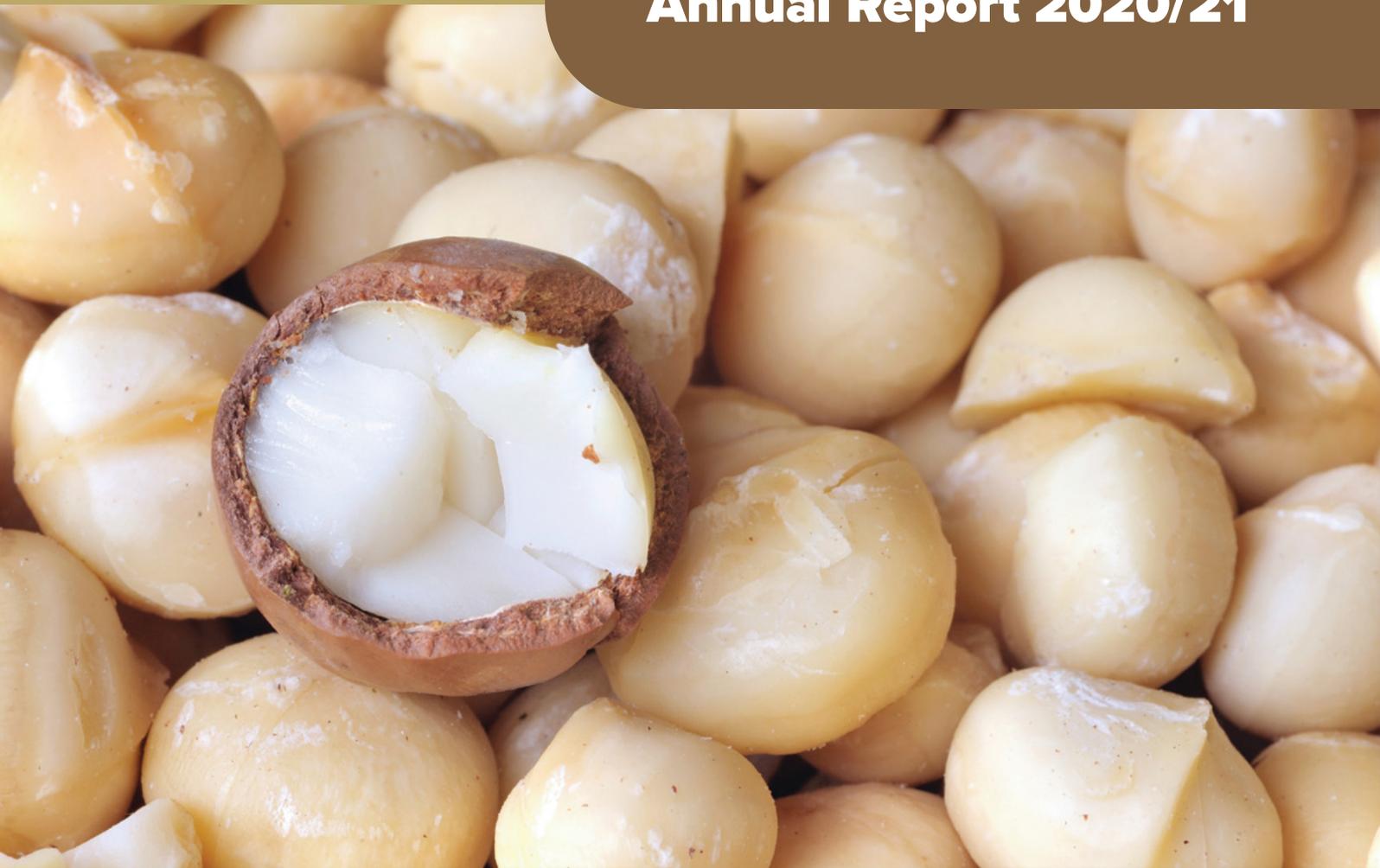


What happened in the **Macadamia** **Fund last year?**

Annual Report 2020/21



About Hort Innovation and the Macadamia Fund

Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australia's horticulture sector. We work closely with industry to invest the macadamia R&D and marketing levies, together with Australian Government contributions, into key initiatives for growers, through the Macadamia Fund. We're extremely proud of the work we do to help drive productivity, profitability and demand for macadamia growers, and for the horticulture sector at large.

Throughout another challenging year for the horticulture sector, activity in the Macadamia Fund remained strong. Read on for an overview of what was delivered.

