



R&D Insights contains the latest levy-funded R&D project updates, research findings and related industry resources, which all happen under the Hort Innovation Olive Fund.

Hort Innovation partners with leading service providers to complete a range of R&D projects to ensure the long-term sustainability and profitability of the olive industry.



Great questions and thorough answers at Nangkita field day

The AOA's extension events program for 2023 ended on a high note, with rave reviews for the field day held in late September at Nangkita Grove in South Fleurieu Peninsula region.

Host Mel Hollick provided a great venue and facilities for the program, which focussed on pruning, composting and the use of drones, while Mother Nature did her bit with fabulous weather. Add in expert presenters, and it's not surprising the day was so well received.

An enthusiastic group of 25 were greeted by AOA CEO Michael Southan and Mel Hollick, who spoke about grove management practices on the property and the Nangkita Grove business model.

A session on the use of drones for grove monitoring followed, jointly presented by AOA President and grove consultant Michael Thomsett, and Dan French of Airborne Logic. Dan's visual presentation set out the benefits of using drones in

horticulture, enabling the on-demand collection of high-detail imagery and remotely-sensed data that can:

- detect and display things that are hard to see at ground level (e.g. areas of canopy die-back);
- accurately locate/measure/count/analyse/report on objects/detail/change over time;
- help navigate straight to problem areas or points of interest.



Grove management videos

Pruning and composting are increasingly 'hot topics' in grove management for our industry, as is the use of sensors and automation for better monitoring of grove conditions. As more growers learn about and take up the recommended practices, we're seeing a real leap forward in terms of tree health and productivity improvement.

We all want to see that increase even further, and help is at hand via a series of grove management videos available on the AOA's OliveBiz website. Taken at field days and workshops held as part of the industry knowledge transfer extension program, the videos provide information and guidance in the fundamentals of grove practices you can use to increase the health and productivity of your grove.

They're a great learning tool for those who weren't able to be there on the day, and an equally useful reminder for those who were, covering:

- Principles of Canopy Management/Tree Pruning - with Andrew Taylor;
- Making Compost - with Peter Wadewitz, Peats Soils;
- Weather Stations, Remote Sensing and Automation - with Jon Lockwood and Tass Peter, OneTemp, and Nangkita Grove owner Mel Hollick.

You can access the videos at www.olivebiz.com.au under Projects - Industry Resources - Videos.



And they can do it fast, with a monitoring capacity of up to 80 hectares in an hour.

There was then a demonstration with Mike's drone during the grove walk, with an opportunity for further discussion during the end-of-day networking session.

Walk through pruning and safety

The grove walk with pruning guru and horticultural consultant Andrew Taylor was undoubtedly one of the program highlights. A former olive grower and EVOO producer in New Zealand, with a background in pome fruit management, Taylor is now Grove Manager at Pendleton Estate and there's not a lot he doesn't know about pruning olive groves.

Taylor came equipped with his safety gear and started his session talking about the importance of ensuring worker safety in the grove. He stressed the need to wear appropriate safety gear and use the correct equipment for the job, along

with the 'golden rule' of never cutting above your head. He also reminded attendees that not providing employees with the right equipment and safety gear is a prosecutable offence.

Progressing through the grove, the group looked at the different stages of the regenerative pruning process being carried out, comparing tree regrowth and structure at one, two and three years post-pruning. Taylor also talked about the efficient management of prunings: breaking them down as you go into logs for firewood and branches left for mulching between the rows.

Composting trial

The afternoon session covered another of the day's main topics, with a presentation by Mel Hollick on the results of a composting trial undertaken on the property, supported by the Federal Government Smart Farms Small Grant: Soil Extension Activities program. The group then headed



back outside again for an inspection of the outcome.

The trial looked at a practical method of dealing with wastewater from Nangkita's processing plant. The water is combined with hay and the resulting mulch aged to create a simple compost, which is then applied in the grove.

Taylor noted that the important thing with the trial was that the waste mulch was broken down enough that the pomace no longer burned plants or roots. He stressed that while the resulting compost/mulch is not particularly rich in nutrients, it allows growers to deal with production waste and provides grove floor coverage for water retention and weed suppression. Hence the practice is not about fast-tracked soil improvement but rather about re-use of available resources and management of costs in the grove.

