R&D INSIGHTS
THE LATEST UPDATES ON R&D WITHIN THE OLIVE INDUSTRY | DECEMBER 2018

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.

2018 National Industry Conference delivers interactive learning

Collective learning was the focus of this year's AOA National Olive Industry Conference & Exhibition, held in Wagga Wagga, New South Wales in October, and it certainly met its aim. A strong turn-out of delegates attended one of the most interactive industry gatherings in recent years, with discussion an integral part of the information sharing which occurred.

The packed program of plenary and field sessions covered a broad range of topics, with delegates praising both the content and delivery. The promised "practical take-homes for all participants" were undoubtedly delivered, with overall feedback rating the event "an excellent conference".

The grove sessions were a popular element, providing many of those practical take-homes. The opportunity to hear from and speak with industry experts while viewing issues in the grove was appreciated and embraced by the delegates, with many gaining insight and solutions to their own grove management problems.

Surge in interest in table olive production

One of the trends emanating from the Conference was an increasing interest in table olive production.

"There was a massive groundswell of interest in table olives obvious during the event," AOA CEO Greg Seymour said.

"We'd seen it happening in recent years and planned this year's program to include a far greater number of table olive related sessions, but we were still surprised with how enthusiastically they were embraced.

"There were huge numbers to the concurrent table olive sessions, and the Saturday table olive workshop with Linda Costa was standing room only with well over 50 participants.

"It's certainly a message the AOA has taken on board now and we'll be providing further opportunities for information and quality training around table olive production into the future."

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Media coverage generates national promotion

While the Conference took the industry to Wagga Wagga, it also took it much further afield via extensive media coverage of the event. News reports and interviews with key presenters and industry figures were streamed to screens and across airwaves throughout the country, with both print and online articles adding to the mix.

AOA CEO Greg Seymour said the media coverage of the event reflected the growing interest in the industry and our high quality Australian products.

"NSW DPI did a great job in letting the media know about the Conference and the coverage we received was extensive," Seymour said.

"There were 42 TV and radio items broadcast within the first week, and the top 10 publications alone provided a total reach of around 40,000.

"They were interested in both the event itself and also our industry story, which provided an incredible opportunity for promotion to a huge audience. Several of the TV stories went national, taking the Australian olive industry – and Australian EVOO and table olives – to consumers across all states.

"That's Gold in any marketer's books."

2019 National Olive Industry Conference & Trade Exhibition – Save the date

Where: Albury, NSW

When: 16-19 October 2019

What: Wednesday 16 October – AOA AGM & Delegate cocktail function
Thursday 17 & Friday 18 October – Conference program
Saturday 19 October – Optional workshop and field visit program

Website:

www.nationaloliveconference.com.au

Hort Innovation Strategic levy investment | OLIVE FUND

AUSTRALIAN OLIVE ASSOCIATION LTD

NSW GOVERNMENT

Destination NSW

Olive oil in food service project co-ordinator Aranya Changkaoprom presenting one of the videos and factsheets to TAFE students.

TAFE program showcasing AEVOO to Australia's future chefs

TAFE students across New South Wales and Victoria are learning - and talking - about Australian extra virgin olive oil, and they're keen to know more.

As part of the Hort Innovation Olive Levy fund R&D project *Olive oil in food service program* (OL16004), led by Nutrition Australia, specially produced videos have been embedded within the Certificate III in Commercial Cookery courses at selected TAFE colleges and are currently being showcased to classes in NSW and VIC.

The videos feature top Australian chefs talking about Australian extra virgin olive oil (AEVOO), how they came to cook with it and how they use it in their restaurants. They also follow the chefs through the step-by-step preparation of some of their favourite AEVOO recipes.

Project co-ordinator Aranya Changkaoprom said early feedback, both anecdotal and from retrospective survey data, has been positive.

"One teacher from a Mildura TAFE who showed the videos to a class reported that 'students found the videos interesting, and they stimulated questions and discussion among the class'," she said.

"The small amount of data that has been collected to date has also shown preliminary positive results in terms of a change in student knowledge about Australian EVOO after watching the videos.

"We will continue to collect data on those responses and learning outcomes over the next few months, and that will be included in the final report for Hort Innovation and the industry."

In the meantime, Ms Changkaoprom said, the project team is continuing to engage with new TAFE colleges to increase the reach of the project, and with existing collaborators to ensure best practice in the program presentation.

"Phone interviews are planned with teachers implementing the resources to explore whether the videos are communicating the intended messages in a way that is engaging and relevant to trainee chefs, and to gain feedback on any improvements for the future.

