



Macadamia Fund

Annual Report 2019/20

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 Hort Innovation 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.

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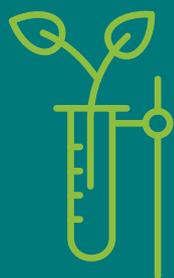
About the year

An intense and unpredictable year, 2019/20 certainly dealt challenges for the world, for Australian horticulture, and for Hort Innovation. There was ongoing drought, a devastating bushfire season, intense floods, the biosecurity threat of fall armyworm and, of course, the global and ongoing COVID-19 pandemic.

We encourage you to download a copy of the overarching Hort Innovation Annual Report 2019/20 at www.horticulture.com.au/annual-report-portal to better understand Hort Innovation's responses to these events, and how the company was able to change its plans and priorities to best serve the sector.

Through it all, though, activity in the Hort Innovation Macadamia Fund remained strong. While some activities inevitably changed under COVID-19, it was still a solid year of investment. There was some \$2.15 million invested in R&D for the industry, plus \$2.79 million in marketing. Read on for an overview of what was delivered.

2019/20 Macadamia Fund snapshot



\$2.15M

invested in R&D



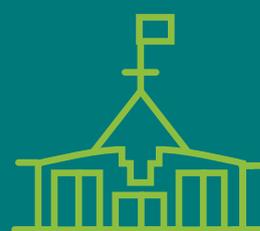
\$2.79M

invested in marketing



31

active R&D
investments



\$4.2M

in levies collected
by the government and passed
on to Hort Innovation for investment

Did you know?



\$194M

The farm-gate production value of the Australian macadamia industry was \$194 million in 2018/19, with more than 14,100 tonnes produced (kernel volume)



20%

Macadamia export production grew at an average annual rate of around 20 per cent over the five years to 2018/19



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 2018/19 edition was released in early 2020 and, for the first time, features an interactive dashboard format for desktop users. See www.horticulture.com.au/horticulture-statistics-handbook.



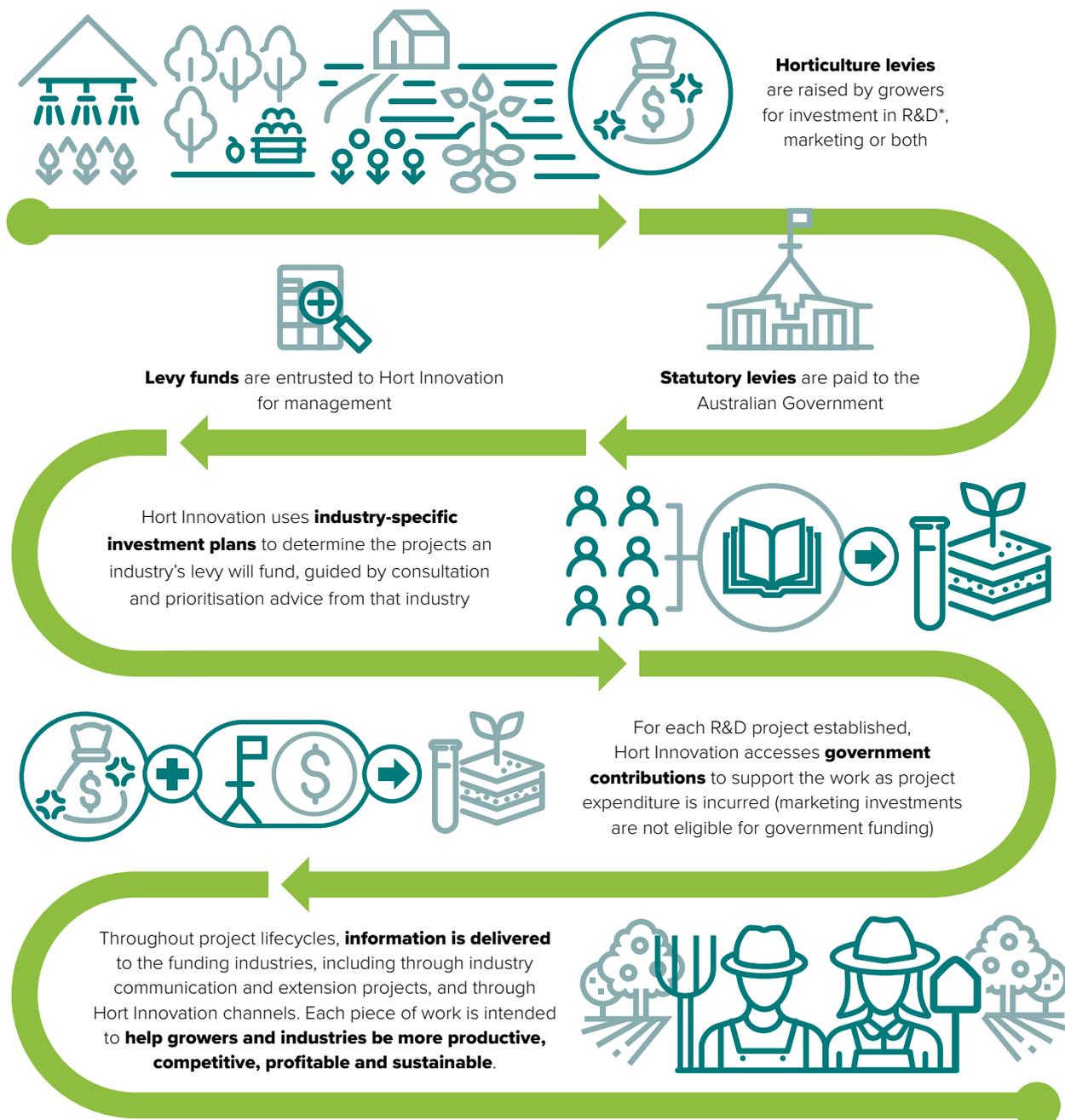
Just some of the things delivered for you during the year:

- ✓ **A guide to maximising pollination in macadamia orchards**, available at www.bit.ly/macadamia-pollination*
- ✓ **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
- ✓ **Insights into macadamia genetics**, including a genetic map to assist future research and a new program to uncover information on the history of the species, which you can read more about at www.bit.ly/macadamia-genetics
- ✓ **Information and data to assist through COVID-19**, including the new *Hort Innovation Insights* podcast (www.horticulture.com.au/webinars) and regular consumer attitude and behaviour information (www.horticulture.com.au/impact-monitor)*
- ✓ **Preparation support for fall armyworm**, including emergency minor use permits and an educational podcast series, www.bit.ly/armyworm-podcast*
- ✓ **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, launched during COVID-19, **The Good Mood Food** across-horticulture campaign* (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 2019/20 for more*

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

Making investments in 2019/20

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 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 reserves.

Investment planning and performance

During 2019/20, Hort Innovation continued to track investment expenditure against the Macadamia Strategic Investment Plan, while looking towards new developments in 2021. Access an at-a-glance copy of the current investment plan at www.bit.ly/macadamia-plan.

A performance analysis is coming

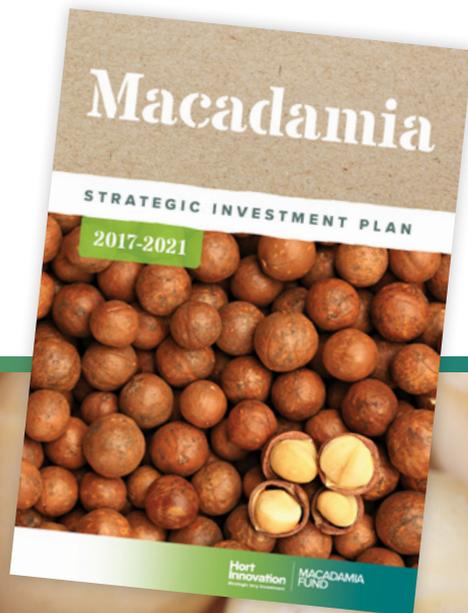
The industry's investment plan outlines key goals and outcomes for levy investment. With the plan due for renewal in 2021, Hort Innovation is undertaking a performance analysis to see how the industry has progressed against the current plan's ambitions. This will also help guide ongoing priorities for investment. Look for information to be published at www.horticulture.com.au/macadamia in 2021.

See how your levy investments align to the industry's current plan

You can see how investment expenditure in the Hort Innovation Macadamia Fund aligns to the industry's current strategic investment plan with the interactive analysis information available from www.bit.ly/macadamia-investment. The analysis shows the allocation of funding against each of the macadamia plan's outcomes, and gives an indication of the projects that are aligned to each outcome.

New ways of obtaining advice and setting priorities

In 2020/21, Hort Innovation will be implementing new ways of obtaining advice and setting priorities for industry investments. Renewed industry investment plans, plus new yearly (or as needed) program plans and new ways of consulting more broadly will mean more efficient investment and better outcomes for industry. Watch this space.



R&D project list 2019/20

NEW INVESTMENTS IN 2019/20

MC18004	Genetic diversity and population structure of wild and domesticated macadamia
MC18005	Independent mid-term review of the macadamia IPM program*
MC19000	National macadamia breeding and evaluation program
MT19005	Horticulture trade data
MT19008	Strategic Agrichemical Review Process (SARP) updates

* This flagged project was both new and completed in 2019/20

ONGOING INVESTMENTS IN 2019/20

MC15004	Australian macadamia industry innovation and adoption program
MC16000	Innovative rootstocks for the Australian macadamia industry
MC16002	Macadamia industry minor use program
MC16003	Coordinator for the IPM program for the Australian macadamia industry
MC16004	IPM program for the Australian macadamia industry – NSW DPI
MC16005	IPM program for the Australian macadamia industry – DAF
MC16007	IPM Program for the Australian macadamia industry – University of Sunshine Coast
MC16018	Macadamia integrated disease management
MC17005	The effect of macadamia nuts on cardiometabolic risk factors and adiposity: a randomised intervention study
MC17006	Macadamia regional variety trials series 4
MC18000	Australian macadamia communication program
MC18002	Benchmarking the macadamia industry 2019-2021

ONGOING INVESTMENTS IN 2019/20

MC18003	Macadamia crop forecasting 2020-2022
MT16005	Enhanced National Bee Pest Surveillance Program
MT17015	Consumer behavioural and retail data for fresh produce
MT18011	Ex-post impact assessment^
ST16006	Generation of residue, efficacy and crop safety data for pesticide applications in horticulture crops 2017

^ This multi-industry project was a key monitoring and evaluation investment during 2019/20 – we encourage you to find the full details at www.horticulture.com.au/mt18011

INVESTMENTS COMPLETED IN 2019/20

MC14000	Macadamia second generation breeding and conservation
MC15007	Still wild about macadamias – conserving a national icon†
MC15008	Establishing an open-source platform for unravelling the genetics of macadamia: integration of linkage and genome maps†
MC16006	IPM Program for the Macadamia Industry – IPM Technologies
MC16008	IPM program for the Australian macadamia industry – BioResources
MC17007	Generation of pesticide data – Sigastus weevil
MT16010	Horticultural trade data 2017-19
MT17005	Improving the biosecurity preparedness of Australian horticulture for the exotic spotted wing drosophila (<i>Drosophila suzukii</i>)
ST16008	AgVet collaborative forum

† These flagged projects did not involve the industry levy, and were instead funded by Hort Innovation using voluntary contributions and Australian Government funding. They were carried over from the original Horticulture Australia Limited (HAL).

