to be built in the MyJohnDeere Operations Centre and sent to the machine’s GreenStar™ display.

‘The advantages of a grower being able to document and share information easily are significant’, says Vanderfield Precision Farming Manager, Stephen Hegarty. ‘For example, within hours of planting a crop, applying fertiliser and pesticides or harvesting a crop, a grower can have a report of the exact details of the production data from each of their fields. This information is then able to be used for record keeping and compliance, or shared by the grower with their supply chain stakeholders, such as agronomists and processors.’

The Vanderfield precision ag team, VNET Precision Farming, and its Technical Assistance Centre (VTAC) are there to enable you to utilise all this technology to its full potential. All teams can be contacted on 1300 VANDER and 1300 MY VTAC.
When I visited Kerri-Ann Lamb of Wickham farms at the Killarney depot, the region had started to receive heavy rainfall. A blessing overall following 2019 which broke records as the lowest rainfall year in recorded history but in fairly typical fashion for Australian weather systems, the storms came with some damage – Backwater creek north of Warwick broke its banks the day earlier, wiping out a few acres of newly planted potatoes.

Kerri-Ann has recently submitted her report for Nuffield. Nuffield is an intensive scholarship program for agricultural producers across all sectors that is designed to advance innovation and development in Australian agriculture industries. Kerri-Ann was a recipient of the 2019 Nuffield scholarship supported by Hort Innovation. As part of the program, Kerri-Ann spent 16 weeks travelling to New Zealand, Austria, Germany, Switzerland, Netherlands, United Kingdom, Ireland, Hong Kong and China learning about current challenges and opportunities facing the fresh potato and fresh value-add industries in Australia, opportunities for waste streams and consumer buying preferences, publishing a research report and sharing her findings through speaking engagements at industry events.

How does farming in Australia compare to some of these other countries you visited?

Australians are very efficient farmers on a world stage from the perspective of growing a high quality, safe, sustainable product. But our energy costs, water reliability, labour costs and distance from market make us fairly uncompetitive when there are countries with cheap labour or generous farming subsidies. This is a major limitation to our growth as we are at a point as a country that we must become an export-based commodity to maintain growth. We need to find a way to be competitive on the world stage.
You wanted to find out about market opportunities for waste streams? What did you learn?

It was really challenging to get people to talk about waste. I would ask people what they do with their waste and they would indicate that they produced very little waste. I was really interested in learning about black soldier flies as a value-add protein meal from waste streams but again, people were very protective of their IP. The EU has some pretty tight regulations and legislation with regards to feeding animal-based products to animals. The feeding of insect meal to farm animals is currently not allowed in the European Union. Black soldier flies fall into the category of an animal-based feed despite that they can be fed solely a plant-based diet. This seems to have limited industry growth in the EU although future regulations are said to be changing. I have found the Australian insect meal regulations are less restrictive and businesses here are far more open and willing to discuss insect-based protein meal.

What was it about the program that you found so rewarding?

Going through Nuffield has made me so much more strategic in my thinking about our business. There is so much opportunity for growth. We tend to focus on the agronomics of farming. And that is so important—we absolutely need to be managing things like pests and disease. But equally, if we don’t have a market for that commodity, then, what is the point? There is so much opportunity to grow our markets by adding value both domestically and overseas and that is really exciting.

In some countries, like Ireland, you can walk into a store and pick up a 7Kg bag of potatoes. In Australia, our consumption of potatoes is far less. I recently read an article from Michelle Bridges, the celebrity fitness trainer, who had written about the health benefits of potatoes compared to cereal based carbohydrates like bread, pasta and rice. Potatoes are an amazing source of carbohydrates and are low GI [glycemic index]. One way to increase potato consumption domestically would be to investigate opportunities to swap consumers preferences for carbohydrates from pasta, bread or rice to potatoes.

One country I visited had an online store that exclusively sold potatoes. You could place an order for heirloom potato varieties and they arrived in the mail. Can you imagine buying your potatoes online and getting them delivered by Australia Post!

Reduced plastic in supermarkets was another consumer trend I saw a lot of overseas. In Australia, the potato industry is a low plastic input commodity. We don’t use plastic mulch films in the paddock and we tend to use wooden or reusable plastic crates for packing and storage. It has only been in the last 15 years or so that supermarkets have started to require potatoes to be bagged in plastics, prior to that we used hessian bags and paper bags or sold potatoes loose. We need to find a way to make the purchasing stage at the supermarket a low plastic input again.