"We also want to gain their perceptions of the impacts of increased knowledge on the benefits of AEVOO on practice, and whether the program has supported their teaching of the course generally.

"The results from these interviews will be collated and also included in the final report for Hort Innovation and the industry."

Resources now "live"

IN THE KITCHEN

Australian Extra Virgin Olive Oil is high in good (monounsaturated) fats and antioxidants, and 100% natural, making it a great tasting ingredient that's also healthy.

Australian Extra Virgin Olive Oil (AEVOO) is a truly multi-purpose oil in the kitchen. Use it to slosh, bake, fry, slurp and drizzle on any dish.

Cooking with AEVOO

Research has shown that Extra Virgin Olive Oil is one of the safest and healthiest oils for any type of cooking because:

- It is not **refined**
- It has **healthy**, stable fats
- It is naturally high in **antioxidants**

Mythbusting

Myth: You can't cook with EVOO
EVOO is one of the safest and healthiest oils for cooking at any temperature.

Myth: EVOO has no expiry date
EVOO is the fresh juice of the olive fruit and does degrade over time, meaning it's best to use fresh. Look for the harvest date on the bottle and be sure to select and use a AEVOO within 12 months of this date.

Myth: You can't use EVOO in non-stick pans
There is no evidence to support this. The healthy fats in EVOO make it very stable, preventing the oil from breaking down in the pan.

The Truth About Smoke Point

You may have heard the myth that extra virgin olive oil has a low smoke point and should not be cooked with. Here are some facts about smoke point:

- Smoke point is the temperature at which an oil starts to smoke constantly when heated.
- Quality AEVOO has a high smoke point, well above standard cooking temperatures.
- However, smoke point is not a good measure of how stable an oil is to cook with. It's the balance of healthy fats and natural antioxidants that makes AEVOO very stable and suitable for all cooking methods, including high temperature cooking.

The highest grade and healthiest cooking oil. No chemicals, preservatives or blends.

A refined oil that is subject to chemical processing.

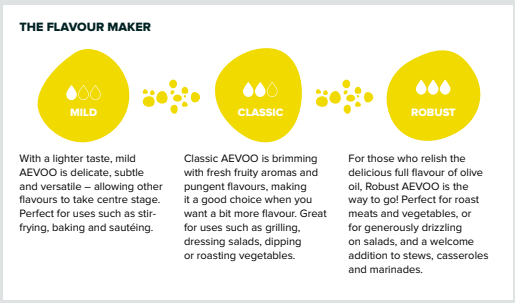
Oils that are refined using chemical processes.

Why is AEVOO great value?

AEVOO is a premium quality ingredient. To produce high quality food, you need to work with the best.

While you may pay slightly more for AEVOO over lower quality oils, you will produce a standard of food you can charge more for.

Consumers are demanding the freshest ingredients and seek to understand the origins of their food. AEVOO is a fresh, quality and locally sourced ingredient.



With a lighter taste, mild AEVOO is delicate, subtle and versatile – allowing other flavours to take centre stage. Perfect for uses such as stir-frying, baking and sautéing.

Classic AEVOO is brimming with fresh fruity aromas and pungent flavours, making it a good choice when you want a bit more flavour. Great for uses such as grilling, dressing salads, dipping or roasting vegetables.

For those who relish the delicious full flavour of olive oil, Robust AEVOO is the way to go! Perfect for roast meats and vegetables, or for generously drizzling on salads, and a welcome addition to stews, casseroles and marinades.

The Flavour Maker
AEVOO comes in a range of flavour profiles to suit any cuisine or dish. Robust styles are best suited to full-flavour dishes, while milder styles of AEVOO can be used when you are seeking a more subtle flavour.

Everyday

The resources created as part of the food service project have now gone live, enabling the information and messages to be accessed at the touch of a keyboard.

Launched to the industry at the 2018 National Olive Industry Conference & Trade Exhibition in October, the fact sheets and videos are now available for download on the Australian Extra Virgin *Everyday* website. Housed on a dedicated *Chefs* page focusing on hospitality usage, the fact sheets provide factual information about:

- AEVOO's health benefits, quality, versatility and flavor
- the characteristics of AEVOO and how to ensure you're buying EVOO
- cooking with AEVOO, with myth busting facts including the truth about smoke point.

The videos provide an ideal complement to the factual elements, sharing the passion for AEVOO of the feature chefs and showcasing the versatility of AEVOO in the kitchen via the recipes demonstrated.

