



Apple and Pear Fund

Annual Report 2018/19

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The projects in this report have been funded by Hort Innovation using sources including the apple and pear levy, Australian Government contributions and, in some instances, co-contributions from a variety of sources.



Just some of the things your fund delivered in 2018/19:

- ✓ **The industry communications program**, delivering the *Australian Fruitgrower* magazine, *Industry Juice* emails and more via www.apal.org.au (p8)
- ✓ The internationally renowned **Future Orchards extension program** (p11)
- ✓ **Harvest to Home dashboards for apples and for pears**, providing regular consumer behavioural data and insight reporting at www.harvesttohome.net.au
- ✓ Highly visible and multi-pronged **domestic marketing campaigns** for both Aussie Apples and Australian Pears (from p16)
- ✓ The launch of new work to engage retailers in **export markets** (p9)
- ✓ Ongoing exploration of **agri-technology solutions** (p10)
- ✓ New **final research reports and grower resources**, with 50+ now available from www.horticulture.com.au/apple-and-pear

2018/19 SNAPSHOT

\$4.74
MILLION

INVESTED
IN R&D

\$2.39
MILLION

INVESTED IN
MARKETING

35+

ACTIVE R&D
INVESTMENTS

Welcome

Hort Innovation is the grower-owned, not-for-profit research and development corporation (RDC) for Australia's horticulture sector. It's our job to work with industry to invest the apple and pear R&D and marketing levies, as well as Australian Government contributions, into key initiatives for growers.

The 2018/19 financial year was another great year of growing better, together – with strong investments, closer connections and critical collaborations being forged.

There was more than \$4.74 million invested into R&D through the Hort Innovation Apple and Pear Fund across the year, to support the industry in being as productive and profitable as possible. This included the establishment of 10 new investments, including work allowing the apple and pear industry to join forces with other horticulture industries for maximum efficiency and impact across shared issues and opportunities.

Meanwhile in marketing, the Hort Innovation Apple and Pear Fund saw some \$2.39 million invested in 2018/19 into a range of activities to raise the profile and consumption of the fruits.

Read on to learn more about all of this work. And remember to take advantage of the Hort Innovation website at www.horticulture.com.au/apple-and-pear, where you can search and find information relating to investments, past and present, at any time. The new site and its Apple and Pear Fund section were launched in 2018/19.

Finally, during the year there were many opportunities for Hort Innovation to connect with you, the growers. A big thank you in particular to everyone who came to our early-2019 regional roadshows to feed into the development of the new Hort Innovation Strategy 2019-2023 (read more at www.horticulture.com.au/strategy-2019-2023).

You can reach out to us at any time to learn more about our work, to submit ideas for investments, or to simply have a chat about your industry. You'll find details of specific staff at www.horticulture.com.au/get-in-touch, or can otherwise email communications@horticulture.com.au or call our general line on 02 8295 2300.



Additional value in the year

During 2018/19, Hort Innovation was proud to deliver extra value to the apple and pear industry, outside of levy-funded initiatives within the Apple and Pear Fund. Here's a quick look at just some examples.



The new Hort Innovation website, with dedicated Apple and Pear Fund section

You can now visit www.horticulture.com.au/apple-and-pear to quickly search and find apple and pear investment information and updates, project resources, and growing tips and advice from Hort Innovation's R&D work. You can also download full final research reports direct from the site, access key contact information, share your ideas and feedback, and so much more.



The Australian Horticulture Statistics Handbook

Each year Hort Innovation delivers an *Australian Horticulture Statistics Handbook* packed with horticulture statistical information and analysis for use by specific industries and the wider sector. The handbook combines all available data on production, international trade, processing volumes and fresh market distribution for some 75 categories. The 2017/18 edition, released in early 2019, is available from www.horticulture.com.au/horticulture-statistics-handbook.



Hort Frontiers projects

With seven investment areas, Hort Innovation's Hort Frontiers strategic partnership initiative is about collaborative, cross-industry work to address longer-term, complex issues and opportunities identified as critical for the future of Australian horticulture. While the apple and pear levy has been co-invested into some Hort Frontiers projects, the bulk of funding continues to come from broad-reaching funding relationships secured by Hort Innovation, plus support from the Australian Government. Learn about all of the projects and what they're delivering for you at www.horticulture.com.au/hort-frontiers.



Grant funding

In 2018/19, Hort Innovation delivered \$6.7 million worth of investments involving grant funding across the horticulture sector. To do so, we applied for and secured a range of competitive grants on behalf of industry, including through the Australian Government's Rural R&D for Profit program, Improved Access to AgVet Chemicals initiative, and Agricultural Competitiveness White Paper. With projects across everything from biosecurity to pollination, there's plenty in there to directly and indirectly benefit the apple and pear industry.

