

## Facilitators

Project VG20000 was facilitated by AUSVEG.

## Major findings

The Annual Vegetable Industry Seminar disseminated important information on levy-funded research that directly benefits growers via a combination of an in-person seminar and online webinar formats, which is critical for growers to understand the overall benefit of the levy investment system.

The Seminar was held in conjunction with the Australian horticulture industry's premier event, Hort Connections, and took place on Wednesday 9 June at the Brisbane and Convention Exhibition Centre.

Around one hundred levy-paying vegetable growers – covering a diverse range of growing regions, crops, ages and cultural backgrounds – attended the Seminar, which highlighted the benefits of adopting the outcomes of industry-funded research and other research and innovations developed across the world. They heard from some of the world's leading industry researchers and thought leaders who provided an overview of how growers can improve their businesses, particularly in light of the current global economic climate.

The Seminar incorporated five panel discussions with local and international experts. Subjects ranged from career opportunities in the vegetable industry; advanced crop protection; international trade outlook on vegetable exports; marketing and building strong brands; and children's vegetable consumption. Each session included a facilitated Q&A session to allow for growers to ask questions specific to their operations.

"An important function of the face-to-face seminar is to offer informal networking opportunities for participants to allow growers to discuss the seminar's presentations and to build strong networks with a diverse range of growers and industry participants," Project Lead and AUSVEG National Marketing Manager Nathan McIntyre said.

To support the in-person Seminar at Hort Connections, a webinar series consisting of a range of topics was

recorded pre- and post-seminar to continue increasing awareness of important project outcomes and innovations to industry. This will ultimately increase the overall value and legacy of VG20000 to levy-paying vegetable growers for years to come.

"The webinars will be recorded and hosted on a dedicated page on the AUSVEG website. It will feature topics on levy-funded projects to showcase the outcomes of industry-funded research that can improve the productivity and profitability of vegetable growing businesses," Mr McIntyre said.

"AUSVEG selected the most appropriate topics and speakers in consultation with Hort Innovation to cover a broad range of issues that provided growers with all the necessary information to make informed decisions regarding their businesses."

All speaker presentations at the in-person seminar and webinars were recorded and distributed after the event. AUSVEG is housing the seminar recordings on a dedicated page on the AUSVEG website and hosted on its YouTube channel, allowing for easy dissemination and embedding of the content across various industry sources.

In addition, Hort Connections also featured a hybrid attendance approach that allowed delegates to attend virtually. The speaker content from the seminar was made available on the virtual platform for those unable to attend, particularly those delegates who were based in locked down Victoria.

## Outcomes

AUSVEG will continue to liaise strongly with existing projects to further extend the reach of the outputs from VG20000, including the *National Vegetable Industry Communications Program* and the various

VegNET projects to ensure that a wide range of growers from all regions can benefit from the project.

VG20000 aimed to promote knowledge transfer to the vegetable industry value chain on research findings, best practice, emerging risks and opportunities. It also sought to change participants' attitude and aspirations towards adopting R&D outcomes on-farm, which will subsequently contribute to building a stronger, more resilient Australian vegetable industry.

"Another outcome from this project will be enhanced communication and sharing of knowledge and information of technical developments with, and among, all sectors of the vegetable industry," Mr McIntyre said.

## Background

The Annual Vegetable Industry Seminar was run in conjunction with Hort Connections 2021 and showcased the outcomes of industry-funded research that can improve the productivity and profitability of vegetable growing businesses.

The in-person Seminar incorporated a mix of presentations that communicated the outcomes of levy-funded R&D projects and other relevant research and innovations. Each session included a facilitated Q&A session to allow for growers to ask questions, as well as informal networking opportunities.

There was also a virtual attendance option for those delegates unable to attend in-person.

To support the seminar at Hort Connections, a webinar series consisting of relevant topics was recorded pre- and post-Seminar. These webinars – along with the Seminar recording – are being hosted on the AUSVEG website.

## Acknowledgements

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



## Further information

Please contact AUSVEG on 03 9882 0277 or email [info@ausveg.com.au](mailto:info@ausveg.com.au).

Annual Vegetable Industry Seminar presentations can be viewed by visiting the Hort Connections website: [hortconnections.com.au/speaker-sessions-2021](http://hortconnections.com.au/speaker-sessions-2021).