We also encourage you to download a copy of the overarching Hort Innovation Annual Report 2020/21 at www.horticulture.com.au/annual-report-portal to better understand how Hort Innovation worked for the benefit of the horticulture sector during the year.

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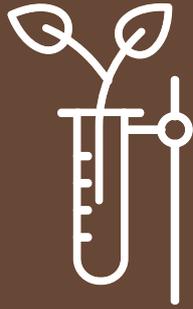
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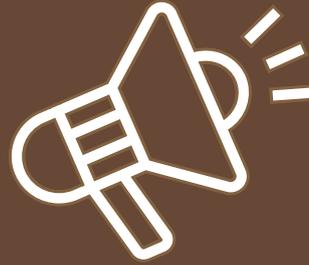
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\$2.28M

invested in R&D



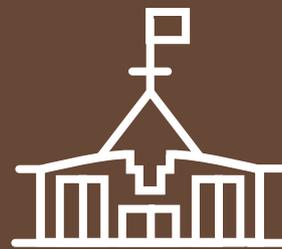
\$2.37M

invested in marketing



19

active R&D investments



\$4.13M

in levies collected

by the Government and passed on to Hort Innovation for investment



10.1%

Macadamia export value grew at an average annual rate of 10.1 per cent over the five years to 2019/20, reaching \$233.9 million



>\$245M

The farm-gate production value of the Australian macadamia industry exceeded \$245 million in 2019/20, with more than 14,900 tonnes produced (kernel volume)



2

Macadamia production occurs in two states: Queensland, which grows 54 per cent of the production volume, and New South Wales, which produces 46 per cent of Australia's macadamias

These facts and more can be found in the Australian Horticulture Statistics Handbook, which is delivered by Hort Innovation each year. The handbook is packed with horticulture statistical information and analysis for some 75 categories, for use by individual industries and the wider sector. The 2019/20 edition was released in early 2021 and features an interactive dashboard format for desktop users. See www.horticulture.com.au/horticulture-statistics-handbook.

Just some of the things delivered for you during the year



Resources to support macadamia growers in their decision-making, such as crop forecasts (see hortinn.com/mc18003) and a new investment to update the *Macadamia Grower Guide* (see hortinn.com/mc19001)



Preparation support for pest incursions such as fall armyworm and serpentine leafminer, including emergency minor use permits and longer-term investments to bolster the horticulture sector's response



Industry communication and extension programs, delivering the *Australian Macadamia Society News Bulletin* magazine, industry e-newsletters, the industry website (www.australianmacadamias.org), events and more



The macadamia Harvest to Home dashboard providing regular household purchase data and insight reporting, at www.harvesttohome.net.au



A multi-pronged domestic marketing campaign and **The Good Mood Food** across-horticulture campaign to support industries through the effects of another challenging year – see www.horticulture.com.au/the-good-mood-food*



Investments in the Hort Frontiers strategic partnership initiative to address longer-term and often complex issues and opportunities critical to the future of Australian horticulture – see www.horticulture.com.au/hort-frontiers*