Making investments in 2018/19

Hort Innovation is dedicated to making the right investments at the right time and in the right areas, in line with identified priorities for the industry.

Where the funding comes from

The apple and pear industry's grower-raised statutory R&D and marketing levies are collected by the Australian Government and entrusted to Hort Innovation as the RDC for Australian horticulture. It's then our responsibility to work with the industry to invest these levies – together with Australian Government contributions in the case of R&D – into strategic initiatives for the benefit of growers.

Additional funding streams can also come into play, such as co-investment dollars from sources including project partners, and grant funding that Hort Innovation secures on behalf of industry.

How decisions are made

Investment decisions in the Hort Innovation Apple and Pear Fund are guided by the industry's Strategic Investment Plan (SIP). This document was developed through close consultation with growers and other industry stakeholders, and outlines specific investment priorities, strategies and themes. An at-a-glance version can be found at www.bit.ly/apple-pear-plan, or find the full version at www.horticulture.com.au/apple-and-pear.

The SIP is currently used like a 'roadmap' by the apple and pear Strategic Investment Advisory Panel (SIAP) – a panel made up of growers and other industry representatives that's tasked with providing advice to Hort Innovation on potential levy investments.

Turning ideas into investments

Great investments start with great ideas, and Hort Innovation encourages all growers and other industry participants to share their thoughts and suggestions for the work they want to see. Ideas can be submitted any time via Hort Innovation's investment idea form at www.bit.ly/concept-form.

Ideas that are selected for investment are worked into project proposals by Hort Innovation. These are then made public for potential delivery partners to submit responses. Current opportunities are always listed at www.horticulture.com.au/delivery-partners.

Responses are assessed, often with the assistance of industry, and the best delivery partner for the work is chosen. A contract is then issued and the work begins.

Keeping track of investments

All investments in the Hort Innovation Apple and Pear Fund are detailed on the 'Your investments' page at www.horticulture.com.au/apple-and-pear. We also send news and alerts to Hort Innovation members and contacts – if you haven't already, you can sign up for free at www.horticulture.com.au/sign-up.

Importantly, the industry's levy-funded communications program is tasked with providing growers with regular information on levy-related activity. See p8 for more.



New investment analysis

You can now clearly see how investments in the Hort Innovation Apple and Pear Fund align to the industry's SIP, with new and interactive investment analysis information available from www.bit.ly/apple-and-pear-investment. The analysis currently shows the allocation of funding against each of the apple and pear SIP outcomes from the start of the SIP (2016/17) to the end of 2018/19, and gives an indication of the projects that are aligned to each outcome.

R&D project list 2018/19

NEW INVESTMENTS IN 2018/19

AP17001	International industry analysis for DPA de-contamination, alternative treatments and review of current best practice*
AP17002	Apple and pear export readiness and market access
AP18000	National apple and pear industry communications program
AP18003	Mid-term evaluation of AP15004*
FF18003	SITplus: Port Augusta Qfly SIT factory pilot operation
MT17006	Xylella coordinator
MT17006	Improving preparedness of the Australian horticultural sector to the threat potentially posed by <i>Xylella fastidiosa</i> (a severe biosecurity risk)
MT18009	Ex-post impact assessment – industry specific
MT18011	Ex-post impact assessment
MT18017	Taste Australia retail program

* These flagged projects both began and ended in 2018/19

ONGOING INVESTMENTS IN 2018/19

AP14022	Independent program coordination for the apple and pear productivity program
AP14023	Improved tree and fruit nutrition for the Australian apple industry
AP15001	Integrated pest and disease management – phase II
AP15002	Physiological, metabolic and molecular basis of biennial bearing in apple
AP15004	Australian apple and pear industry innovation and adoption program
AP15005	Delivery of apple and pear Future Orchards extension program
AP15013	Physiological, metabolic and molecular basis of biennial bearing in apple – Australian component of AP15002
AP16001	Apple and pear industry minor use program
AP16002	Apple and pear crop estimate
AP16004	Variety evaluation and tree certification services for the apple and pear industry
AP16005	Developing agri-tech solutions for the Australian apple industry
AP16007	An integrated pest, disease and weed management program for the Australian apple and pear industry
AM17001	Developing a national systems approach for meeting biosecurity requirements to access key Asian markets
AM17010	Taste Australia trade shows [^]
LP15001	Masterclass in Horticultural Business
LP15006	Attracting new entrants into Australian horticulture