Kerri-Ann will be presenting her report at the annual Nuffield conference in Perth, September 2020.

For more information about becoming a Nuffield scholar or to read about past Nuffield scholarships visit the website at https://nuffield.com.au/

Nuffield Australia is supported by Hort Innovation.
Growing Leaders

Building a Connected Vegetable Industry with a Sustainable Future

Growing Leaders (VG15030) was a Hort Innovation funded program provided by Rural Training Initiatives. The theme for the graduate of the 2017 growing leaders program was ‘building a connected vegetable industry with a sustainable future’. Roslyn Pennings is the Senior Supply Manager at Barden Produce Gatton. Here she speaks to Zara Hall about her experience going through the Growing Leaders Program in 2017.

What made you want to apply for Growing Leaders?

I wanted to go through the program because I had seen others at Barden’s who had completed Growing Leaders in previous years and you could see the impact it had on them both personally and professionally. It was so clear, the changes you would see in people like [the late] Shaun [Reina] from prior to starting the program to afterwards. Shaun was this really humble guy. He had come through the ranks and he didn’t see himself as a leader- but he was.

What was the experience like to go through the growing leaders program?

I loved it. I’d do it again if I could – actually, I volunteered the following year to do it again, but Clem [Hodgman] said I had to leave the space open for another person to have an opportunity [Roslyn laughs]. It’s not an easy program, but I was very impressed that the program was designed to accommodate participants with varying experiences and job roles.

For me, the public speaking was the hardest. I have no problems having a chat. And people that know me, know that I have an opinion on everything. But standing up and speaking publicly – that is different. It was really challenging but I am so glad I did it.

What has been the impact of Growing Leaders on you?

As part of the program, we were asked to choose a theme —our team chose the theme of building strong connections. Part of the process of going through Growing Leaders was to set clear goals for ourselves. Around the theme of building strong connections, I made it a goal to become more involved in my local industry. I started going to the Lockyer Valley Grower events like the BBQ information nights. I have also attended various agronomy training meetings. I sign up for all the industry newsletters. And I have become a collector of business cards.
“Attend the grower information BBQs, sign up for industry newsletters, be a collector of business cards - you never know when these connections might be useful”

I don’t pretend to understand all the technical aspects of what is being said at industry meetings. And there might be a lot of information that I don’t use. But often, weeks or months later, I might be chatting to someone and they will mention a production challenge or some other thing, and I will be like “wait a minute, I have a phone number for someone who can help you with that”. Or, “I have heard something about that”, and I can dig out the newsletter article or a business card for someone who works in that area.

I know so many more people since going through Growing Leaders. When I go to events like Hort Connections, I will run into the graduates from my program and it is so good to catch up with them. Although it is a 6 month course, we only spent three weeks in total together but we formed such a strong connection going through the program together. And I know more people from my local area too. Some of these people are our suppliers or we have contact with them through work, and now when I get a phone call or I talk to someone, I know who they are because I have met them at a grower BBQ.

Do you have any learnings or advice for people from the Growing Leaders program?

Attend events such as the Lockyer Valley Growers Information nights & BBQs, sign up for industry newsletters, be a collector of business cards - you never know when these connections might be useful.

Hort Innovation don’t currently offer the Growing Leaders program which is really unfortunate. I really hope they make it available again in the future because it was such a fantastic program.

Hort Innovation now offers two new professional development programs: MT18016 National Leadership Development Program & LP15001 Masterclass in horticultural business.

PEST PROFILE

Tomato potato psyllid (Bactericera cockerelli)

Description of pest and impact on plant health:
Tomato potato psyllid (TPP) is a tiny sap-sucking insect that is black with a white stripe on its back. Adults resemble small winged cicadas or aphids and are about 2-3 mm long.

Signs and symptoms of TPP feeding damage on host crops, such as tomatoes, potatoes, capsicum and chilies, include stunting and yellowing of foliage, leaf cupping, and yellowing of leaf margins among others. Adults and nymphs feeding produce ‘psyllid sugars’ on the underside of the plant leaf or stem, which look like small white crystals which can lead to sooty mold developing.

TPP can carry a bacterium called Candidatus Liberibacter solacearum (CLso). In potatoes, CLso bacteria is associated with ‘zebra chip’ disease and causes browning of the tissue. When cooked, this browning of the potato is more pronounced which is unsightly and leaves them unmarketable. It may also affect taste.