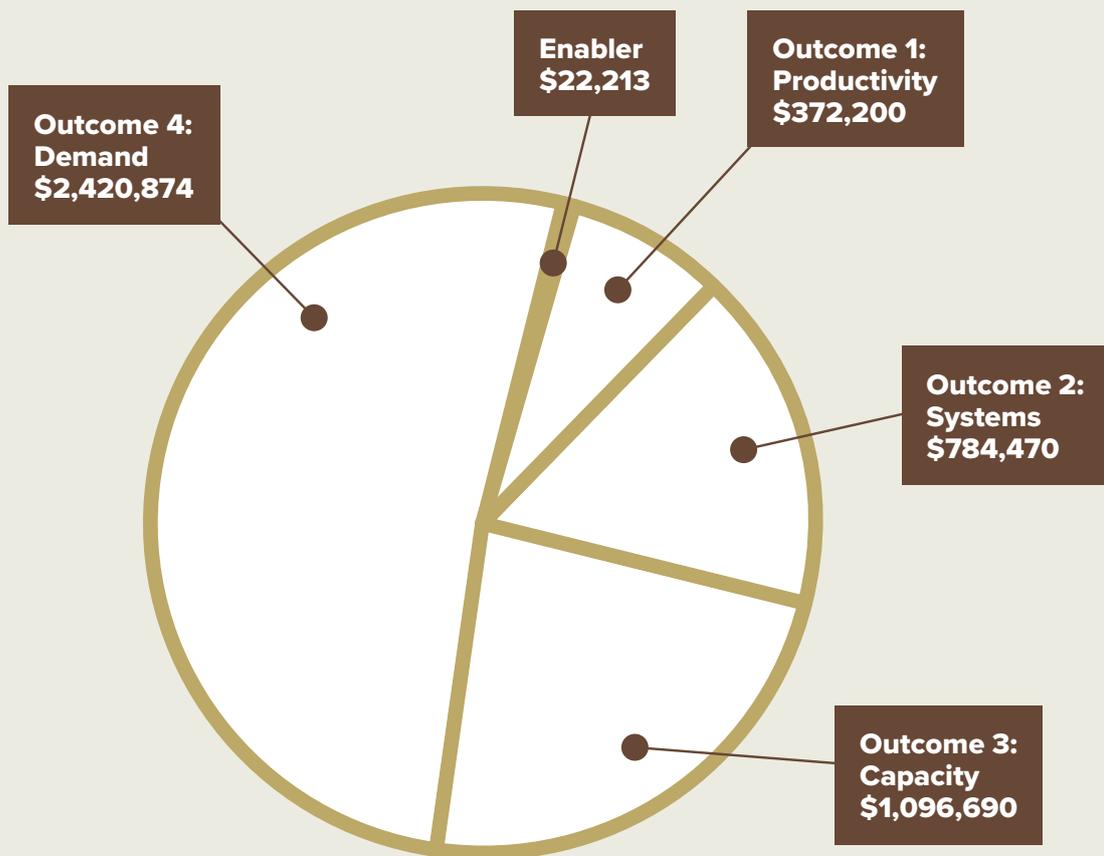


Projects supported by grants secured by Hort Innovation, ranging from cross-sector Rural R&D for Profit initiatives to horticulture-specific work to aid in access to crop protection products – see the Hort Innovation Annual Report 2020/21 for more*

You can visit www.horticulture.com.au/macadamia at any time to access information on new, ongoing and completed projects, and to download resources produced by levy investments such as fact sheets and guides.

*These initiatives were delivered outside of the Hort Innovation Macadamia Fund and, in most instances, did not involve the industry levy

Here's what your fund invested in over the year



Investments that are specific to the Hort Innovation Macadamia Fund are guided by the macadamia Strategic Investment Plan (SIP). The SIP features priority outcome areas that have been identified and agreed upon by the industry, and Hort Innovation works to invest in R&D and marketing initiatives that are aligned to these.

In the above chart, you can see how project expenditure in the Macadamia Fund during 2020/21 was aligned to the SIP. Each project has been allocated to a SIP outcome based on its primary objective.

Expenditure on projects classified as 'enabler' support the broader delivery of the industry's strategic investment plan, such as impact assessments.

Which projects were in each of the SIP outcome areas?

Outcome 1: Productivity

Increased productivity and grower returns through an average yield increase to five tonnes nut-in-shell per hectare by 2021

Project title and code	2020/21 investment	Status	More information
Macadamia industry minor use program (MC16002)	\$700	Ongoing	hortinn.com/mc16002
The IPM program for the Australian macadamia industry – NSW (MC16004)	\$162,000	Ongoing	hortinn.com/mc16004-to-mc16008
IPM program for the macadamia industry (MC16007)	\$15,000	Ongoing	hortinn.com/mc16004-to-mc16008
Macadamia integrated disease management (MC16018)	\$193,000	Ongoing	hortinn.com/mc16018
Strategic Agrichemical Review Process (SARP) – Updates (MT19008)	\$1,500	Completed	hortinn.com/mt19008

Outcome 2: Systems

Improved production systems covering plant breeding, intensive orchards and novel technologies

Project title and code	2020/21 investment	Status	More information
Innovation rootstocks for the Australian macadamia industry (MC16000)	\$45,480	Ongoing	hortinn.com/mc16000
Macadamia regional variety trials series 4 (MC17006)	\$100,627	Ongoing	hortinn.com/mc17006
National macadamia breeding and evaluation program (MC19000)	\$638,363	Ongoing	hortinn.com/mc19000