Continued >>



ONGOING INVESTMENTS IN 2018/19 *(continued)*

MT13059	SITplus: Developing and optimising production of a male-only, temperature-sensitive-lethal, strain of Qfly, <i>B. tryoni</i>
MT14052	Essential market access data packages
MT16005	Enhanced National Bee Pest Surveillance Program
MT16010	Horticultural trade data 2017-19
MT17005	Improving the biosecurity preparedness of Australian horticulture for the exotic spotted wing drosophila (<i>Drosophila suzukii</i>)
MT17015	Consumer behavioural and retail data for fresh produce
ST16008	AgVet collaborative forum
ST17000	Generation of data for pesticide applications in horticulture crops 2018 [†]

[^] This investment is a parent program, under which further event-specific Taste Australia investments may sit

[†] Activities for the apple and pear industry under this investment are funded wholly through the government's AgVet grant program

INVESTMENTS COMPLETED IN 2018/19

AP15007	National apple and pear grower communications program
AP15015	Apple and pear industry leadership initiative
AP15016	APAL contribution to AP15015 – industry leadership initiative

During the 2018/19 financial year, all levy paying horticulture industries also contributed to a small selection of across-industry projects addressing issues that affect horticulture as a whole. Details of all investments that Hort Innovation manages can be found at www.horticulture.com.au.



But wait, there's more. To see what Hort Innovation delivered across the entire horticulture sector in 2018/19, download the full Hort Innovation Annual Report 2018/19 from www.horticulture.com.au/annual-report-portal.

R&D report

Take a closer look at some of the key investments in the Hort Innovation Apple and Pear Fund during 2018/19. Any resources from these and other levy-funded projects – such as fact sheets, guides and more – are published on your grower page at www.horticulture.com.au/apple-and-pear as they become available.

National apple and pear industry communications program (AP18000)

NEW IN 2018/19

Key research provider: APAL

Carrying on from the previous *National apple and pear grower communications program (AP15007)*, this investment is tasked with ensuring apple and pear growers are kept up to date with the latest industry news, information, R&D and marketing updates.

Like its predecessor, the project continues to produce and maintain key communication channels for the industry, including but not limited to:

- » The *Australian Fruitgrower* magazine, published quarterly
- » The weekly *Industry Juice* e-newsletter
- » The APAL website
- » APAL social media, including Twitter, Facebook, LinkedIn and Flickr
- » Video content including demonstration videos and expert information/discussion videos, available in the above communication channels and on the APAL YouTube channel
- » Media releases.

You can access these levy-funded resources via www.apal.org.au.

Apple and pear export readiness and market access (AP17002)

NEW IN 2018/19

Key research provider: APAL

Beginning in late 2018, this investment is tasked with bolstering industry readiness, knowledge and technical capabilities around export, and delivering work to improve and maintain international market access. Its specific activities will be aligned to the *Apple and Pear Industry Export Development Strategy* and its export target of 10 per cent of marketable yield by 2027. This strategy was released during 2017 as part of earlier Hort Innovation Apple and Pear Fund investment *Australian apple and pear industry market development program (AP15009)*.

Xylella coordinator (MT17006)

NEW IN 2018/19

Key research provider: Wine Australia

Xylella fastidiosa is an exotic and potentially devastating bacteria that impedes the movement of rising sap in plants. While it hasn't yet appeared in Australia it has proven catastrophic overseas and, were it to enter the country, it could threaten more than 350 commercial, ornamental and native plant species.

This multi-industry and multi-sector investment supports the role and activities of a national coordinator as part of a three year program to improve Australia's readiness for any potential incursion of the disease. This is a joint initiative between Hort Innovation and Wine Australia, through the Plant Biosecurity Research Initiative (PBRI). The PBRI is a collaboration between Australia's seven plant-focused Rural RDCs, Plant Health Australia, the Department of Agriculture and other contributors, to coordinate plant biosecurity RD&E funding and efforts. You can learn more at www.pbri.com.au.

Improving preparedness of the Australian horticultural sector to the threat potentially posed by Xylella fastidiosa (a severe biosecurity risk) (MT17006)

NEW IN 2018/19

Key research provider: The Victorian Department of Jobs, Precincts and Regions

Adding to the PBRI's *Xylella* work as described above, this multi-industry investment will review and allow Australia to adopt world's best practice methods for detecting and identifying strains of the *Xylella fastidiosa* bacteria, should it come to our shores. As well as developing state-of-the-art diagnostic tools, technologies and protocols to screen plant material entering the country and to support active surveillance programs, it will provide associated training to technical staff in diagnostic laboratories.