Is this pest currently present in Australia?
TPP is currently present in Western Australia. It was first detected in a backyard garden in Perth, WA in February 2017, and has since spread to other parts of the state. At the time of writing, TPP has not been found in any other Australian state or territory.

The bacterium, CLso, is not currently found in Australia.

What is the risk of this pest entering Australia or becoming established in Australia?
TPP is a high priority pest of the vegetable and potato industries. It can spread quickly through movement of plants and plant materials, people, vehicles and wind. International research suggests that TPP can establish in warm climates and mild winters, which is typical of many parts of southern Queensland.

Growers should remain vigilant and report suspect plant pests to the Exotic Plant Pest Hotline of 1800 084 881.

What is the impact of this pest becoming established in Australia? (low, med, high based on plant health Australia guides. What crops will be affected, potential trade impacts etc)
Affected vegetable crops include potatoes, tomatoes, capsicum, chilli, eggplant, other solanaceous crops, and sweetpotato. TPP will also infest weeds including nightshade and boxthorn.

During the Western Australia incursion of TPP, movement of fresh produce to other states was significantly impacted for several months, causing significant economic burden. If detected in Queensland, domestic and export market access may be affected, and costly control measures could potentially be required.

Currently, government and industry are working together to prepare for this threat.

In the event that it this pest is detected / becomes established in Australia, what steps have been taken to assist growers with management (e.g. breeding for disease resistance / emergency use permit / online resources)
There are several products currently registered for the control of TPP in Australia. Visit https://portal.apvma.gov.au/permits to find out which permits are available. Several beneficial insects have been identified as a potential option for TPP management. These include lacewings, ladybirds, mirid bugs, and hoverflies.
Links to resources:


Contact details for more info:

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Top image: Adult tomato potato psyllid, Western Australian Agriculture Authority, 2017.
Bottom image: Tomato potato psyllid eggs, Western Australian Agriculture Authority, 2017
**PEST PROFILE**

**Vegetable leafminer (Liriomyza sativae)**

**Description of pest and impact on plant health:**

The vegetable leafminer (VLM) is a pest of most vegetable crops, ornamentals, and melons. It is tiny, 1-2mm in length, and yellow and black in colour.

Adult leafminers create holes in the leaf and lay their eggs inside. Once the eggs hatch, the larvae tunnel inside the leaf, creating silvery, spirally trails called ‘leafmines’. After mining, the larvae emerge from the leaf and pupate in the soil, emerging as adults.

Heavy mining can reduce plant growth or kill seedlings and young plants. Feeding can also lead to secondary infections.

**Is this pest currently present in Australia?**

VLM is present in the Torres Strait Islands and Seisia, at the tip of Australia on the Cape York Peninsula. At the time of writing, it has not been found in any other region of Queensland or any other Australian state or territory.

**What is the risk of this pest becoming established elsewhere in Australia?**

It is thought that VLM has a high risk of establishing in Queensland, and it is predicted that there is climate suitability in the Lockyer Valley region for more than half the year. Lockyer Valley is also very close to Brisbane, which has major ports and entry pathways, and the production value for host crops in the region is significant.

**What is the impact of this pest becoming established in Australia?**

Affected vegetable crops come from several families and include potatoes, leafy vegetables, celery, beans, cucumber, pumpkin, and peas. Other crops at risk include ornamentals and cut flowers, and melons.

There could be significant trade implications if VLM entered a production region. Leafminers can hitchhike on goods, aircrafts, vehicles, or the movement of plant material. Eggs and larvae may also spread via live plant material or cut flowers.

It is important to remain vigilant for signs of leafmining and report suspect plant pests to the Exotic Plant Pest Hotline on 1800 084 881.

**What steps have been taken to assist growers with management of this pest?**

Crop monitoring forms a cornerstone of a successful IPM approach to monitoring VLM. Growers should apply economic thresholds to delay and reduce sprays to allow beneficial insect populations to build.

Avoiding broad spectrum insecticides will be crucial for VLM management.

Some emergency use permits have already been approved for *Liriomyza* spp. on a variety of crops, and others are in the process of being developed for *Liriomyza* spp. in preparation for its arrival. Visit [https://portal.apvma.gov.au/permits](https://portal.apvma.gov.au/permits) to find out which permits are available.

Beneficial insects including parasitoid wasps will be important for the natural control of VLM. The project found that Australia has more than 70 parasitoid wasps that have been shown to control VLM overseas.