Outcome 3: Capacity

Improved capacity to lead and support current and future industry needs

Project title and code	2020/21 investment	Status	More information
Masterclass in Horticultural Business (LP15001)	\$10,000	Ongoing	hortinn.com/lp15001
Australian macadamia industry innovation and adoption program (MC15004)	\$352,261	Completed	hortinn.com/mc15004
Australian macadamia communication program (MC18000)	\$237,861	Ongoing	hortinn.com/mc18000
Benchmarking the macadamia industry 2019-2021 (MC18002)	\$262,325	Ongoing	hortinn.com/mc18002
Macadamia crop forecasting 2020-2022 (MC18003)	\$39,243	Ongoing	hortinn.com/mc18003
Macadamia industry innovation and adoption (MC20000)	\$195,000	Ongoing	hortinn.com/mc20000

Outcome 4: Demand

Market demand for Australian macadamias has increased and expanded

Marketing activities during 2020/21 contributed to demand-related outcomes in the SIP. You can read more about the macadamia marketing campaign on p10.

Project title and code	2020/21 investment	Status	More information
The effect of macadamia nuts on cardiometabolic risk factors and adiposity: a randomised intervention study (MC17005)	\$ 16,866	Ongoing	hortinn.com/mc17005
Consumer behavioural and retail data for fresh produce (MT17015)	\$ 24,983	Ongoing	hortinn.com/mt17015-macadamia
Horticulture trade data (MT19005)	\$ 5,821	Ongoing	hortinn.com/mt19005

Financial operating statement

Macadamia Fund Financial operating statement 2020/21

	R&D (\$)	Marketing (\$)	Total (\$)
	2020/21 July – June	2020/21 July – June	2020/21 July – June
OPENING BALANCE	247,513	330,544	578,057
Levies from growers (net of collection costs)	1,440,948	2,691,939	4,132,887
Australian Government money	1,323,789	–	1,323,789
Other income*	6,943	38,736	45,679
TOTAL INCOME	2,771,680	2,730,675	5,502,355
Project funding	2,276,467	2,373,203	4,649,670
Consultation with and advice from growers	1,502	2,670	4,172
Service delivery	369,610	386,770	756,380
TOTAL EXPENDITURE	2,647,579	2,762,643	5,410,222
Levy contribution to across-industry activity	–	–	–
CLOSING BALANCE	371,614	298,576	670,190
Levy collection costs	16,497	30,779	47,276

* Interest, royalties

Levy collection costs – These are the costs associated with the collection of levies from industry charged by Levy Revenue Services (LRS)

Service delivery – Also known as Corporate Cost Recovery (CCR), this is the total cost of managing the investment portfolio charged by Hort Innovation

Making sure that levy investment decisions align with industry priorities

What will be the Macadamia Fund's focus over the next five years?



The macadamia Strategic Investment Plan (SIP) was created in 2021 to reflect current priorities for the macadamia industry. This involved extensive consultation with macadamia growers and industry stakeholders, including the Australian Macadamia Society. The SIP is the roadmap that helps guide Hort Innovation's oversight and management of individual levy industry investment programs.

The macadamia SIP lays the foundation for decision making in levy investments and represents the balanced interest of the particular industry from which the levy is collected. The most important function of the SIP is to make sure that levy investment decisions align with industry priorities.

The macadamia SIP identifies four outcome areas that will contribute to the productivity and profitability of the macadamia sector. They are:

- Industry supply, productivity and sustainability
- Demand creation
- Extension and capability
- Business insights.

What projects will the fund be investing in next year?

The macadamia Annual Investment Plan (AIP) 2021/22 will detail how levy funds will be spent over the 12-month period. Investment decisions will be guided by the industry SIP and prioritised based on potential industry impact, as well as availability of levy funds.

The AIP is developed by Hort Innovation, and is informed by the SIP and industry consultation, including collaboration with the Australian Macadamia Society. The AIP is then discussed with the industry SIAP for feedback and prioritisation. All investments will need to link to the industry's SIP by addressing a minimum of one KPI against a strategy under one of the four outcomes.

Annual Investment Plans will be published each year over the lifespan of the SIP and industry stakeholders will be advised via established communication channels.

Hort Innovation will continue to report on fund performance regularly, with more focus on reporting on outcomes and the impact of investments.



When available, you can visit www.horticulture.com.au/macadamia-fund-management to view both documents and get a full picture of how your levy will be invested over the next five years.

Boosting productivity and profit through better tech and fewer pests

Running in conjunction, these projects aim to build capacity, encourage innovation and new technology, while delivering an integrated disease management program.

The challenge

Improve productivity and profitability by employing new technology and pest control techniques.



Peter Fraser, macadamia grower

Meet Peter

Peter Fraser's macadamia operation is one of the most productive macadamia farms in the country. That's in no small part thanks to Peter's vigilance and holistic approach when it comes to tackling pests and diseases.