The project's work will ultimately allow for quick and effective detection of what is considered to be the number one plant biosecurity threat to Australia and New Zealand, to facilitate a swift and sure response.



SITplus: Port Augusta Qfly SIT factory pilot operation (FF18003)

NEW IN 2018/19

HORT FRONTIERS

Key research provider: University of Western Sydney, with Primary Industries and Regions South Australia (PIRSA)

A purpose-built sterile Queensland fruit fly facility was established in Port Augusta, South Australia under earlier work in the Hort Frontiers Fruit Fly Fund and broader SITplus initiative. With sterile insect technology (SIT) a promising control method for Queensland fruit fly, the facility is a state-of-the-art factory for the mass-rearing of sterile flies.

This investment is continuing support for the pilot operation of the facility, allowing delivery of sterile flies to an associated pilot release project. It is also delivering further research to optimise the SIT approach and improve the production of healthy and high-performing sterile fruit flies. The work is being funded through co-investment from a range of partners, funding from the Australian Government, and some contributions from levy industries, including through the Hort Innovation Apple and Pear Fund.

For more on the facility, SITplus program and Hort Frontiers Fruit Fly Fund, visit www.horticulture.com.au/hort-frontiers.

Taste Australia retail program (MT18017)

NEW IN 2018/19

Key research provider: Produce Marketing Australia (PMA)

This multi-industry investment is targeting key international retailers with training and educational resources about selecting, storing, handling and displaying Australian fresh produce in store, including apples and pears.

This work is an R&D component of Hort Innovation's Taste Australia retailer engagement efforts in international markets. Other R&D work under the Taste Australia banner includes ***Taste Australia trade shows (AM17010)*** – a parent program that supports attendance at relevant international trade shows, to further develop export opportunities in key Asian and Middle Eastern markets.

Taste Australia is the whole-of-horticulture brand used to increase the profile, sales and consumption of premium Australian horticulture products in export markets, and is a central component of Hort Innovation's Hort Frontiers Asian Markets Fund. Learn more at www.horticulture.com.au/hort-frontiers.

International industry analysis for DPA de-contamination, alternative treatments and review of current best practice (AP17001)

NEW IN 2018/19 & NOW COMPLETE

Key research provider: The University of Melbourne

Contracted in late 2018, this investment conducted a review of technologies currently available for protecting against apple and pear storage disorders, including superficial scalding and internal browning. It also produced recommendations on ways to decontaminate facilities of diphenylamine (DPA), which is currently used to reduce these disorders.

Apple and pear industry leadership initiative (AP15015)

NOW COMPLETE

Key research provider: Marcus Oldham College

This investment was established to support Apple & Pear New Horizons Scholarships for young people, used towards the completion of agribusiness studies at Victoria's Marcus Oldham College. The goal was to help accelerate change in the apple and pear industry.

In 2017 the scholarship recipient was Jack Bartels, with the scholarship supporting his undertaking of Marcus Oldham's one-year Diploma of Agribusiness course. In 2018, Jack was awarded a second scholarship under this project, to continue his Associate Degree of Agribusiness at the college.

Full details on Jack and his studies can be found in the project's final research report, which can be downloaded from www.bit.ly/ap15015.

Developing agri-tech solutions for the Australian apple industry (AP16005)

Key research providers: SwarmFarm Robotics, The University of New South Wales and others

Contracted during 2018, this investment represents a new step in the age of 'digital agriculture' and autonomous operation. It is supporting the development of a new technological system that can perform autonomous flower density mapping and tree canopy measurement, which will be able to be used with spray equipment to provide decision support for variable rate autonomous spraying in apple crops.

Improved tree and fruit nutrition for the Australian apple industry (AP14023)

Key research provider: Tasmanian Institute of Agriculture

Research into optimising nitrogen-use efficiency has the potential to boost productivity in apple growing. This project is developing a multi-season nitrogen budget underpinned by fertigation research, to in turn produce a user-friendly decision-support tool to assist growers across the country in optimising irrigation and fertigation application.

The project's activities continue to include nitrogen-use trials, soil analysis and more – all working towards a common goal of validating an international research model for predicting tree water and nitrogen use, known as SPASMO. This will then be used as the basis for the project's grower-friendly decision-support tool, referred to as 'SINATA' – the Strategic Irrigation and Nitrogen Assessment Tool for Apples.

It is expected that SINATA will ultimately allow growers to look up their soil type, local climate and tree information to determine average irrigation and nitrogen requirements, assess the efficiency of their current management practices, and explore potential savings associated with changes in irrigation and nitrogen application (such as switching from calendar-based irrigation schedules to targeted schedules based on soil moisture status).