R&D report

Take a closer look at some of the key investments in the Hort Innovation Macadamia Fund during 2019/20. You can also 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.

National macadamia breeding and evaluation program (MC19000)

NEW IN 2019/20

Key research provider: University of Queensland

This investment continues to progress genetic improvement for the Australian macadamia industry, following earlier levy investments including *Macadamia second generation breeding and conservation (MC14000)*, which drew to a close in 2019/20. Like its predecessors, it's working to produce new cultivars that will provide the industry an advantage over international competitors.

Specifically, the project is evaluating more than 5000 second generation progeny seedlings as well as creating a further 5000 progeny in order to deliver elite selections that will be put into grower trials and regional variety testing sites for further evaluation.

Throughout the project, the team is selecting for the industry-defined target traits of yield, tree size, nut quality and pest resistance. These target traits have been selected with the future in mind and will have a focus on adaptation to warmer climates.

To learn more about the concluded project MC14000, visit www.bit.ly/MC14000. You can also find information on varieties bred and released by the industry's levy-funded work in 2017 at www.macadamiainnovation.com.au/varieties.

Genetic diversity and population structure of wild and domesticated macadamia (MC18004)

NEW IN 2019/20

Key research provider: Southern Cross University

Beginning in the second half of 2019, this investment is uncovering information on the genetic history of macadamias that will ultimately assist in the development of new and improved varieties for growers. As wild populations of macadamia are found only in subtropical eastern Australia, this means they are an irreplaceable source of genetic material that could be used in the industry's breeding work.

The project team is tasked with analysing the biological data of a large collection of over 680 macadamia plant samples including wild and planted trees, predominant cultivars, new levy-funded cultivars and germplasm from Australian and Hawaiian breeding programs. This will reveal information on genetic diversity, interrelationships between cultivars, the wild origins of macadamia domestication and more.

Read our news article on this work for more information at www.bit.ly/macadamia-genetics.





Establishing an open-source platform for unravelling the genetics of macadamia: integration of linkage and genome maps (MC15008)

NOW COMPLETE

Key research provider: Southern Cross University

This investment, which ran from 2015 to 2019, established a genetic map for macadamia. The map will assist future research, breeding work, crop management and the long-term conservation of natural populations, with the identification and location of genes that control important traits such as pest and disease resistance, quality and yield.

Read more about the project's work at www.bit.ly/mc15008.

Still wild about macadamias – conserving a national icon (MC15007)

NOW COMPLETE

Key research provider: Healthy Land and Water

This investment improved the industry's understanding of the threats to wild macadamia trees and potential management strategies to mitigate those risks. Its work did not involve the industry levy, but was instead established under the original Horticulture Australia Limited and funded through voluntary industry and Australian Government contributions.

It worked to drive the protection and conservation of wild populations through activities including:

- » Assessing and monitoring wild macadamia populations
- » Developing management strategies aimed at conserving threatened wild macadamia populations
- » Raising community awareness regarding the status of wild macadamias through social media, educational materials and events
- » Establishing a self-supporting and ongoing conservation program involving industry and the public.

Discover more at www.bit.ly/mc15007.

Macadamia regional variety trials series 4 (MC17006)

Key research provider: The Queensland Department of Agriculture and Fisheries

This ongoing investment continues to evaluate the performance of new and emerging macadamia varieties, and feeds information on these varieties through to industry. The information it generates will ultimately help guide growers in making decisions about new varieties for orchard expansion, development and possible replanting in key growing regions. The varieties it helps commercialise will have benefits including higher and more consistent production of high-quality kernel, resulting in a more profitable and prosperous industry in Australia, based on internationally competitive exports. Varieties commercialised under a previous iteration of this program are detailed at www.bit.ly/mc11001.

Innovative rootstocks for the Australian macadamia industry (MC16000)

Key research provider: The Queensland Department of Agriculture and Fisheries

This investment is analysing and identifying rootstock genotypes that offer the best prospects for productivity improvements in the Australian macadamia industry. Over 2000 mature trees utilising some 200 rootstocks are being assessed under commercial orchard management conditions, with productivity and quality assessments compared to those of current industry rootstocks Beaumont and H2.

Macadamia integrated disease management (MC16018)

Key research provider: The University of Queensland

Ongoing through 2019/20, this project is tasked with delivering a holistic integrated disease management program – which is compatible with integrated pest management – to increase the productivity and profitability of macadamia growers and the Australian macadamia industry at large.

Its work includes a combination of research, training and communication activities, to improve management approaches and diagnostic capabilities for a range of priority diseases for the industry, including husk spot, Phomopsis husk rot, flower blight complex, Phytophthora root rot, and branch dieback.

Integrated pest management program for the Australian macadamia industry (MC16003 to MC16008)

NOW COMPLETE (MC16006 & MC16008)

Key research provider: Various

This program is responsible for developing, demonstrating and facilitating the adoption of integrated pest management (IPM) strategies, to ultimately support macadamia growers in having pest-resilient farming systems.