"We've been using integrated pest and disease management for 25 years now," says Peter. "But the research that's gone on with the help of Hort Innovation in recent years has been really well-targeted, and that's had a big impact. What I think they've been able to add to the picture is a capacity to get a lot more people involved in where the research funds are going. That's delivered better results."

Peter believes that as climate becomes increasingly variable, and new biological threats emerge, the importance of collaborative research will only increase. "Pests and diseases are probably the biggest risk to a yield. They were very stable for the first few decades of my macadamia operation, but with more farms opening up, we've had transference of two major pests and the development of one major disease. Thankfully, the research has really shown us what we need to do to keep on top of these diseases. Hort's work has been really well directed at the problems I face, and I hope the rest of the industry feels the same way. It's meant that growers have been able to effectively deal with a lot of serious pest problems that can wipe out up to 100% of their crop."



The levy also funds initiatives to keep growers up to date with this and other industry R&D programs, and to encourage the industry-wide adoption of integrated disease management. These resources are a valuable tool for many growers, including Peter. “There’s a massive amount of information there, in all sorts of forms, and it’s led to big improvements from growers in recent years.”

“It’s allowed people to see who’s doing well in the industry, and what they need to do to get better yields. People are looking at what’s coming out of the integrated disease management program and paying attention because nearly all the best growers use a form of that kind of pest management.”

“

“What I think they’ve been able to add to the picture is a capacity to get a lot more people involved in where the research funds are going. That’s delivered better results.”

Peter Fraser, macadamia grower

For more information on the integrated disease management program, visit hortinn.com/mc16004-to-mc16008. To learn more about the activities of the innovation and adoption program, head to hortinn.com/mc15004.

The approach

Through the *Macadamia integrated disease management program*, this investment achieved its goal of providing growers with a holistic integrated disease management program, compatible with existing integrated pest management, which will improve productivity and increase profitability.

With a combination of research, training and communication activities, it’s leading to improved management and diagnostics for a range of diseases, including husk spot, Phomopsis husk rot, flower bight complex, Phytophthora root rot, and branch dieback.

Bolstering this disease management and prevention program is the *Australian macadamia industry innovation and adoption program*, which is bringing the latest tech to local macadamia farms, innovating all areas of production and processing.

Pre-COVID-19 a large feature of this program was face-to-face engagement with growers, which has now moved online. The program also included field days and research trips, which have been temporarily postponed in line with local health advice.

Online engagement now comprises of research feedback, training to improve the management of the most pressing diseases for the industry, and education on the latest technology to make growers’ operations more efficient and productive.

Project details

Australian macadamia industry innovation and adoption program (MC15004)

Key research provider: Australian Macadamia Society
Start date: March 2016
End date: March 2021
Estimated value for life of project: \$1,991,979

Macadamia integrated disease management (MC16018)

Key research provider: The University of Queensland
Start date: November 2017
Expected end date: March 2022
Estimated value for life of project: \$1,300,000

Getting more macadamias in more mouths across more markets

2020/21 saw the introduction of #DiscoverMacadamias – a new international marketing strategy to propel the Australian macadamia industry through uncertain times, at home and abroad.

The opportunity

As Australian macadamia production increases, overseas markets provide huge growth opportunities. By highlighting the many health, mood, and taste benefits of Australian macadamias, the #DiscoverMacadamias strategy is designed to ensure Aussie producers are well-placed to make the most of those opportunities.



Australian Macadamias also partnered with celebrity dietician and influencer, Lyndi Cohen. While in Bundaberg with growers Lyndi posted extensively about macadamias on her social media channels, and was a spokesperson for numerous high profile media opportunities including [The Australian](#), [The Courier Mail](#) and [Women's Health](#), and a spot on [Channel 9's Today Show](#). In total, the PR campaign reached millions.

To convey the health and taste message at a commercial level, an online Macadamia Marketing Toolkit was created, recently updated to include the emerging Gen Z demographic (the generation after millennials).