Consider ‘wasp-safe’ choices when targeting other pests when leafminer activity is high. These wasps will help to control leafminer numbers.
Links to resources:

mt16004/
Biosecurity-Plan-for-the-Vegetable-Industry.pdf

Contact details for more info:

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MT16004 – Program for control, eradication, and
preparedness for vegetable leafminer (VLM) 2017-2020

Top Image: Vegetable leafminer adult, Pest and diseases
image library

Bottom Image: Vegetable leafminer damage to tomato plant,
Department of Agriculture and Water Resources
In 2017, growers began reporting poor spray efficacy in brassicas targeting Diamondback moth.

Insecticide resistance testing validated growers concerns with Diamondback moth showing increased tolerance to all IPM compatible pesticides registered in brassicas with the exception of Bts.

Industry lead a series of complementary initiatives to address the problem including development of an Insecticide Resistance Management Strategy, workshops and monitoring and evaluation of the adoption of the program.

Survey results showed 95% of industry were aware of the Insecticide Resistance Management Strategy. This program is ongoing.

Diamondback moth Management Committee

The DBM management committee was formed by Lockyer Valley Growers Inc. with representation from growers, agronomists, resellers, researchers, chemical companies and CropLife Australia and chaired by Chris Rutland, Nutrien Ag Solutions to develop the IRMS. The committee continues to meet throughout the season to coordinate ongoing RD&E efforts.

RD&E Updates

In 2018, the Lockyer Valley Growers Inc. Launched the IRMS with more than 50 industry personnel in attendance – representing most brassica producers.

An update was again provided in the 2019 season with 35 industry personnel in attendance. One of the presenters, Patrick Press, Sumitomo, shared tips on how to get the most out of Bt sprays.

Impact of Pesticides on Beneficial Arthropods

In HIA project VG16067 lead by Jessica Page, IPM Technologies; scientists tested the impact of pesticides on beneficial arthropods of importance in brassicas.

Jessica Page, Paul Horne (IPM Technologies) and Lara Senior (DSAIF) visited growers to discuss the findings of the research and seek feedback on the usability of the guides which will be published in April 2020.

On-farm Trials

Matt Crust of Crust farms assisted Mike Furlong’s team from UQ in running research trials on-farm for a HIA research project VG16062, investigating flowering plants as food sources for parasitoids.

Parasitoids including Diadegma wasp require a nectar source for optimum productivity. Furlong’s team investigated the impact of flowering plants on beneficials.
Insecticide Resistance Management Strategy

The strategy is a 2-Window Strategy with a focus on Bt sprays & a production break through the Summer months.

Development of the strategy was grower lead. In 2019, the strategy was updated with CropLife Australia, taking into account new data from resistance testing conducted by Greg Baker, SARDI.

Insecticide Resistance Testing

Greg Baker’s team at SARDI performed resistance testing for collections from the Lockyer Valley funded through CropLife Australia. Results showed elevated resistance levels to most pesticides registered in brassicas.

Workshops

In 2017, Lockyer Valley Growers Inc; Steve Kluck, Limit farms & matt Moyle, Nufarm, hosted a Spray Demonstration Event at Limit farms using fluorescing dyes to demonstrate the importance of spray technology in optimizing the performance of pesticides and adjuvants. Further events are planned for the coming season.

Area Wide Parasitoid Releases

Information about Area Wide release of Diadegma, a parasitoid of DBM was shared in a 2020 workshop hosted by Bayer with advise provided by Jessica Page and Paul Horne, IPM Technologies.

Diadegma is naturally occurring in cropping systems where only selective chemistry is used and is available for release through Biological Services. (Image: DAF)

Communication

Lockyer Valley Growers Inc. provided text message reminders and alerts to industry about changes to the IRMS Windows and development times of DBM.

The Lockyer Valley Growers Website included a Resource page with information about Diamondback moth including the Development Calculator developed by Schellhorn and Hamilton.

Monitoring & Evaluation

CropLife Australia conducted a M&E of the IRMS with assistance from Lockyer Valley Growers Inc. & DAF.

95% of surveyed industry were aware of the IRMS. Most growers were reporting good control of DBM using Bt sprays. Some growers reported that a production break was not feasible for their business.
“2-Window” Insecticide Rotation Strategy for Diamondback Moth in
Brassica Vegetable and Brassica Leafy Vegetable Crops for the Lockyer Valley

Focus on sound IPM principles:
- Rotate Bta (e.g. Xentari®) & Btk (e.g. Dipel®)
- Target sprays at egg hatch / 1st instar stage
- Monitor crops at least weekly
- Broad-spectrum chemicals will ‘flare’ DBM

Summer Production Break
A summer production break is recommended from November through to January to reduce the Diamondback moth population and minimise exposure to available chemicals.