It is made up of multiple, interrelated sub-projects, with areas of work including:

- » How inter-row vegetation management can influence the presence of beneficial insects in macadamia orchards
- » Various field trials, testing combinations of IPM tools across the orchard, in each of Australia's macadamia growing regions
- » How insects respond to compounds and odours of interest, with an initial focus on Sigastus weevil (here, laboratory work will ensure that field trials ultimately involve compounds pests detect and are attracted to)
- » Growing knowledge of key macadamia pests, as well as beneficials, working towards the development of pest identification and management guides

Continued >>



- » Establishing and maintaining laboratory colonies of pests and biological control agents for use across the program's work, including behavioural studies investigating pest preferences in relation to food, shapes and colours.

Of the projects which constitute this work, project ***Integrated pest management program for the Australian macadamia industry (MC16008)***, delivered by BioResources, came to an end in 2019/20. This component explored inter-row management in macadamia orchards, finding that where possible, reduced mowing in inter-row spaces can generally increase the presence and diversity of beneficial insects, to help suppress pest populations. Project ***Integrated pest management program for the Australian macadamia industry (MC16006)***, delivered by IPM Technologies, also drew to a close during the year. During its course, it delivered IPM workshops in major growing regions for growers, industry consultants and pest scouts. It also prepared IPM strategies and provided expert extension advice to the other project components to help encourage the use of IPM.

Further details will be available in these projects' final summaries and reports, which will be available from www.horticulture.com.au/macadamia shortly.

Australian macadamia industry innovation and adoption program (MC15004)

Key research provider: The Australian Macadamia Society

This ongoing project aims to enhance the adoption of innovation and technology, and facilitate capacity building, in the Australian macadamia industry. It supports the role and activities of a dedicated macadamia industry productivity development manager (MIPDM).

Activities facilitated by the MIPDM and run through the project traditionally include:

- » MacGroup workshops
- » Regular grower meetings and annual consultants' meetings
- » Field days and trips
- » The production of communication materials such as videos and content for industry publications.

The MIPDM is also responsible for undertaking constant engagement with growers and the wider industry, management of emerging issues, and the identification and development of new opportunities for the industry.

As a result of the COVID-19 pandemic, the project has substituted face-to-face activities with online delivery using platforms such as Zoom meetings. Field days and trips have been temporarily postponed until social distancing protocols allow them to take place.

Australian macadamia communication program (MC18000)

Key research provider: The Australian Macadamia Society

The industry's ongoing communication program shares R&D and marketing outcomes and other knowledge with macadamia growers and other industry stakeholders. The goal is to support growers in adopting new practices and technologies, increasing orchard productivity and profitability.

This investment produces and maintains a number of regular communication channels, including but not limited to:

- » The macadamia industry website, www.australianmacadamias.org
- » Quarterly *Australian Macadamia Society News Bulletin* magazines, available to download via www.australianmacadamias.org/industry/news
- » Fortnightly industry e-newsletters, which you can also download and sign up for from the link above
- » Video content for the Australian Macadamia Society YouTube channel, www.bit.ly/macadamia-youtube
- » Fact sheets on macadamia R&D
- » Media releases.

Benchmarking the macadamia industry 2019-2021 (MC18002)

Key research provider: The Queensland Department of Agriculture and Fisheries

This ongoing investment provides on-farm benchmarking information for the macadamia industry. By collecting planting, production, quality and other data – and analysing trends across the industry and across seasons – its goal is to allow informed decision-making and to facilitate improved farm productivity and profitability for the industry.

The program continues to supply free and confidential individual benchmarking reports to participating farms, while general benchmarking reports are released for the whole of the industry. Regional benchmarking groups and productivity case studies are also used as ways to share the information and help growers in adopting profitable and sustainable practices.

Macadamia crop forecasting 2020-2022 (MC18003)

Key research provider: The Queensland Department of Agriculture and Fisheries

This investment is responsible for producing climate-adjusted macadamia crop forecasts for the industry each year from 2020 through 2022, along with longer-term forecasts out to 10 years.

The latest forecasted figures are available from the Australian Macadamia Society at www.australianmacadamias.org/industry.

Both yearly and future-looking forecasts are intended to allow improved decision-making for macadamia businesses and the wider industry. The forecasting provides information needed to maintain market confidence and price stability, allows better scheduling of processing, and can inform infrastructure planning for future production increases and industry expansion.

The effect of macadamia nuts on cardiometabolic risk factors and adiposity: a randomised intervention study (MC17005)

Key research provider: Loma Linda University

Beginning in 2018, this ongoing investment is looking at the role of macadamia nuts in health, with the goal of adding to the scientific evidence base on the positive benefits of including macadamia nuts in the diet. The research is specifically looking at the effects of macadamia nuts on body weight, obesity ('adiposity') and risk factors related to 'cardiometabolic' diseases, such as insulin resistance, high cholesterol, and other markers of cardiovascular health.

Consumer behavioural and retail data for fresh produce (MT17015)

Key research provider: Nielsen

This multi-industry investment provides regular consumer behaviour data and insight reporting to a range of industries, through the Harvest to Home platform (www.harvesttohome.net.au).

The platform has a dedicated dashboard for macadamias, making data and reporting easily accessible for industry participants. The information is intended to assist growers and supply chain partners in decision-making for their businesses and, for the wider industry, the data and insights are available to support strategic activities, as well as Hort Innovation Macadamia Fund marketing plans.

Improving the biosecurity preparedness of Australian horticulture for the exotic spotted wing drosophila (Drosophila suzukii) (MT17005)

NOW COMPLETE

Key research provider: Plant Health Australia

Running from 2018 to 2020, this multi-industry investment improved awareness of the risks posed by spotted wing drosophila, which attacks a range of soft-skinned fruit, as well as enhanced Australia's capacity to detect and respond to any incursions of the pest.