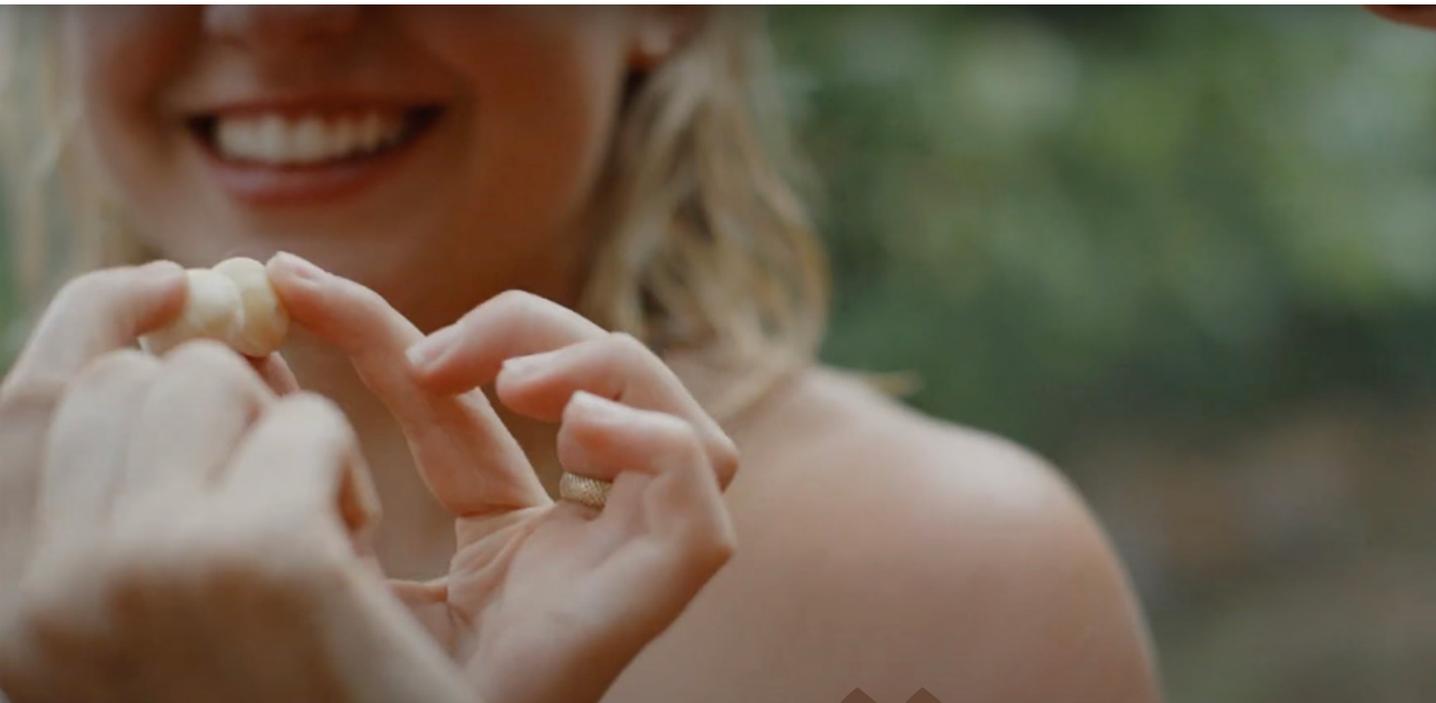
In 2020, a global campaign was launched to specifically target Gen Zs, achieving more than 100 pieces of coverage in trade media across China, South Korea, and Australia.

The approach

Backed by extensive research in Asia and the USA, The #DiscoverMacadamias campaign embarked on a content-driven strategy to promote Australian Macadamias as a pure ingredient, offering a pleasurable and guilt-free eating experience that can elevate food and wellbeing.

This included the beautifully shot *Discover Your Best Self* video series, which won gold in the Corporate Branding and Advertising Category at the Australian Cinematography Society Awards. This series has been watched more than 7,000 times on YouTube.

Research conducted as part of the program revealed that 82 per cent of overseas consumers rated 'country of origin' as important when buying macadamia. To leverage this, a campaign was created to differentiate Australian Macadamias from competitors. Audiences were taken on a journey from Australian macadamia orchard to a variety of markets. This campaign resulted in 105 pieces of coverage in global trade media, with a combined circulation of 1.2 billion.



To mark World Macadamia Day (4 September) promotions ran across social and traditional media, reaching more than 420,000 people. Some growers also competed in on-farm macadamia cracking competitions, attracting local TV news, radio, online and print media coverage.

The outcome

Through strong social media activity overseas and targeted PR and content campaigns in Australia, the message that Australian-grown macadamias are a healthy and delicious quality product was seen and embraced by millions of potential consumers.