Use of Bts as the primary control strategy
Rotate Bacillus thuringiensis (Bt) strains aizawai (e.g. Xentari®) & kurstaki (e.g. Dipel®) as the primary form of chemical control.

First Window Insecticide Rotation - February to April
Bt (G. 11 strains Bta & Btk). Bts form the primary control strategy
Proclaim® (G. 6)
Durivo® OR Belt® Coragen** (G. 28)
*Durivo® drenches to cease by end of March
** If Durivo® drenches are used then no foliar G28s to be used in that crop

Second Window Insecticide Rotation - May to October
Bt (G. 11 strains Bta & Btk). Bts form the primary control strategy
Avatar® (G. 22a)
Success Neo® (G. 5)
Movento® (G. 23) (1st instar larvae only)

Caution: Regent® (G. 2b) may be used in warmer periods for crop ‘clean up’ however this chemical should be used with caution due to its disruptive nature - broad-spectrum chemicals ‘flare’ DBM.

The detailed information within this document has the support of the Lockyer Valley Growers Inc. committee, industry specialists and CropLife Australia.
Sound IPM strategies for DBM control in brassica vegetable crops.

**Beneficials**
- Focus on preserving naturally occurring and commercially released beneficial insects in the crop e.g., supply nectar sources and harbouring sites for wasps.
- Use insecticides that have minimal impact on key beneficial insects such as Diadema semiclausum, Micromus tasmaniae (brown lacewing) and predatory bugs. Bt sprays are the ultimate here for safety to beneficials however the horticultural industry will soon be releasing scientific data indicating the short and long term impacts of currently registered insecticides on a range of beneficial insects. Stay tuned.

**Cultural**
- Control and destroy volunteer brassica weeds, harvested crop areas and abandoned brassica vegetable and brassica leafy vegetable crops in a timely manner so as not to breed up DBM populations.
- Transplant DBM free seedlings from commercial nurseries.
- Regularly (at least weekly) monitor the crop and document pest incidence and development stages.
- Be mindful of the rate of development of DBM based on prevailing weather conditions. Warmer growing conditions mean faster developing insects, so shorter spray intervals may be required for all products. This is particularly the case for Bt sprays.

**Chemical (last resort)**
- Only apply an insecticide if economic spray thresholds are reached.
- Target insecticides to the earlier instar stages as they are more susceptible particularly if tolerance levels to insecticides are increasing.
- Always document effectiveness of each insecticide application and never re-spray a failure with the same mode of action insecticide. Inform your local reseller or agronomist of any spray failures and try and understand why it has happened.
- Ensure spraying equipment is properly calibrated and in good working order so as to achieve good spray coverage. Refer to product labels for required spray quality (droplet size) and water volumes for particular crop stages. There is a lot of industry knowledge available regarding application technology and environmental conditions required at the time of application to optimise insecticide performance.
- Within the nominated IRMS windows, use a single Mode of Action insecticide in a “block” e.g., could be two or three sequential applications, so as to coincide with a single pest generation and then rotate to a different Mode of Action insecticide.
- DO NOT apply any Mode of Action group to more than 50% of the life of the crop.
- Abide by the legal maximum allowable number of applications of a particular insecticide per crop per season. These restrictions are in place for sound insecticide resistance management and MRL compliance reasons.
- Use registered insecticides at the recommended label rates and adjuvants. DO NOT reduce label rates.
- DO NOT use mixtures of insecticides for controlling DBM.
- Avoid broad spectrum insecticides e.g., OP’s, carbamates and synthetic pyrethroids or only use strategically. There are known high levels of DBM resistance to these products and they are also highly disruptive to beneficial insects.

<table>
<thead>
<tr>
<th>Crop growth stage</th>
<th>Seeding</th>
<th>Early vegetative</th>
<th>Mid vegetative</th>
<th>Protection of leafy commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Rotate Bt (Kurstaki, etc. Bt) and entomopathogenic bacterium (Xentari) in conjunction with weekly crop monitoring and focus on sound IPM principles.</td>
<td>If this approach is not effectively managing the DBM population then consider Step 2 intervention.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Success® Neo ProDan®</td>
<td>ProDan®</td>
<td>Movante®</td>
<td>Durato®</td>
</tr>
<tr>
<td>Step 3</td>
<td>If DBM population becomes too mixed in size, then knockdown population using standard application of Regent® and then resume using more selective options as in Step 2.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pseudis xylostella control in brassica vegetable and brassica leafy vegetable crops BEST MANAGEMENT PRACTICE.**