Most importantly, this project developed a framework for modelling spotted wing drosophila establishment and movement throughout Australian regions, allowing for a comprehensive preparedness plan to be developed for a swift response in the event of an incursion. The plan includes an extensive list of recommendations for industry, including relating to surveillance, control techniques, engagement and awareness, and diagnostics.

The project also worked to build knowledge and capacity around appropriate surveillance and management tools and strategies within the growing industries, government and among other relevant stakeholders. It produced a range of materials for growers, including identification information, a fact sheet on spotted wing drosophila hosts, and a webinar detailing preparedness for the pest.

Full details and links to the project's resources – and final research report – can be found at www.bit.ly/mt17005.

Enhanced National Bee Pest Surveillance Program (MT16005)

HORT FRONTIERS

Key research provider: Plant Health Australia

This investment is delivering a nationally coordinated bee pest surveillance program to help safeguard honey bee and pollinator-dependent industries in Australia. It builds on previous industry work, and includes upgrading sentinel hive arrays, strengthening relationships with surveillance operators, the introduction of new elements such as Asian hornet screening and more. The surveillance is designed to enable the early detection of high-priority pest incursions that can impact on honey bees, providing the best opportunity for successful pest eradication.

The macadamia industry is one of several contributors to the work, and the program is part of the Hort Frontiers Pollination Fund.

Macadamia industry minor use program (MC16002)

Key research provider: Hort Innovation

Through this project, levy funds and Australian Government contributions are used to submit renewals and applications for minor use permits for the macadamia industry as required. These submissions are prepared and submitted to the Australian Pesticides and Veterinary Medicines Authority (APVMA).

For more on minor use permits, including a list of permits, see [p13](#).

All current minor use permits for the industry are searchable at portal.apvma.gov.au/permits. Permit updates are also circulated in Hort Innovation's *Growing Innovation* e-newsletter, which you can sign up for at www.horticulture.com.au/sign-up.

Generation of residue, efficacy and crop safety data for pesticide applications in horticulture crops 2017 (ST16006)

Key research provider: Eurofins

The generation of pesticide residue, efficacy and crop safety data is required to support label registration and minor use permit applications made to APVMA which, when approved, provide access to safe and effective chemicals for the management of pests, weeds and diseases.

This investment is responsible for producing the data required to support a range of registration and permit applications across a host of horticulture industries, including the macadamia industry. Its work is supported by grant funding secured by Hort Innovation through the Australian Government's Access to Industry Priority Uses of AgVet Chemicals program.

Generation of pesticide data – *Sigastus weevil* (MC17007)

NOW COMPLETE

Key research provider: Peracto

Earlier research in the Hort Innovation Macadamia Fund looked at a number of insecticides for their effectiveness in controlling *Sigastus weevil*, leading to two effective formulations being singled out for potential use.

Running from 2018 to 2019, this investment involved field trials with these products to produce residue, crop safety and efficacy data, which were used to support the renewal of the minor use permit for indoxacarb in macadamias.



Strategic Agrichemical Review Process (SARP) updates (MT19008)

NEW IN 2019/20

Key research provider: AGK Services

This short investment is facilitating a 2020 Strategic Agrichemical Review Process (SARP) for several horticulture industries, including the macadamia industry. Providing an updated view of current priorities and gaps regarding pest, disease and weed control, the completed macadamia SARP report will assist in directing ongoing efforts to ensure the availability of and access to effective chemical controls. This may relate to pursuing chemical registrations with agrichemical companies, or minor use permits.

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 www.bit.ly/minor-use-macadamia.

Permits in 2019/20

During the 2019/20 financial year, successful renewals for PER11462 and PER11635 were prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Macadamia industry minor use program* (MC16002). A further permit renewal, for PER14276, was applied for during the year and granted just inside the 2020/21 period.

Meanwhile, fall armyworm – an incredibly destructive exotic pest – was detected on Australian shores for the first time in 2020. To support readiness and protect the horticulture sector, Hort Innovation was involved in securing emergency permits for crop protection chemicals, with all horticulture industries having at least one effective option available to them by the end of 2019/20. For the macadamia industry, PER89241, PER89278, PER89293 and PER89353 were obtained for this reason.

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



Current permits

Below is a list of minor use permits for the macadamia industry, current as of 21 September 2020.

PERMIT ID	DESCRIPTION	DATE ISSUED	EXPIRY DATE	PERMIT HOLDER
PER11462 Version 3	Ethephon / Macadamia / Promote nut fall	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
PER12796 Version 2	Methomyl / Macadamia / Banana Fruit Caterpillar	22-Jul-11	30-Jun-21	Australian Macadamia Society (AMS)
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	AMS C/Hort Innovation
PER14276 Version 3	Diazinon / Macadamia / Macadamia lace bug	01-Dec-13	30-Nov-22	Hort Innovation
PER87510	Abamectin / Macadamia / Thrips, broad mites and flat mites	17-Jun-19	30-Jun-24	Hort Innovation
PER84766	Phosphorous acid (foliar and trunk applications) / Macadamia / Phytophthora root rot and trunk (stem) canker (14-day WHP) <i>Please note: Permit was surrendered in July 2020. Use now covered by the Agri-Fos 600 Label with a 28-day WHP or Sprayphos 600 label with a 14-day WHP.</i>	30-Nov-17	30-Nov-22	AMS C/Hort Innovation
PER86827	Indoxacarb (Avatar insecticide) / Macadamia / Macadamia seed weevil (Sigastus)	13-Sep-18	30-Sep-21	Hort Innovation
PER89241	Spinetoram / Various, including macadamia / Fall Armyworm	06-Mar-20	31-Mar-23	Hort Innovation
PER89278	Indoxacarb (Avatar insecticide) / Macadamia / Fall armyworm	13-Mar-20	31-Mar-23	Hort Innovation
PER89293	Methomyl / Macadamia / Fall armyworm	10-Apr-20	30-Apr-23	Hort Innovation
PER89353 Version 2	Chlorantraniliprole (Altacor Hort Insecticide / Coragen) / Tree nuts, except almonds / Fall armyworm	05-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.

