

Grower case study — VG15034 Facilitating adoption of IPM through a participatory approach with local advisors and industry

Grower	Graeme Pitchford
Location	Pitchford Produce, Currency Creek, South Australia
Planted area	160 hectares – broccolini, baby cos and iceberg lettuce for the fresh market

What was the research about

From 2016 to 2019, *VG15034 Facilitating adoption of IPM through a participatory approach with local advisors and industry* sought to increase the uptake of integrated pest management (IPM), with a focus on the South Australian vegetable industry.

Delivered by IPM Technologies and AUSVEG SA, the program included theory workshops for advisors and growers, with practical training delivered via a combination of field visits and regular technical support. Overall, the program sought to increase knowledge and skills on how to monitor crops, identify pest and beneficial species, implement cultural controls, and differentiate between pesticide products based on their relative compatibility with IPM programs.

Graeme Pitchford, who produces a range of vegetables including broccolini, baby cos and iceberg lettuce for the fresh market, talks about his experience with the IPM and VG15034.

What was your involvement with VG15034?

“I always liked the idea of sustainable farming and IPM. But the project helped me to really focus on it properly and get it off the ground. I participated in the project as one of the trial properties with my agronomists from EE Muir & Sons and DJ’s Grower Services who were involved in the IPM training workshops and field days then brought the lessons back to our farm. We didn’t treat it like a trial but implemented it fully straight away across all plantings, which we were confident to do as we had the support from the agronomist and the researcher IPM Technologies. We then conducted some field days on our farm to demonstrate what we had been doing and the learnings from our particular situation.”

What was the appeal of learning more about IPM through VG15034?

“We had been interested in IPM for a range of different reasons. I don’t like the idea of spraying just for the sake of it. I think that’s good for human consumption but also for resistance, which is a benefit for the whole industry to help preserve the chemistry that is there and not overuse it. And potentially for the bottom line as well if you can get the timing right. Most sprays are a few hundred dollars per hectare so if you can avoid a few sprays by relying on beneficials then you can save thousands of dollars.”

What are the results and impacts you’ve experienced since introducing and refining IPM on your farm as part of VG15034?

“We tried hard to eliminate broad spectrum pesticides from the program. So we learnt a lot about how to look after and build up beneficials, and the range of beneficials as well, and then understand when to make the call to spray based on thresholds. Overall we’ve been very happy with the level of pest control achieved using an IPM strategy.

In the lettuce crops we had previously used a weekly application of a broad-spectrum insecticide that in hindsight was highly disruptive to beneficial insects. With IPM we have moved away from routine insecticide applications and instead rely on naturally occurring beneficial insects and mites to control pests with selective insecticides used only as a support tool. This also means regular monitoring for pests and beneficials. In

practice this has meant that there have been 20-week periods where we have only applied three applications of selective insecticides in the lettuce crops, rather than 20 routine applications of a broad-spectrum insecticide.

In the broccolini crops we were already using selective IPM compatible insecticides, but these were being applied in a routine manner rather than only when required, based on monitoring. So the project helped us to take the next step and shift away from routine insecticide applications to very targeted applications.

We also try to use a wider range of selective insecticide products to help to slow the development of insecticide resistance to key selective pesticide products.

Because IPM technologies also focused on training the agronomists and resellers around the area it means we have ongoing commercial support. So the project did a good job laying that groundwork.”

What have been the challenges in implementing IPM?

“The key to IPM is basing management decisions on monitoring rather than routine spraying. With IPM you are relying on monitoring to put the pesticide out at the right time, so with warmer weather and a shorter lifecycle of insects there is always an element of risk there. So the main thing is to make sure that you are being super diligent with scouting, and there will times where you need to scout twice a week instead of once.

Scouting also depends on whether you employ an agronomist or do it yourself; there is a cost to that, but you spend a couple of hours out in the field and that could potentially save a couple of thousand dollars of chemical, but if you get it wrong you could lose one hundred thousand dollars of crop. So it’s a bit of a balancing act.

On balance it’s probably a bit more risky at a farm level to be in the IPM program in some ways but I just don’t want to go back to just spraying regardless of 1 or 100 insects because there are broader issues that are also important like human health, and preserving chemicals.

We still need to integrate a knockdown spray in focused areas, but try to do this in a way so as to not damage our beneficials. So we are doing that with specific chemistry’s but not overusing it, and targeting that on a small area. Normally within a field we have different age groups starting week 38 and finishing week 47 so there are ten weeks of crop in the one paddock so we might specifically target areas where we are about to harvest for example (obviously observing withholding periods) or just being selective depending on what the pressure is. An example might be Rutherglen bug in lettuce, where we might use an old-fashioned knockdown half a week before harvest to ensure there is a clean harvest.

The other problem that can arise depending on the crop is contaminating the packs with beneficials such as ladybirds, which has been a problem for the supermarkets. So we have had to knock-down beneficials at key times leading up to harvest to address this, even though we would argue “would you rather have beneficial bugs or harsh chemicals?”. So perhaps there needs to be more education on that.”

What does the future of IPM hold for your business?

“Going forward still have areas we want to develop. Cultural controls is still something we are working on. We’ve tried different crops in the permanent irrigation pipeline rows, but at the moment we don’t have a good system for hosting beneficials or getting rid of pests in that area. We need to keep working on that, including the varieties that go in with differences in management, water use, and also plant heights. But our property lends itself to beneficial hosts as we are surrounded by quite a lot of bush.”

VG13034 Facilitating adoption of IPM through a participatory approach with local advisors and industry was funded by Hort Innovation, using the vegetable research and development levy and contributions from the Australian Government. This case study was developed as part of MT21013 Fund Impact assessment 2020/21: Vegetables, funded by Hort Innovation, using research and development levies from the vegetable fund and contributions from the Australian Government.

Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture. For more information visit www.horticulture.com.au.

For more information on this grower case study, please contact George Revell, Principal Economist at Ag Econ, through george@agecon.com.au.