Maximising yield while managing costs

To that end, Taylor's take-home messages were:

Minimise time in the grove: do the necessary work as quickly as possible, at the same time trying to get the best grove improvements over the next three years - "time is money".

Approach grove management from a business perspective: focus on the efficiency side of running a grove, maximising yield while managing costs.

Positive feedback

Attendee feedback gave the day an overall rating score of 5/5 for the "very informative and very current" content which covered "a good mix of all aspects of the industry". The presenters were praised for providing simply explained and easy to understand information - which is just what a good industry field day should do.

The grove walk was the day's standout session, the "excellent information" providing "clarity on regenerative pruning and knowledge on pest management". Experiencing a "real demo of pruning and comparison of different pruned trees" was deemed invaluable – as one attendee said, "seeing is understanding".

The composting session also rated highly among attendees, who enjoyed being "outside smelling and discussing" the methods for "being effective with what you have". Understanding the problem of dealing with waste in the industry, and the methodology available to re-use/re-purpose it, was another big benefit, with attendees praising "the impressive work done by Mel to tackle it."

The tour of the processing facility and pomace production was also highly informative, providing "great overall explanations of the processes", with particular note made of the opportunity to learn about two-phase versus three-phase processing.

And the "broad spectrum of great

questions" raised throughout the day were met with "thorough answers which weren't rushed", provided by both presenters and fellow attendees. One of the key benefits of field days is the opportunity to ask questions relating to your own grove situation, and the Nangkita event didn't disappoint.

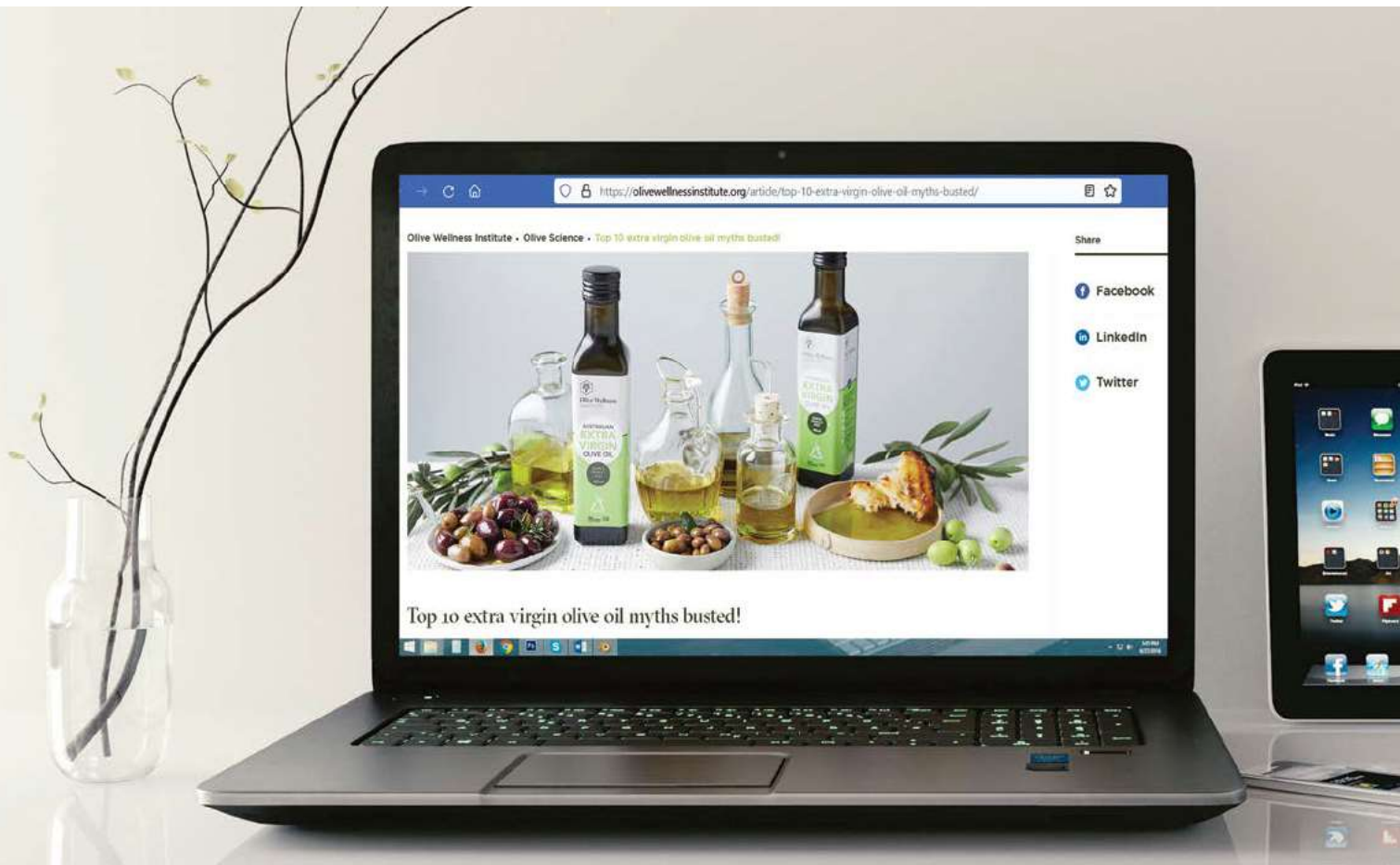
Neither did the day's catering, which showcased locally sourced foods and producers, and upheld the AOA's solid reputation for outstanding event catering.