Some key activities and stats include:

- 6000 consumers surveyed worldwide to guide current and future marketing activities
- Trade e-newsletter, *The Macadamia Review*, published every 3-4 weeks in English, German and Japanese to inform new and growing markets
- Australian Macadamias' social media following grew by almost 150 per cent to 102,000
- 25 delicious and photographed recipes added to Australian Macadamias' recipe collection
- Christmas campaign in China was viewed more than 700,000 times

“

“The feedback we’ve had from consumers about the #DiscoverMacadamias campaign has been great and the awareness through social media has also been really good to see. But the research that’s been conducted has been even most valuable to me – being able to see how different markets actually consume and what they’re looking for – that allows us to make sure we’re producing something they actually want.”

Henrik Christiansen, macadamia grower, Queensland

Read more about the campaign at hortinn.com/macadamia-marketing-snapshot

Project details

These marketing activities are strategic levy investments in the Hort Innovation Macadamia Fund

Minor use permits

The Hort Innovation Macadamia Fund supports the submission of applications for new and renewed minor use permits for the industry, as well as data generation activities to support chemical permits and registrations, and strategic agrichemical reviews.

Together these efforts provide industry access to safe, relevant and effective chemicals for the management of pests, weeds and diseases.

For full details on these activities and links to relevant information, visit hortinn.com/macadamia-minor-use.

Permits in 2020/21

During the 2020/21 financial year, a successful renewal for PER12769 (issued as PER90592) was prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Macadamia industry minor use program* (MC16002). Further permit renewals, PER86827 and PER14276 were also granted in this period, after the applications were submitted in the previous financial year.

Details for these and all other permits can be found in the following table.



Minor use permits

Current permits

Below is a list of minor use permits for the macadamia industry, current as of 24 August 2021.

Permit ID	Description	Date issued	Expiry date	Permit holder
PER11462 Version 3	Ethephon / Macadamias / Promote nutfall	07-May-09	30-Jun-25	Hort Innovation
PER11635 Version 3	Petroleum oil / Macadamia / Macadamia felted coccid	01-Jul-10	30-Jun-25	Hort Innovation
PER90592	Methomyl / Macadamia / Banana fruit caterpillar (QLD only)	09-Apr-21	30-Apr-26	Hort Innovation
PER13642 Version 2	Chlorpyrifos and Maldison / Tree nuts / Australian plague locust	01-Sep-12	30-Jun-25	Australian Nut Industry Council (ANIC) C/Hort Innovation
PER13689 Version 4	Trichlorfon / Macadamia nuts / Macadamia lace bug, fruit-spotting bug, banana-spotting bug, green vegetable bug (2-day WHP)	14-May-13	30-Sep-21	Australia Macadamia Society (AMS)
PER14276 Version 3	Diazinon / Macadamia / Macadamia lace bug	01-Dec-13	30-Nov-22	Australia Macadamia Society (AMS) C/Hort Innovation
PER87510	Abamectin / Macadamias / Thrips, broad mites and flat mites	17-Jun-19	30-Jun-24	Hort Innovation
PER86827 Version 2	Indoxacarb (Avatar Insecticide) / Macadamia / Macadamia seed weevil (<i>Sigastus</i>)	13-Sep-18	31-Mar-26	Hort Innovation
PER89241	Spinetoram / Various including macadamia / Fall armyworm	06-Mar-20	31-Mar-23	Hort Innovation
PER89278	Indoxacarb (Avatar Insecticide) / Macadamia / Fall armyworm (<i>Spodoptera frugiperda</i>)	13-Mar-20	31-Mar-23	Hort Innovation
PER89293	Methomyl / Macadamia / Fall armyworm (<i>Spodoptera frugiperda</i>)	10-Apr-20	30-Apr-23	Hort Innovation
PER89353 Version 2	Chlorantraniliprole (Altacor Hort Insecticide / Coragen) / Tree Nuts: Tree nuts (except almonds) / Fall armyworm (<i>Spodoptera frugiperda</i>)	5-May-20	31-May-23	Hort Innovation

All efforts have been made to provide the most current, complete and accurate information on these permits, however you should always confirm all details on the APVMA website at portal.apvma.gov.au/permits. Details of the conditions of use associated with these permits can also be found on the APVMA site.