They're all there for the downloading, providing a great promotional tool for when you're talking with chefs or food service representatives, and inspiration for anyone wanting to combine health, flavor and versatility in the kitchen.

Access them now at www.australianextravirgin.com.au.

Australian Extra Virgin Olive Oil Everyday

Research Recap

PROJECT NAME: *Olive oil in food service program* (OL16004)

PROJECT AIM: To increase awareness of Australian extra virgin olive oil among trainee chefs and culinary school students.

PROJECT PARTNER: Nutrition Australia, Vic Division

FUNDING: Hort Innovation Olive Fund

PROJECT DURATION: Two years, ending May 2019

KEY UPDATE INFORMATION:

- **Resources have been embedded within the Certificate III in Commercial Cookery course and are currently being showcased to TAFE classes in NSW and VIC**
- **Positive preliminary results in terms of a change in student knowledge about Australian EVOO after watching the videos**
- **Engagement with new TAFE colleges continuing to increase project reach**
- **Engagement with existing collaborators underway to ensure best practice in the program presentation**
- **Exploring the impact of increased awareness of the benefits of AEVOO on practice or anticipated practice in the future and any barriers to use of AEVOO.**

Benchmarking for improved industry performance

Rising global trade has increased pressure on olive producers to achieve a high-quality product at a competitive price. This had been evidenced with the commissioning of the International olive oil production costs study by the International Olive Council, where they sought to understand different production systems and the resulting financial performance on a $EUR per kilogram basis, i.e. benchmarking regional performance.

Australian olive growers have responded by identifying the need for best practice in grove management for the industry to remain competitive, specifically a focus on the key metrics of:

- productivity
- quality
- profitability.

Subsequently, both new and experienced grove managers need access to relevant benchmark data to provide an ongoing framework for identifying and acting on these key drivers.

Australian Olive Industry Benchmarking Program

RM Consulting Group (RMCG), a specialist agricultural and environmental consulting group, were engaged through Hort Innovation with funds from the Olive Industry research and development levy (project OL16001) to undertake the benchmarking of the Australian olive industry. The benchmarking was undertaken using the "BizCheck" method, developed by RMCG from economic and financial farm surveys. Data collection was undertaken based on annual financial statements (tax return data) and physical farm information to inform performance indicators for the 2015/16 and 2016/17 financial years.

Benchmarking for the industry is only possible with the support and involvement of those growers who are willing to participate and share their data. The project is indebted to those growers who willingly got involved and shared their data. Those growers who participated in the project will benefit the most from the results, as they have been provided with a personalised report to demonstrate how their business compares to the industry benchmarks, and an analysis on recommendations to improve their business profitability and efficiency.

All data collected through the course of the benchmarking project is treated in confidence. The data supplied by participating growers contains commercial in confidence information. As such, individual businesses cannot be identified, and the results can only be reported in aggregate.

Results

Benchmarking for the Australian olive industry has shown some key insights into issues for the industry and can provide guidance as to where future levy funds may be spent to assist the industry.

The benchmarking project has concluded that, of the olive businesses in the industry that engaged in this project, many:

- are small scale and do not generate a profit;
- have insufficient income per hectare, mainly due to low yield performance;
- are spending no or very little money on water, fertiliser and pest and disease control, some of these are key constraints to yield;
- have high operating costs, making it difficult to achieve profit and/or adding risk in lower yield scenarios;
- have overcapitalised in machinery, or have too small a scale of production for the fleet;
- have a low or negative return to capital, making sustainability and viability difficult;
- have a cost of production that is too high.

Conversely, there are a small number of businesses in the industry that have mastered these issues and are achieving a profit with a sustainable and viable outlook. The large spread of production and financial performance is typical of many industries.

Profit drivers for olive growers

Fundamentally, each olive business needs to be profitable in order to be sustainable and viable. Short-term losses can only be endured for a period of time. The equation which represents viability for agriculture and horticulture is represented as:

Yield x Price – Costs = Profit

Yield (t/ha) and Price ($/t) are powerful as they are multipliers.