**Recommended reference document:** Diamondback Moth (DBM) by Vegenotes, Issue 9 (2008) produced by AUSVEG Ltd
Angelo Maggione—Koala Farms

Written by Zara Hall and Angelo Maggione

Angelo Maggione was the recipient of the award for Best Employee in the Lockyer Valley Regional Council 2019 annual awards. Angelo has been working for Koala farms for close to six years after leaving Italy in his early 20s. Angelo lives with his partner and baby girl in Gatton. Here he talks to Zara Hall about working for Koala farms and the process of sponsorship for an international worker in Australia.

How did you come to be working at Koala farms?

When I left Italy, the economy wasn’t good. I had been waiting tables and doing other jobs in hospitality – anything really. Lots of my friends didn’t have jobs, employment prospects were pretty bad. One of my friends was coming to Australia so I decided to go with him. I worked in Sydney for about six months in the Flemington markets, and my boss at the time knew Anthony Staatz well and recommended me. I moved to Gatton and started working for Anthony at Koala farms about six years ago. When my visa came to an end, I booked my ticket back to Italy but Anthony came up to me and said that he would sponsor me to stay in Australia and work for Koala farms – I was completely surprised and just blown away.

What is it that you like about your work?

Koala farms has a strong workplace culture. We see Koala Farms as not only belonging to Anthony but belonging to all of us. Anthony and our leadership team have developed our Strategic Plan through to 2023 and defined the culture that we need to support delivery of our Strategic Plan. Our culture is defined as “Koala Farms success is based on the contribution of every employee; therefore, our culture is about helping each other succeed”. I am lucky as I am very much a product of this culture.

Recently our HR Manager, Michelle Flowers went through a values exercise to develop our Organisational Values and to align them to our defined culture and Strategic Plan. The exercise was important as our employees were asked to help develop our values. She asked our employees about their individual values, the values they see in the business now and the values they want in the future. Their feedback was used to develop our Organizational Values and will be used to underpin our culture, define behavior and guide decision making in how the business operates to achieve strategic outcomes. This speaks volumes about the type of company Anthony wants and the importance he places on our employees and our culture.

Is there any advice you have for employers or international workers looking into a sponsorship arrangement with their employer?

For international workers, sponsorship is a very expensive but necessary process in order to maintain ongoing employment. In order to be eligible for sponsorship, you need to meet a series of requirements including having a qualification in the work you are doing and having English skills of a high standard. For me, that meant doing further study in horticulture and English language. When I came to Australia, my English was very poor, I had studied English at school, but it wasn’t considered as important then as it is now.
I got a qualification in Horticulture. Initially I was advised to do a different course which was not related to the job position and when I investigated further I found out that this would not have met the requirements for sponsorship. I am someone who always checks everything and researches everything carefully before making a decision. I tell anyone going through the process of upskilling to always get a second or third opinion. My experience has been that providers may not always provide good advise about the requirements for sponsorship and I have seen people spend large sums of money and time on qualifications that do not meet the criteria for their sponsorship arrangements.

Sponsorship rules have recently changed that benefit both employers and employees. Prior to my starting with Anthony, the agreement in place back then stated that if sponsorship is terminated for any reason, the employer is responsible for any costs, for example, the employer might have to pay for a return plane ticket. So, you could have a situation where an employee under a sponsorship agreement was not performing and the employer had to pay the costs of return airfare and other expenses in order to terminate employment.

This rule no longer applies which is good for both employees and employers. From the employees perspective, there isn’t the feeling of, how do you say, being ‘indebt’ to your employer if things aren’t working out. And for the employer, there is no risk that dismissal due to poor performance will lead to employers having to foot the bill for return airfares.

(Image supplied by Koala farms)
Planning towards a more Productive Soil Bank.

Well it’s that time of the year when our attentions turn towards getting crop in the ground and hopefully a more productive year than last.

The Lockyer Valley has a vast array of soil types in which our vegetables are grown, all different degrees of productivity, but as we saw last season, poorer water quality determined varying results of crop quality and yield.

Understanding our soil types and best how to manage them will help maintain Long Term Soil Health and therefore better our chances of increased productivity.

One tool which we have in our arsenal, SOIL TESTING. By asking your Agronomist to collect a soil sample and send off for analysis will certainly take the guess work out of what production is available in your soil and possible solutions to problems that may arise.