Field learning to grove practice

Importantly, all attendees said they learned new information from the presentations, predominantly around pruning and improving tree health but also around irrigation, scale treatments, olive processing, varietal characteristics and more. And almost all said they would be taking the knowledge back to their groves, and introducing new practices into their management regimes.

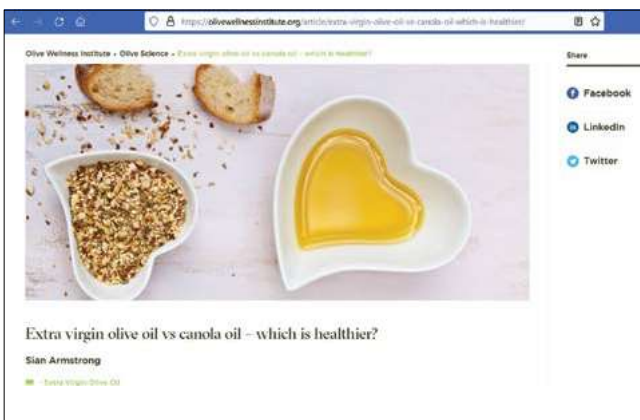
All up it was, as one attendee said, "An A1 day, hard to improve on. Thank you to Mel, and the other organisers and presenters."

The composting workshop and videos are part of the Olive levy project Australian olive industry communications and extension program (OL22000), funded by Hort Innovation, using the Hort Innovation olive research and development levy, co-investment from the Australian Olive Association and contributions from the Australian Government.



Olive Wellness Institute blogs make getting the word out easy

The Olive Wellness Institute is undoubtedly the greatest tool we have in our mission to get the word out about the myriad health benefits of olive products.



Responsible for the olive levy investment project *Educating Health Professionals About Australian Olive Products (OL22001)*, the Olive Wellness Institute (OWI) produces a wide range of science-based resources aimed at educating, informing - and myth busting - around olive products and health. They cover an equally wide range of formats, from podcasts, YouTube videos and e-books to information flyers and booklets, ensuring access across a diverse audience.

Most are available on the OWI's website, which also houses its repository of peer-reviewed research reports within the Olive Science Database.