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Target	Recommended Values	Explanation
SCALE	> 80 HA	Scale magnifies profits (also losses) but spreads overheads to generate a low cost of production. Smaller scale can achieve profit, however to achieve machinery and labour efficiency approximately > 80ha is required.
INCOME PER HA OF OLIVES	> $10,000/ha	Income = yield (t/ha) x price ($/t). There are number of ways to achieve a high income per hectare, either through low yields and very high price such as occurs with value added table olives, or higher yield and a lower price. The top performing businesses are achieving $15,000+ per hectare income.
PRODUCTIVITY	Water and drainage, fertiliser, pest and disease management. Greater than zero!	The benchmark analysis showed that many groves are not spending money on irrigation, drainage, fertiliser or pest and disease management. If any of these factors are limiting productivity they could have a ten-fold return on investment and easily create profit.
OPERATING COSTS	Operating costs (fixed and variable) <50% of income, suggested <$5,000/ha	Modest operating costs provide a lower risk business model and allow profit to be achieved. A good target to aim for is having operating costs (all costs excluding finance and machinery) to be no more than half your expected income. It includes variable and fixed costs but excludes interest, rent and depreciation.
MACHINERY INVESTMENT	Machinery value / farm income = <1.0	Investment in machinery should be tailored to the long term expected income. Many horticultural businesses over capitalise on machinery and this impacts profit performance. The current value of all machinery should be approximately equal to the expected annual income of the business.
INTEREST COSTS	<10% of income and /or debt/income =<1; and/or equity >85% in long term	Interest cost can be used to grow a profitable business, but becomes difficult to service if there is not a high operating surplus. (Income - operating costs)
RETURN ON CAPITAL (%)	>7% excluding any capital gain	Usually difficult for businesses just starting. In order for businesses to remain sustainable and maintain inputs, machinery and productivity achieving a positive return is critical. Many businesses in the benchmark project have a negative return to capital.
TOTAL COST OF PRODUCTION PER HECTARE	Total cost of production per hectare (including finance and overheads) needs to be less than $10,000.	The cost of production must be less than the expected income. Costs include operating, interest and depreciation plus owner's labour. This is a function of achieving a modest cost per ha. Target values per ha are also provided on the report on a per hectare and per tonnage basis.
TOTAL COST OF PRODUCTION PER TONNE	Cost of production per tonne <5,000/t (operating<$2,500 + interest & depreciation <$2,000 + owners labour <$500/t)	The cost of production per tonne must be less than the expected price per tonne. This is a function of achieving yield and low cost per ha. Target values per ha are also provided on the report.

1. Some surveyed businesses did not include their fixed operating costs in their total expenditure. For these businesses fixed operating costs were imputed.

2. Including orchard grove depreciation imputed at $800/ha/y.

3. Calculated at $80K per full time equivalent not included in wages operating costs.

High yield and high price are very effective at creating profit. A mid-range yield and mid-range price can create a profitable outcome. If either yield or price is very low, it becomes very difficult to achieve a profit.

Costs are subtracted from the multiplied yield and price. A high cost structure means there is less room to move on yield and price, even small impacts to yield (for example a frost event) and price will quickly result in a loss if a high cost structure exists. A low or modest cost structure is important to reduce risk and create ongoing profits. One way to achieve a modest cost structure is through scale of operation. Some costs are critical to driving production and should not be restricted, where those items restrict profitable productivity, such as: fertiliser, irrigation, pest and disease control and pruning.

Profit remains after all costs are paid. The adjacent table of key benchmarks or targets for the Olive Industry allows a quick diagnosis for business performance. A business can achieve profit outside these benchmarks, but it will be more difficult and require more specialisation.

The benchmarks are not a 'recipe' for business success, rather they are broad indicators that can help individuals and the industry identify areas of strength and weakness. These strengths and weaknesses can then be used to adjust business models and production systems to improve profit and create robust and resilient businesses.

This project has been funded by Hort Innovation, using the Olive Industry 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.

Research Recap

PROJECT NAME: ***Australian olive industry benchmarking program*** **(OL16001)**

PROJECT AIM: To ensure Australian olive growers have easy access to clear, relevant industry benchmarking information around productivity, quality and profitability.

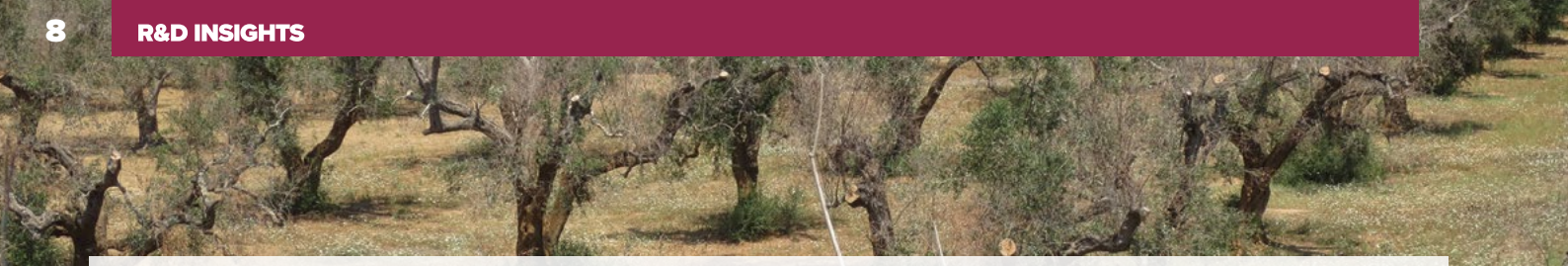
PROJECT PARTNER: RM Consulting Group (RMCG)