A soil test result may come back with up to 40 different nutritional readings, at times confusing and misunderstood. To start your Long Term Soil Health program let’s look at 3 of those readings that will get us started.

**Soil pH** – Is extremely important as it influences several soil factors affecting plant growth such as Soil Bacteria, Nutrient Leaching, Nutrient Availability, Soil Structure and Toxic Elements. Ideally your Soil pH should be 6.5 – 7.0

Soils with a pH greater than 7 are called Alkaline, those with a pH less than 6.5 are Acidic. Both these soil types can be rectified with addition of Gypsum or Lime.

**Soil Organic Carbon** – Is critical for maintaining the chemical, physical and biological health of your soil, thus increasing the SOC is generally associated with increasing Microbial activity in your soil. Increased Microbial activity will see Nitrogen and Phosphorus become plant available through the mineralisation process of Microbe to Metabalyte. N & P are both organic when applied to the soil, to release both to your plant they need to become inorganic, the mineralisation process does this.

By mulching / incorporating green manure crops, adding compost or addition of Organic Carbon Technology through spray or irrigation will help mitigate a low SOC.
Sodium – or Sodicity – refers to excessive levels of salt in the soil. Sodium causes physical problems in the soil such as dispersion and also restricts root and plant growth. Sodium tends to displace exchangeable cations (ability to hold onto essential nutrients) such as Calcium. Soil sodicity can lead to dispersion in the soil surface, causing crusting and sealing, which then impedes water infiltration. Look for visual indicators which includes; changes to soil structure and appearance (soil becomes white and crusted on the surface) changes to vegetation, decreased growth and bare patches. Given that over the last couple of seasons in different areas of the Lockyer we have been pumping Saline water continuously onto our soil, build up of salts in the soil was a certainty.

“As an example, a water test was taken from a Lockyer Valley Irrigation Bore, with a high PPM of salt, irrigated at 4-5 megalitres per/Ha crop, they added > 2000kg of Salt /Ha. That’s the kind of scenario we are facing with substandard water.”

Additions/Incorporation of Gypsum, Organic Carbons and Bio Chemical Fertiliser Catalyst’s will certainly aid in the soil recovery process. By reducing salt content of the soil it’s fertility can be “brought back ”to provide a more desirable environment for plant growth and health.

We at Nutrien Ag Solutions Gatton highly recommend a Soil Test this season before planting, it may save you money, it will improve your soil health and it will improve you crops chances of reaching its productivity potential.
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- Good leaf disease tolerance.

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Estatique
- Large framed cauliflower suitable for a wide production window
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- Good leaf disease tolerances
- Curds are white, well wrapped and ability to make large size
- Trials to date indicate suitable for Autumn/Spring cut in Southern states and Winter production in Queensland.

Moonshine
- Suited for Summer harvest in Southern Regions and Autumn periods in Southern Qld
- Upright frame with excellent curd protection
- Maturity 10-12 weeks
- Exceptional first cut potential
- Smooth white curds.

Serenity
- Med-large framed variety with strong, swirling curd protection
- Dense and heavy, white curds with a good tuck
- Good tip-burn tolerance
- Strong field tolerance to verticillium
- Uniform maturity gives concentrated first cut
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EXCLUSIVE DISCOUNTED PASSES AVAILABLE

Hort Connections, in partnership with Lockyer Valley Growers, will this year be offering $250 passes to Hort Connections that will allow access to both the Monday and Tuesday of the event.

These passes will encompass events such as:

- The Vegetable Industry Forum
- Welcome Reception
- Monday Trade Show
- Tuesday Plenary Sessions
- Tuesday Trade Show
- Diversity & Inclusion Session
- Women in Horticulture
- Vegetable Industry Networking Event

Lockyer Valley Growers will also be arranging buses to and from farms in the region on the Tuesday.

At over half price, this is a deal not to be missed!

Limited passes available.

Please email ido@lockyervalleygrowers.com.au to express your interest as soon as possible.
Lockyer Valley Regional Council Update

The Lockyer Valley has certainly flourished following the much-needed rainfall the region recently received. While it’s not drought-breaking yet, it is enough to relieve some of the gripping pressures that had imposed hardship on our rural sectors.

Lockyer Valley & Somerset Water Collaborative

Work continues with your representatives on the Lockyer Valley & Somerset Water Collaborative. Jacobs Group are the consultants engaged to deliver the detailed business plan and have conducted six information sessions across the region during February. These sessions were attended by more than 300 interested potential investors in obtaining additional water. Round 1 of the demand assessment was completed on 16 February, which will now enable a draft design network map to be established by early March. This will be a critical phase to validate the need for more water and the user’s willingness to pay.