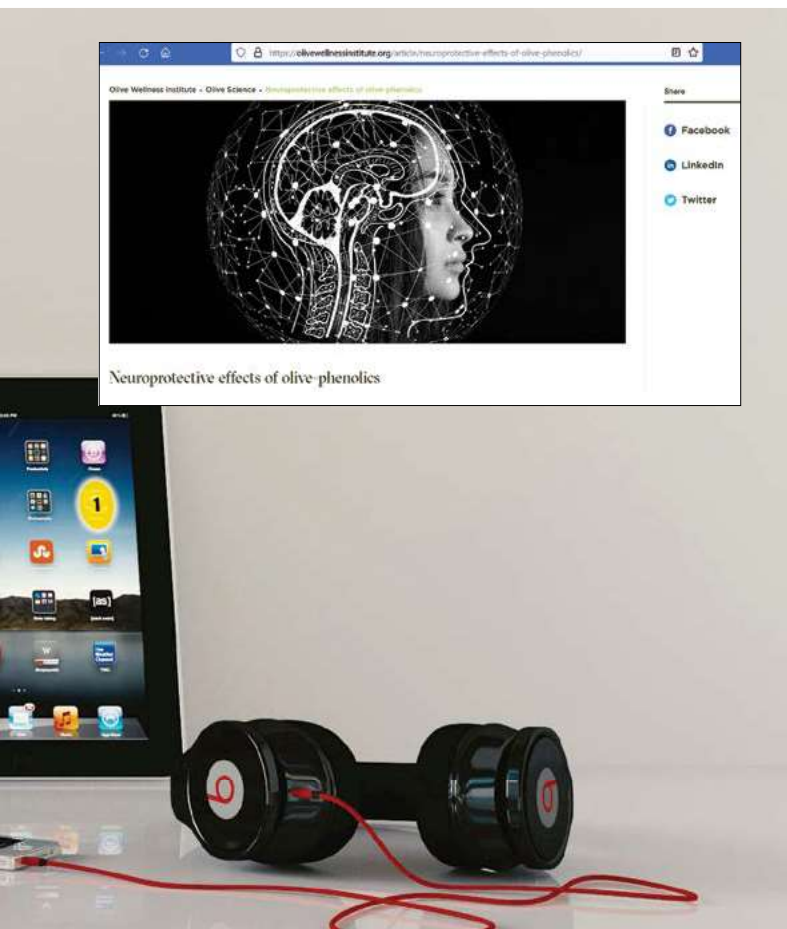
For those after something a little less technical, however, the OWI's blog page is a definite must-go-to, especially when you're looking for information to share with your networks.

Covering topics that everyone wants to know more about, in user-friendly 'every-person' language, the blogs provide a wealth of interesting - and useful - information. And a new blog is added each month, so there's always something new to point your social media and/or farmers market communities to.

Here's just a taste of what's on offer.

Extra virgin olive oil vs canola oil - which is healthier?

Canola oil is often heralded as one of the healthier and more stable oils to cook with due to its high smoke point



and low levels of saturated fats, but how does it compare to the well-researched extra virgin olive oil?

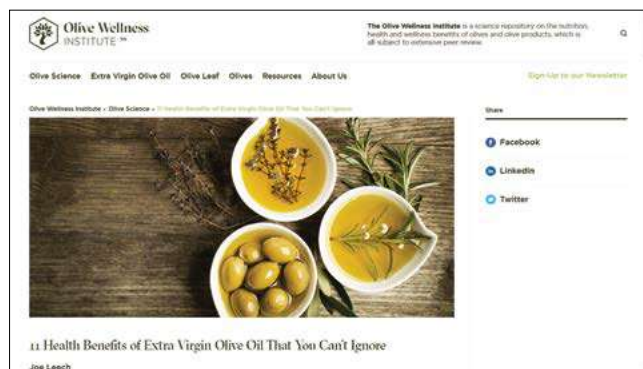
The blog looks at the differences between the two oils, and which one is really superior for health and cooking, covering production, fatty acid profile, components like polyphenols, antioxidants and phytosterols, stability and flavour profile. It even references a scientific paper ranking edible oils based on their nutritional quality (spoiler alert: olive oil #1, canola oil #17) and the 'Bottom line' provides a comparative recommendation for EVOO you just can't argue with.

The Mediterranean Diet and Extra Virgin Olive Oil for Women's Health

Women face a variety of health challenges across their lifespan - with some conditions unique to them and others disproportionately affecting them when compared to men. Good nutrition can assist in the prevention and management of many of these conditions, and the Mediterranean diet and extra virgin olive oil (EVOO) can play a key role.

The blog looks at the various ways in which the Mediterranean diet and EVOO can assist in optimising women's health, covering cardiovascular disease, fertility, reproductive health conditions, mental health and bone health.

The conclusion is that overall, extra virgin olive oil and the Mediterranean diet can provide multiple benefits to the health of women across the lifespan, thanks to the antioxidant-rich healthy fat profile of both EVOO and the overall Mediterranean diet eating pattern.



Top 10 extra virgin olive oil myths busted!

There are many myths surrounding extra virgin olive oil (EVOO), from whether you can cook with it to how you should store it. With so much misinformation out there, the OWI thought it was time to set the record straight and bust the 10 myths they hear most often.