FUNDING: Hort Innovation Olive Fund

PROJECT TIMEFRAME: Completed.

KEY INFORMATION:

- **Many business are small and do not generate a profit; a small number are achieving a profit with a sustainable and viable outlook**
- **Benchmarking can help individuals and the industry identify areas of strength and weakness, which can be used to adjust business models and production systems to improve profit and create robust and resilient businesses**
- **The project has shown key insights into issues for the industry and can provide guidance as to where future levy funds may be spent to assist the industry.**



Co-ordinated defence against Australia's most threatening plant disease

The Australian Olive Association has been working with Hort Innovation as part of the Plant Biosecurity Research Initiative (PBRI) to safeguard the nation against a devastating bacteria that could cripple the country's multi-billion dollar horticulture sector.

Xylella fastidiosa is an exotic bacteria that prevents a plant from feeding by impeding the movement of rising sap.

While Australia is currently free from Xylella, it threatens more than 350 commercial, ornamental and native plant species across the country – including olives.

The impact of Xylella overseas has been catastrophic, destroying a million olive trees in Italy, infecting more than 200 million citrus trees in Brazil and devastating the Californian grape sector – causing annual losses in excess of US$100 million.

Dr Jo Luck, program director at the PBRI, said there is currently no known cure and prevention is the only safeguard against what has been deemed Australia's most threatening exotic plant disease.

"If established, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) has estimated the potential cost to Australian horticulture well in excess of $7.9 billion," she said.

"Through the PBRI, we are taking a co-ordinated approach, together with the nation's seven plant-focused research and development corporations, Plant Health Australia, the Department of Agriculture and Water Resources, industry, state and federal biosecurity stakeholders, to stamp this threat out before it can take root."

Dedicated Xylella co-ordinator

A Xylella co-ordinator is currently being recruited to develop research and development priorities and projects to help protect Australia's horticulture sector.

David Moore, Hort Innovation General Manager for Research and Development, said the Xylella Co-ordinator would help to facilitate project management of two further projects currently under evaluation.

"The threat that this disease poses across Australia has seen a focus on collaboration across agricultural research and development corporations," he said.

"We are working with a number of stakeholders on projects to investigate strategies for prevention and preparedness, as well as the review and adoption of the world's best-practice diagnostic methods for the detection and identification of Xylella," he said.

Olive industry action

Australian Olive Association CEO Greg Seymour said the organisation has been pro-actively at work to protect against Xylella since the threat was identified several years ago.

"We've been at the forefront of action on urging the government and NGOs to ensure there is good co-ordination and also involvement of industry in all processes," he said.

"We've communicated that we need a clear plan, along with delivery of information and services, to prevent Xylella getting here and that we also need to be prepared to respond quickly if it ever does, so that the impact on our industry is minimised.

"Growers can be confident that our industry is being defended.

"And emerging out of these current activities, the AOA will be sharing an active awareness and preparedness program for the olive industry in the new year."

About Xylella fastidiosa

*pronounced zy-lel-a (rhymes with umbrella) fast-id-ee-oh-sah.

Xylella fastidiosa lives in the water-conducting vessels (the xylem) of plants, and symptoms include leaf scorching, gradual reduction in fruit, stunting of shoots, dieback and eventual plant death. It is mainly spread by sap-sucking insects, or through the movement of infected plants or cuttings. Removal of infected plant material and control of vectors are the only control methods.

Xylella fastidiosa is the organism responsible for Pierce's disease and is an invasive bacterial plant pathogen that leads to the death of grapevines. It has a wide range of hosts and infects a large number of other commercial and ornamental plant species including citrus, olives and lucerne.

In late 2015, Australia introduced emergency biosecurity measures to reduce the risk of an incursion. These include offshore testing of nursery stock and plant material coming from regions where Xylella fastidiosa occurs, and certification.

This *R&D Insights* insert has been funded by Hort Innovation using the olive 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.

Hort Innovation Strategic levy investment

OLIVE FUND