Marketing report

Hort Innovation invests the macadamia marketing levy into a range of activities to drive awareness and consumption, under the Hort Innovation Macadamia Fund. These activities are managed in collaboration between Hort Innovation and our partner team at the Australian Macadamia Society, who have provided this quick summary of trade and consumer marketing highlights from 2019/20.

TRADE CAMPAIGN HIGHLIGHTS

2019/20 saw the Australian macadamia industry complete its three-year international marketing strategy, known as the 'Innovation Initiative'. Significant new global investment in macadamia growing will see more robust supply become available in coming years and this supply shift will create new opportunities for commercial product development. The Innovation Initiative is working to support food manufacturers who are eager to incorporate macadamias in their new product development plans.

Macadamia Marketing Toolkit

Launched in 2017, the Macadamia Marketing Toolkit has been helping the commercial sector convey a compelling story about macadamias and illustrate the many benefits to food manufacturers of including macadamias in their innovation pipelines. A host of new assets were added to the kit during the 2019/20 period, including a new chocolate research video, consumer promotion highlights, sustainability information, updated health and wellbeing information, and a brand video library.

New trade website launched

The revitalised Australian Macadamias trade website (trade.australian-macadamias.org) was launched in late March 2020 and features a fresh, contemporary design and an improved user experience, with site visitors now able to more easily find content, connect with Australian Macadamias on LinkedIn, subscribe to the e-newsletter, and find a macadamia supplier.

Expansion of a dedicated trade social media presence

The establishment of trade WeChat and LinkedIn channels has created additional platforms through which to connect with a wider trade audience. WeChat has become the primary channel for communicating with the trade audience in China, and it has replaced the use of e-newsletters in this market. Followers and engagement on the channel grew substantially with the audience size up 375 per cent, page views up 619 per cent and shares up 400 per cent (2018/19 versus 2019/20).

03
2020年宏观趋势

在上述动荡的全球背景下，我们的研究确定了目前正在出现的5种新的宏观趋势。

趋势一
自我身份的巩固和即将到来的“橙色海啸”

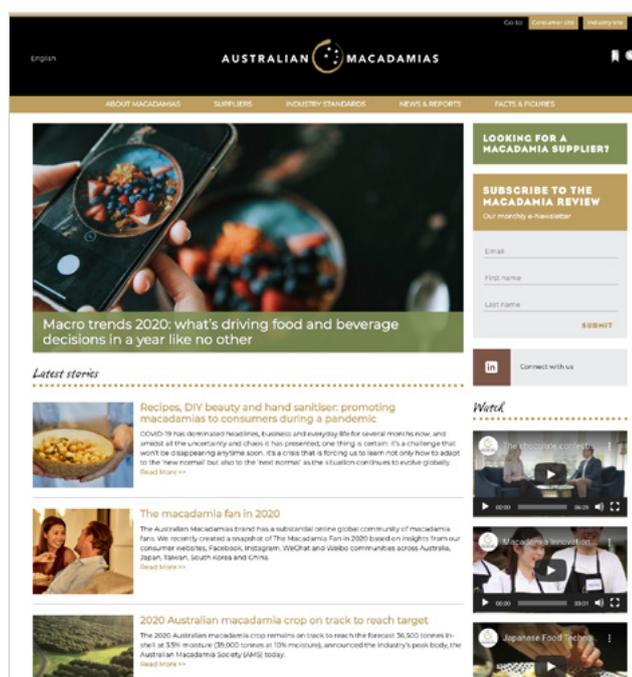
做自己

2020年，自我认同将成为人们关注的焦点，人们会因为他们是谁而出场，而不是他们应该是谁。现在的目标是接受自己的所有方面——你是谁，你想从生活中得到什么，你爱谁，你看起来怎么样。消费者接受了自己的特色，像“我就是我”和“你就是你”这样的口号鼓励了人们接受不完美的独特，因为后者则与标准模板脱节。

2020年的全球事件见证了消费者行为的两极分化，一端是快感和冲动的消费者，另一端是持“人生只有一次”态度的人。

全球融合趋势的持续强劲

全球融合继续定义着我们的身份，这不仅模糊了美食的界限，融合了所有美食的精华，还创造了一种全新的美食，比如鸡腿寿司和墨西哥玉米卷汉堡。消费者想要新鲜的东西，新颖流行的食物变成了一种社交货币，价值就在于其他人不了解这些食物。



The Australian Macadamias [LinkedIn page](#) was launched in late September 2019, and quickly grew to become an important part of the communications mix. Enabling weekly communication with the market, it ensures that if people miss the trade newsletter communication, or are not subscribed to it, they can still connect with important content. Content additional to the newsletter is also shared, with the channel averaging two to three posts per week. Followers have grown almost 450 per cent in nine months.

Trade e-news

The monthly trade e-newsletter, *The Macadamia Review*, has continued to inform its international trade audience about the industry's marketing news and insights. Published in English, German and Japanese, in 2019/20 its content focused on innovation to align with the aims of the *Innovation Initiative*, with health, event news, and consumer promotion updates also featured in the content mix.