Not surprisingly, top of the list is "1. You can't cook with extra virgin olive oil" – along with a range of myths around heating EVOO. It also deals with non-stick pans, the calorific value of "light" EVOO, the tricky label descriptor "pure" olive oil, and everyone's most frustrating myth, that colour = quality.

Neuroprotective effects of olive-phenolics

The olive tree provides us with numerous bioactive compounds, mainly biophenols, found primarily in olive fruit, oil, and leaves. Olive biophenols are known for their biological activities in preventing diseases and maintaining health; they provide neuroprotection and could play a role in slowing cognitive dysfunction and the neurodegenerative process in conditions such as Alzheimer's disease (AD)¹.

The blog discusses the biophenols in olive products scientifically proven for their health-promoting properties, particularly Oleocanthal and Hydroxytyrosol in EVOO, and Oleuropein in olive leaves, specifically focussing on the antioxidant and anti-inflammatory effects against neurodegenerative diseases.

The conclusion that the dietary consumption of natural olive resources such as olive fruit, olive oil, and olive leaves is the best approach for a healthy brain and healthy body is definitely one to share around.

Access and share

You can access the entire blog library on the Olive Wellness Institute website www.olivewellnessinstitute.org under the Olive Science - Olive Science Blogs drop-down. Then do your networks a favour, and share them around.

The strategic levy investment project Educating health professionals about Australian olive products (OL22001) is part of the Hort Innovation Olive Fund. The project is partially funded by Hort Innovation, using the Olive Fund 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.

Access 2022/23 reports and more

The *2022/23 Fund Annual Report* and Hort Innovation's *Company 2022/23 Annual Report* are available to download from the Hort Innovation Annual Report Portal - www.horticulture.com.au/annual-report-portal. The Olive Fund snapshot is on page 47 of the Fund Report.

Previous Olive Fund Annual Reports back to the 2017/18 financial year, and Company Annual Reports from 2015/16 to date, can also be accessed on the portal.

And if you want to know more about the nuts and bolts of the Olive Fund, there's an overview of how it works and how it's managed in the *Growers* section of the Hort Innovation website: navigate to the *Olive Fund* page and you'll find the *Fund Management* dropdown in the top menu.

You can also access information on both ongoing and completed Olive Fund R&D projects under the *Your investments* dropdown, along with an investment expenditure analysis showing how Olive Fund investments are tracking against the industry's Strategic Investment Plan (SIP).



R&D extension project outcome: Processing workshop.

Fund Annual Report 2022/23 released

The Hort Innovation Olive Fund is the driver of industry R&D, with olive levy payments invested, along with Australian Government contributions, into initiatives to help olive growers to be more productive and their businesses more profitable. That also ensures the viability and growth of the Australian olive industry into the future.

Every levy dollar paid is hard-earned by our producers, so it's important we all know how levy contributions are being used and what they're achieving for the industry. Hort Innovation has therefore historically produced annual reports for each of the 37 industries whose levies

it manages, providing project information from across the previous year.

The latest edition of the *Fund Annual Report*, covering the 2022/23 financial year, was released in November. The new-format publication is a single consolidated report on Hort Innovation-managed levy R&D investment, with a dedicated snapshot for each industry.

Olive Fund snapshot

The Olive Fund snapshot is on page 47 of the multi-industry report. It reveals that in the 2022/23 financial year \$309,110 in levies were collected by the Government and passed on to Hort Innovation for investment, while \$420,602 was invested in R&D on behalf of the industry.

The snapshot refers stakeholders to the *Olive Annual Investment Plan 2023/24* which includes details on current and proposed investments, and Financial Statements for the Olive R&D levy fund (actuals at 2022/23 and forecast to 2025/26).

2022/23 Olive Fund investment activity snapshot

Levy collected in 2022/23	\$309,110 (2021/22 = \$399,228; 2020/21 = \$130,809)
Invested in R&D in 2022/23	\$420,602 (2021/22 = \$256,193; 2020/21 = \$392,322)
Fund activity 2022/23	13 R&D investment projects
2023/24 activity	8 R&D investment projects



R&D extension project outcome: Grove management videos.