The final report for this project will be made available on InfoVeg. Readers can search 'VG20000' on the InfoVeg database: [ausveg.com.au/infoveg/infoveg-database](http://ausveg.com.au/infoveg/infoveg-database).

# VG16062: Field and landscape management to support beneficial arthropods for IPM on vegetable farms

## Facilitators

Project VG16062 was led by Geoff Gurr from Charles Sturt University.

## Major findings

From 2017 to 2020, Project VG16062 ran with the aim of finding practical pest control solutions for vegetable growers. Over the course of a year, the team conducted a survey of 491 fields across multiple Australian states. Crops surveyed included carrot, lettuce, French bean, capsicum, sweetcorn and brassica vegetables such as cabbage and broccoli. From this survey, the team established that pest and beneficial arthropod densities are strongly affected by nearby land use, and are not uniform within each crop field.

"In the initial phase of the project we sought to understand the factors that determine the density of pests and beneficial insects," lead researcher Geoff Gurr said.

"Remarkably, we found that there were big differences in the densities of pests and beneficials between field centres and field margins. For example, field areas adjacent to native woodland such as shelterbelts, or next to riparian areas alongside water courses, had many more beneficials and fewer pests."

Pest populations were found to be lower in crops next to riparian vegetation, dams and roadways, but were higher next to other crops and weedy areas. Beneficial insects that attack pests were more numerous in areas of crops next to riparian vegetation and roadways.

This – and many other crop-specific findings – allowed the team to develop a series of guides for growers with information about where best to position

a particular type of vegetable crop, and which crops are most likely to be vulnerable to pest attack.

In the following phase of the project, the team investigated the use of flowering/companion plants within crops for pest control. Three annual plants (alyssum, buckwheat, and cornflower) were trialled as strips within brassica crops in New South Wales, Victoria, Queensland and South Australia.

"We set out to develop some additional approaches that a grower could implement cheaply, and that could generate benefits in the current season," Gurr said.

"This is obviously important for farms where native vegetation and watercourses are absent or scarce, because the grower can then make their farm friendlier for beneficial insects in a matter of weeks rather than waiting years for trees and shrubs to grow.

"Using strips of annual plants greatly increased the numbers of beneficial insects, reduced pest numbers and increased marketable yields of the crop. If the strips were positioned in areas such as headlands or sprinkler rows, no land was taken out of production and the benefit to cost ratio was over six – meaning that for each dollar spent on establishing flower strips, the grower gained an extra six dollars from increased yield."

The team also found that numbers of beneficial arthropods were elevated for up to 20 meters into the crop from where the strips were located. Finally, the rate of diamondback moth parasitism was doubled.

## Background

An abundance of international research shows that natural approaches can be used for pest control in vegetable crops. These approaches rely on using biological control agents or disrupting the pests' capacity to locate crops.

"The very fact that the Australian vegetable industry funded this project is a powerful signal that growers are determined to be on the front foot in terms of pest management in vegetable crops," Gurr reflected.

"Many growers have been reliant on the use of insecticides to control insects that otherwise threaten yields and can damage products, making them unattractive to consumers. Accordingly, the industry is very interested in alternative approaches that can lessen this reliance on chemicals."

Gurr explained that aside from the obvious, short-term benefits of extra crop yield, a natural approach to protecting crops is attractive because it reduces the number of times a grower has to spray insecticides. That, in turn, reduces the risk that the pest populations will develop resistance to insecticides.

"It is also kinder to the environment and reduces possible hazards to farm workers," he said.

There's lots more work to be done in this area, Gurr added.

"This whole branch of pest management has boomed in recent years; researchers all over the world are jumping aboard and developing strategies for all kinds of crop systems," he said.

"Growers should now feel encouraged to conduct their own investigations, trying out different flower species and planting layouts to establish what works best under their circumstances.

"There are huge benefits to be gained."

## Acknowledgements

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



## Further information

Please contact Geoff Gurr by emailing [ggurr@csu.edu.au](mailto:ggurr@csu.edu.au).

The final report for this project has been made available on InfoVeg. Readers can search 'VG16062' on the InfoVeg database: [ausveg.com.au/infoveg/infoveg-database](http://ausveg.com.au/infoveg/infoveg-database).



Vegetable grower Darren Schreurs (left) discusses the practicalities of flower strips to boost biocontrol with Geoff Gurr, while team members Olivia Reynolds and Syed Rizvi scout for pests.