Trade public relations (PR)

An international trade PR campaign was launched to leverage the strengths of the Australian macadamia industry in the sustainability space. It highlighted how Australia's macadamia growers are

using scientific research to understand the inherently sustainable characteristics of the macadamia tree and guide the adoption of sustainable on-farm practices in order to meet the demands of today's conscious consumer. This messaging appeared in key trade media publications around the world, with combined circulation of 2.7 billion.

CONSUMER CAMPAIGN HIGHLIGHTS

The Australian Macadamias brand was actively promoted to consumers in Australia, Japan, China, Taiwan, South Korea and Germany in 2019/20, with teams in each of these markets creating content to promote Australian Macadamias as a pure ingredient offering a pleasurable and guilt-free experience that can elevate food and life.



Events

Sample Food Festival (Australia):

Australian Macadamias sponsored the Sample Food Festival in the Northern Rivers for the 9th consecutive year. Macadamias were included in key festival events, cooking demonstrations and tasting plates. A local artist was recruited to create a vibrant mural to represent macadamias in Spring. Festival visitors could take a photo of themselves in front of the mural, take a free recipe card, and crack macadamias to eat. A selection of micro-influencers were engaged which helped to amplify the activity on social media.

Seikatsunoki immersive macadamia events (Japan):

Seikatsunoki is a respected healthy lifestyle brand with more than 120 stores throughout Japan. A partnership with this brand proved to be a highlight of the winter campaign in Japan, with live macadamia beauty and culinary events running in-store, timed to coincide with Australia Day. A *Seikatsunoki* store in Tokyo ran macadamia beauty workshops where participants learned how to make their own facial oil and essential oil blend using macadamia nut oil. An hour from Tokyo, the *Yakkosouen* restaurant and bakery at *Seikatsunoki*'s herb garden created a special macadamia lunch buffet. These events were accompanied by a tailored PR and social media strategy, ensuring they were shared with a wider audience.

New brand videos and recipe content

A host of new video and imagery was developed, including:

- » Three long and eight short brand videos that brought the many layers of the macadamia narrative to life, including health and wellbeing, beauty, growing and harvesting, processing, creativity in the kitchen, and the macadamia origin story.



- » More than 500 new images that were added to the Australian Macadamias library for content creation, including lifestyle, harvest, flowering, beauty and snacking.
- » Twenty two new recipes with accompanying photography and instructional videos.

Collaborations

In South Korea, collaborations with nine online influencers produced a variety of macadamia content spanning lifestyle,

recipes, family, beauty, health, and fitness. This engaging content was shared across Instagram and the popular South Korean platform Naver.

In China, two collaborations with Chinese influencers reached a combined audience of more than one million people. Popular food blogger FanHe created a series of brunch ideas using macadamias which he shared with his substantial Weibo audience. This content highlighted the health benefits of macadamias while positioning them as a great start to the day. Another





collaboration with a popular food and lifestyle blogger leveraged Double Eleven – a huge online shopping event in China. Her content positioned macadamias as the ideal snack to give you energy to stay up late for the Double Eleven online shopping event.

In Australia, 2019/20 saw the continuation of a long-term partnership with *Live Love Nourish* – a popular blog run by naturopath and nutritionist Casey-Lee Lyons. Four new [macadamia recipes with matching videos](#) and photography were developed and shared across our platform and hers, reaching an audience of approximately one million people.

In Taiwan, brand collaborations produced engaging new occasion-based content in this market. A Moon Festival collaboration with award-winning bakery brand DOREMI saw macadamia tarts added to its line-up of Moon Festival delicacies, reminding fans that macadamia products make a delicious and indulgent choice for holiday gifts or desserts. Collaborations with Thank You Nuts saw Taiwanese Facebook fans invited to share online macadamia-themed Christmas greeting cards, with the activity also integrated

on popular message app LINE. For New Year's Eve, fans were invited to share a new year greeting with friends and family.

In Germany, a successful long term partnership with German influencer Anja Auer of *Woman on the Grill* continued, with Australian Macadamias featuring as a [guest blogger](#) on her website. This enabled the sharing of popular macadamia recipes with a potential audience of around 10 million each month.

Occasion-based content and competitions

What do you love most about macadamias? (all markets): Fans on Facebook and WeChat were offered the chance to win a macadamia prize for answering this question, which offered valuable cross-market consumer insights, revealing that Australian, Japanese and South Korean fans love macadamias' delicious taste the most, while in Taiwan and China, it's their health benefits.

Party time with Australian Macadamias (Australia): Tying in with a pre-Christmas 'entertaining' theme, this activity invited fans to enter the draw to win

one of five macadamia party packs. More than 4,000 people entered, with 87 per cent of those also subscribing to the Australian Macadamias monthly e-newsletter, which is now distributed to more than 23,000 consumers.

Christmas giveaways (Germany):

Two festive competitions in this market attracted strong engagement. The 'Crack-a-mac' competition offered fans the chance to win a nutcracker with nut-in-shell, while a second giveaway offered German blog and Facebook fans the chance to nominate a loved one to win MyMuesli Apple Macadamia Cinnamon Granola.





Valentine's Day (Japan): 2020 Valentine's Day trends inspired a collection of [easy macadamia recipes](#) for Japanese fans that can be made to say thank you not only to a partner, but any loved one. It included dishes to appeal to adults, and fun handmade gifts to make with children.