2022/23 active R&D projects

Active projects during the 2022/23 year, including multi-industry (MT/ST) investments, were:

- *Australian olive industry communications and extension program (OL18000)* - completed; (OL22000) – ongoing: delivering Grove Innovation newsletters, R&D Insights, field days, best practice workshops and more;
- *Educating health professionals about Australian olive products (OL19001)* – completed: providing evidence-based health information and educational resources about olive products to health professionals and the olive industry, via the Olive Wellness Institute;
- *Olive industry minor use program (OL16000)* - ongoing: supports applications and renewals of minor use permits for the olive industry, providing industry access to safe, relevant and effective chemicals



R&D extension project outcome: Industry field days.



R&D project outcome: Evidence-based information and educational resources about olive products to health professionals and industry.

to manage pests, weeds and diseases.

- *Regulatory support & response co-ordination (MT20007)* - ongoing: providing the Australian horticulture industry with key information regarding domestic and international pesticide regulation, including Ag Chemical Updates.
- *Consumer Demand Spaces (MT21003)* - completed: identified and prioritised opportunities for the horticulture sector to engage

consumers and build demand across the domestic market for fruits, nuts and vegetables.

- *Consumer Behaviour Retail Data (MT21004)* - ongoing: providing regular consumer behaviour data and insight reporting to a range of industries, through the Harvest to Home platform.
 - *Horticulture impact assessment program 2020/21 to 2022/23 (MT21015)* - ongoing: evaluating and providing insights into the impact of Hort Innovation-managed R&D investments.
 - *Pilot program - consumer usage and attitude and brand tracking (MT21201)* – completed; *Consumer usage & attitude research program (MT21202)* – ongoing: providing a category tracking service to allow various horticultural categories to better understand consumer usage and attitudes and the effectiveness of marketing campaigns.
 - *Data Generation Program for Minor Use (ST17000)* - completed; *Generation of Data Crop Protection (ST22003)* - ongoing: generation of pesticide residue, efficacy and crop safety data to support label registration and minor use permit applications made to the Australian Pesticides and Veterinary Medicines Authority (APVMA).
 - *Australian horticulture international demand creation (ST21007)* - completed: delivering insights into international consumer demand across priority markets for the Australian horticulture sector.
- More detail on these and other new, ongoing and completed projects can be accessed at www.horticulture.com.au/olive.



R&D project outcome: Chemical regulation for pest and disease management.



Have your say on chemical controls via the Olive SARP survey

The Strategic Agrichemical Review Process (SARP) is currently underway across a range of levy-paying industries, including olives, initiated as part of the Hort Innovation-run minor use program.

The industry SARP reports assist in ensuring the availability of and access to effective chemical controls for each industry's pest, weed and disease issues, and to address relevant needs and gaps.

The review process provides horticulture industries with sound treatment options for the future that the industry can pursue for registration with the chemical companies, or via minor-use permits with the Australian Pesticides and Veterinary Medicines Authority (APVMA) for clearly identified crop protection needs.

Update issues and evaluate treatments

The olive industry SARP was last updated in 2020 – and as we know, a lot can happen in terms of pest and disease activity in that time.

The current SARP process will utilise both industry consultation and desktop studies to identify and update which diseases, insect pests and weeds are of major



concern to the olive industry. Against these threats, available registered or permitted pesticides will be evaluated for overall suitability in terms of IPM, resistance, residues, withholding period, efficacy, trade, human safety and environmental issues.

Prioritisation of the major pests into high, moderate and low categories will identify the olive industry's priorities and help determine the highest priority gaps in the olive pest control strategy. Suitable new or alternative pesticides will be identified to address those gaps.

Data strength in numbers

The level of industry participation in the survey will determine the ultimate accuracy of the data collected, so please take a few minutes to provide information on pest and disease issues and management treatment in your grove.

The olive industry SARP survey is open until 22 December. To participate, go the Hort Innovation website - www.horticulture.com.au - and type 'Olive SARP 2023' into the search tool. Scroll down to access the link to the Olive survey.

Questions about the survey can be directed to Doug McCollum of research provider AGK Services at doug@agkservices.com.au or Hort Innovation R&D Manager of Strategic Crop Protection Claud Warren at claud.warren@horticulture.com.au.

This survey is part of the ongoing multi-industry project Strategic Agrichemical Review Process (SARP) 2023 updates (MT23001), a strategic levy investment in the Hort Innovation Almond, Avocado, Banana, Berry, Lychee, Macadamia, Melon, Olive, Onion, Papaya, Passionfruit, Pineapple and Summerfruit Funds.