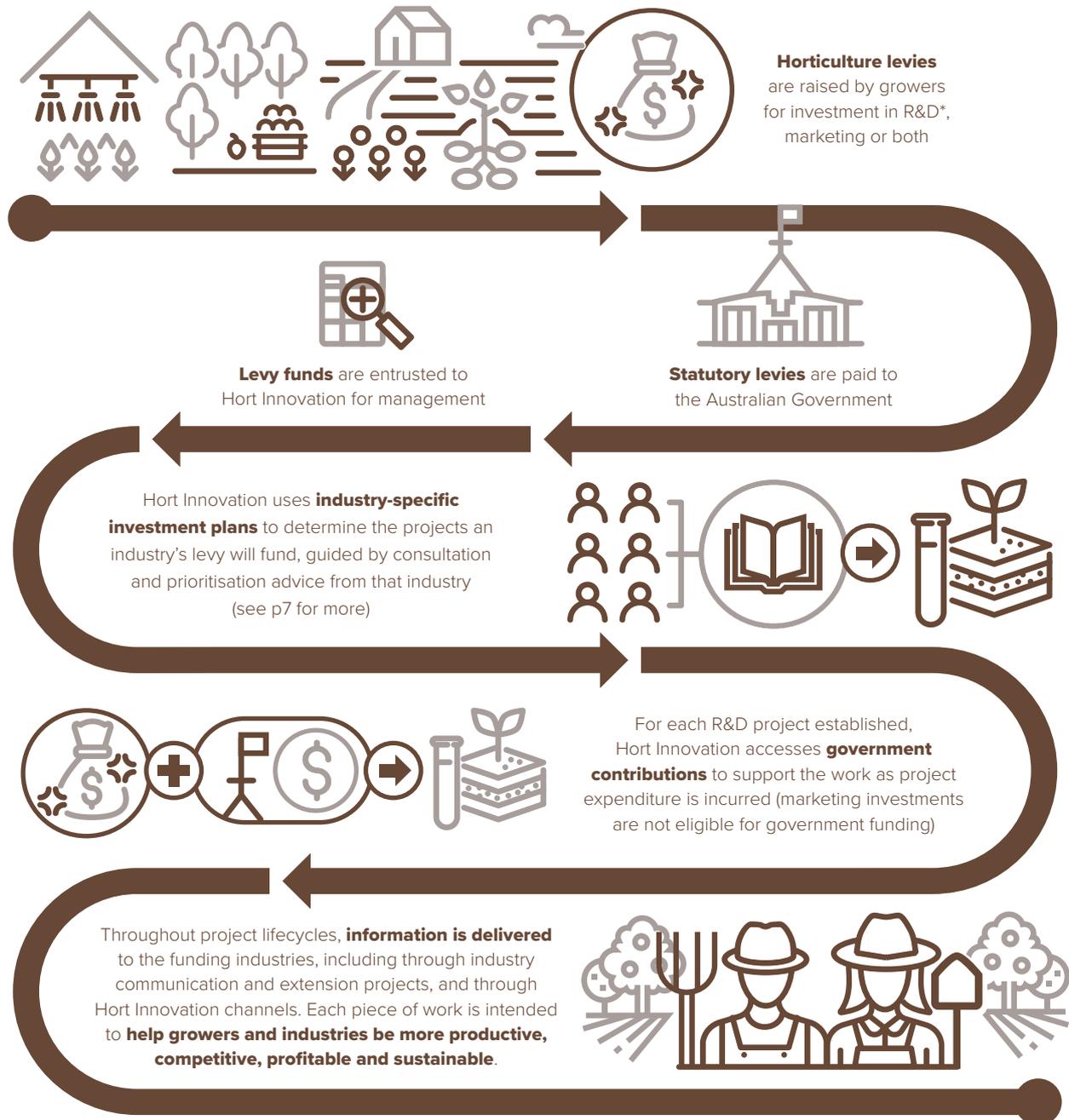
Keep up to date!

Find monthly minor use permit updates in our *Growing Innovation* e-newsletter.

Sign up for free at www.horticulture.com.au/sign-up.

How strategic levy investments are made in the Macadamia Fund

The below diagram shows how Hort Innovation makes strategic levy investments on behalf of horticulture industries. The macadamia R&D and marketing levies were invested this way during the year, guided by the macadamia Strategic Investment Plan 2017-2021 and advice from the industry’s investment advisory panel.



* Encapsulating extension and international trade

To learn more about funding specific to the Hort Innovation Macadamia Fund, visit www.horticulture.com.au/macadamia. During the year, other sources of funding were also used to support activities for the benefit of Australian horticulture, including grant funding secured by Hort Innovation, co-investment dollars brokered through our Hort Frontiers initiative and centralised strategic levy reserve.

Hort Innovation

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