Happy 'Malentine's Day' (Taiwan): This activity consisted of four personalised and fun ideas for making macadamia Valentine ('Malentine') gifts, each focused on a different characteristic: caring, energetic, sweet, and knowledgeable. Fans were invited to share which type of 'malentine' best suited their partner's personality, encouraging engagement, and building an emotional connection with fans.

Chinese New Year (China): A series of Chinese New Year macadamia posts were created, featuring a cute macadamia cartoon character in festive outfits. Weibo fans were encouraged to share these and tag their friends for the chance to win a macadamia prize.

IMPACT OF COVID-19

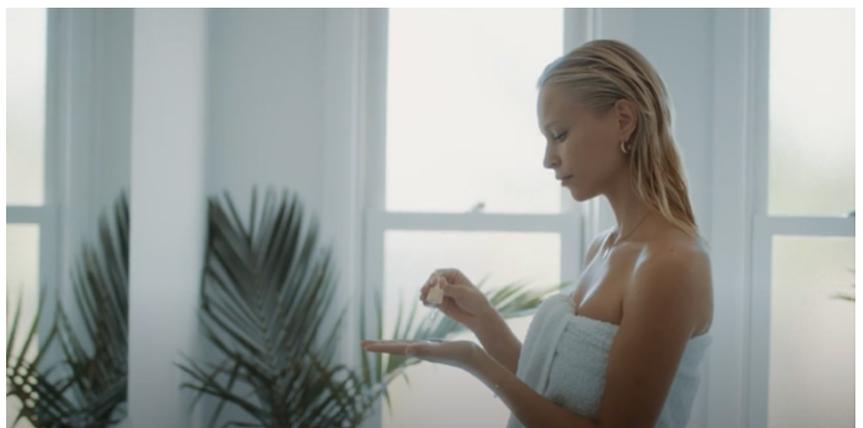
The primary impact of COVID-19 on the Australian Macadamias marketing program has been determining how best to connect with consumers in a way that is relevant, respectful, and timely. With a program spanning five markets, each with their own unique cultural preferences, varying levels of macadamia knowledge and at differing stages of the pandemic, this required an agile approach and in-depth knowledge of the audience. Messaging was successfully reshaped to suit the conditions in each market, reaffirming the relevance of macadamias to consumers lives during this tumultuous time.

Examples of how this was executed in each market include:

- » **Australia:** Communication focused on how macadamias can play a role in spending more time at home.

Content included macadamia snacking inspiration for working from home, macadamia inspired activities to keep children entertained, ideas for spending Easter at home, and how to create your own luxury in-home day spa experience with macadamia oil.

- » **Japan:** A [new lifestyle video](#) posed the question 'What drives an explorer'? Created to reinforce the Australian Macadamias brand positioning, the video showed how macadamias can elevate life, and took on extra significance during the pandemic, when people were appreciative of simple freedoms, like hiking and swimming with friends.



- » **Taiwan:** Facebook fans were inspired to cook with macadamias to take care of their health during the pandemic. A macadamia recipe was shared every day for a week, with each day's recipe tied to a specific health benefit, such as fibre intake, building muscle, fat loss, or enhanced immunity. Fans could comment on which recipe they were going to cook and why for the chance to win a macadamia prize.
- » **China:** The Chinese social media team developed an interactive online tool to increase macadamia health messaging. The interactive experience enabled fans to determine their 'invisible personality', with a tailored 'prescription' involving Australian grown macadamias offered at the end of the online journey.
- » **South Korea:** To leverage the hyper-awareness of health and hygiene, Korean Facebook fans were invited to share their 'healthy lifestyle resolution' for the chance to win a gift pack of Australian grown macadamias and hand sanitiser.



THE GOOD MOOD FOOD

THE GOOD MOOD FOOD

In 2019/20, Hort Innovation created The Good Mood Food campaign to deliver an immediate and enduring behaviour-change message to motivate more Australians to eat more fruit, vegetables and nuts.

With the central message that these Aussie horticulture products are natural mood boosters, the campaign was developed to support the sector through the impacts of recent challenges including bushfires, drought, floods and of course COVID-19 – the effects of which continue to be felt in consumer spending and purchasing behaviour.

Initially running between May and November 2020, The Good Mood Food has been seen across the country on TV; in newspapers; on radio and music streaming services; online (including on YouTube and TV catch-up services); on social media; and via retail partnerships and advertising screens near supermarkets.

In July, 56 per cent of surveyed consumers said The Good Mood Food had positively influenced their shopping habits, and by the end of campaign's run, 98 per cent of all Australians were expected to be reached.

Learn more at www.horticulture.com.au/the-good-mood-food.

Financial statement

Financial operating statement 2019/20

	R&D (\$)	MARKETING (\$)	TOTAL (\$)
	2019/20 July – June	2019/20 July – June	2019/20 July – June
OPENING BALANCE	49,862	737,211	787,073
Levies from growers (net of collection costs)	1,462,947	2,732,955	4,195,902
Australian Government money	1,277,834	–	1,277,834
Other income*	12,539	70,537	83,076
TOTAL INCOME	2,753,319	2,803,493	5,556,812
Project funding	2,146,453	2,793,340	4,939,792
Consultation with and advice from growers	16,823	31,855	48,678
Service delivery – base	99,688	125,196	224,884
Service delivery – shared	142,704	179,769	322,473
Service delivery – fund specific	150,000	80,000	230,000
TOTAL EXPENDITURE	2,555,668	3,210,160	5,765,828
Levy contribution to across-industry activity	–	–	–
CLOSING BALANCE	247,513	330,544	578,057
Levy collection costs	2,802	5,275	8,077

* Interest, royalties

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