An update on our Regional Skills Investment Strategy (RSIS) program

In February 2020, 14 growers undertook Chemical Accreditation Training in Laidley. Full funding for the training was received through TAFE Queensland’s Rural Support training program. Training covered units in: prepare and apply chemicals; transport and store chemicals and control weeds.

The RSIS Project Coordinator called growers with an expression of interest for this course to ensure growers were aware of the program and had the opportunities to apply for a position. The course was at full capacity, ensuring our growers took full advantage of the opportunity.

Stay in the loop with the Regional Skills Investment Strategy (RSIS) to ensure you don’t miss out on future training opportunities for growers in our region. For further information, contact Project Coordinator Brianna Kliese on 0455 108 649 or email bkliese@lvrc.qld.gov.au

Lockyer Natural Resource Management (NRM) Strategy adopted

The Natural Resource Management (NRM) Strategy was unanimously adopted by Council at its meeting on 22 January 2020. It is available in the Environment and Pest Management section of Council’s website – www.lvrc.qld.gov.au

An NRM Working Group consisting of a diverse array of stakeholders was established in June 2019 after a public expression of interest process. This Working Group developed the content for the NRM Strategy through a professionally facilitated workshop. The working group will also develop the content of the more detailed NRM Plan in February 2020.

This NRM Strategy is a high level, overarching document which provides the community’s strategic direction for our natural asset management over the next 10 years. The NRM Plan will outline more detailed on-ground actions for achieving this strategic direction.

For the most current information on the NRM Strategy and Plan, please visit our Engagement Hub (https://lockyervalley.engagementhub.com.au/) or contact Council’s Environment Team by calling 1300 005 872 or emailing environment_pest@lvrc.qld.gov.au.

Weeds added to Subsidy

Council recently gave the green light for four extra weeds to be included in the herbicide subsidy list for the remainder of the financial year.

There are currently 12 restricted matter weeds listed as eligible for a 50 percent herbicide subsidy from Council. With the addition of cat’s claw creeper, asparagus fern, Balloon and Madeira vines bringing the total to 16 identified environmental and restricted matter weeds, it has never been more cost-effective to manage these pests in our environment.

Cats claw creeper can completely cover native vegetation, eradicating plants and removing all biodiversity. The effect of blanketing in the landscape reduces productivity and increases opportunities for erosion and other invasive weeds.

Ian Church, Lockyer Valley Regional Council CEO
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______________________________ Email: ____________________________

Membership Fee to June 2020: $165 inc ($150 + GST)

Payment Option
☐ Cheque Post to PO Box 322 Gatton Q 4343
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Please forward Tax Invoice by: Fax Email Post (please circle)

I do / do not give permission for Lockyer Valley Grower to disclose information to related parties which would be of benefit to our business.

Signed ___________________________ Date __________________________

Lockyer Valley Growers Inc Membership Form Issue Date: November 2019
Time is running out for members with balances of less than $6,000 to make a choice about their insurance

With the 1 April 2020 commencement date for the government’s Putting Members’ Interests First (PMIF) legislation changes to insurance fast approaching, it’s vital for members with low balances to make a choice about whether to retain their insurance before their cover is cancelled.

Who is impacted by the changes?

The PMIF legislation aims to protect members’ retirement savings when they are “young” (under age 25) or have a “low balance” (less than $6,000).

What does this mean for members with a super account balance of less than $6,000?

As at 1 April, any members with a super account that has a balance of less than $6,000 will have their insurance cover cancelled (effective 31 March), unless they make an active choice to keep their cover.

How can members keep their insurance cover?

- Members at risk of losing their cover should notify their super fund in writing if they would like to keep their insurance cover.

- New members excluded from automatic cover can opt-in to insurance cover when they join their super fund or open a new account.

What else can members do?

Members at risk of having their insurance cancelled should have received communications from their super fund. We encourage these members to review these communications and consider whether their current insurance arrangements meet their needs. If members with low balances would like to keep their insurance cover, it’s important they contact their super fund as soon as possible.

For more information about the PMIF legislation, refer to our Sunsuper guide for members at sunsuper.com.au/insurance/putting-members-interests-first-pmif-legislation.

Disclaimer

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We’re here to help

Your Sunsuper Employer contacts for the Lockyer Valley Region are:

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