Physiological, metabolic and molecular basis of biennial bearing in apple (AP15002) and Physiological, metabolic and molecular basis of biennial bearing in apple – Australian component of AP15002 (AP15013)

Key research providers: University of Hohenheim, Germany (AP15002) and The Victorian Department of Jobs, Precincts and Regions (AP15013)

Biennial bearing is a major constraint to apple flowering and production, and it's estimated that around 30 per cent of commercial cultivars are susceptible. While this cropping irregularity is usually managed by chemical, mechanical or manual thinning methods, the underlying physiological, metabolic and molecular plant processes are largely unknown.

Beginning in 2016, these two related projects aim to increase understanding of the mechanisms involved in biennial bearing and in turn why apple crops fail to develop sufficient flower numbers in the year after a high crop load.

Project AP15002 is an international body of research with two field trials involved in identifying factors that either suppress or promote flower induction in apples. They are looking specifically at the roles of plant hormones (signals from developing fruit), gene expression and carbohydrates, and include:

- » One trial involving the Spencer Seedless cultivar, at the Horticultural Research Centre of the University of Hohenheim in Germany
- » One trial comparing a biennial cultivar (Fuji) to a non-biennial cultivar (Royal Gala), at the Centre of Competence for Fruit Cultivation near Lake Constance in the Alps.

Project AP15013 is the Australian component, which involves field trials in a commercial orchard setting in Victoria's Yarra Valley. Here there is study of biennial cultivar Nicoter (Kanzi) and non-biennial cultivar Cripps Pink (Pink Lady), similarly looking at the effect of gene expression and metabolic signals on flowering, in response to plant resources, plant development, cultural practices and environmental cues.

Integrated pest and disease management – phase II (AP15001)

Key research provider: The Victorian Department of Jobs, Precincts and Regions

This project follows on from initial levy-funded work that resulted in approval to import and release the *Mastrus ridens* wasp as a biocontrol agent against codling moth in apples, to supplement pheromone-mediated mating disruption of the moth. This second phase of the research is responsible for the release of *Mastrus ridens* into sites in Southern Queensland, New South Wales, South Australia, Tasmania and Victoria for study of the wasp's dispersal, predation and hyper-parasitism.

An integrated pest, disease and weed management program for the Australian apple and pear industry (AP16007)

Key research provider: The Victorian Department of Jobs, Precincts and Regions

Beginning in late 2017, this program is tasked with helping apple and pear growers develop and maintain pest-resilient farming systems using integrated pest management (IPM). It is providing clear knowledge on the tools and systems required to implement IPM, which involves the effective combination of chemical, cultural and biological methods to control pests, diseases and other undesirables in a 'whole of system' approach.

The program was instigated by previous project *A needs analysis for IPM R&D in the apple and pear industry* (AP15014), which reviewed the state of IPM in the apple and pear industry and found that while there was a high level of awareness and availability of necessary tools, adoption of true IPM was low – while 86 per cent of growers surveyed said they were using IPM, further investigation suggested that, by the technical definition, only 25 per cent actually were.

Independent program coordination for the apple and pear productivity program (AP14022)

Key research provider: RMC G

This investment supports the coordination and integration of a number of projects, which together make up 'PIPS2' program for the industry (the second iteration of the Productivity, Irrigation, Pests and Soils program). Active PIPS2 projects are described earlier in this R&D report and include AP14023, AP15001, AP15002 and AP15013, with others concluded.

Activities of the coordination project include improving communication within and between project teams and the apple and pear industry, coordinating linkages and activities between PIPS2 and the Future Orchards program, and more.

Visit www.apal.org.au/industry-info/pips to see all PIPS2 activities brought together, and for links to relevant content and people.

Variety evaluation and tree certification devices for the apple and pear industry (AP16004)

Key research provider: Australian Pome Fruit Improvement Program

This investment supports the operation of the Australian Pome Fruit Improvement Program (APFIP) and so delivers essential infrastructure and information related to the evaluation of new varieties and the certification of trees propagated from high-health-status materials. It began in mid-2017 and runs new-variety demonstration sites and initiatives including New Varieties Roadshows. Additionally, APFIP maintains a number of weather stations around Australia at its evaluation sites that record temperature and rainfall data of use to apple and pear growers.

Australian apple and pear industry innovation and adoption program (AP15004) and Delivery of apple and pear Future Orchards extension program (AP15005)

Key research providers: APAL and AgFirst

Beginning in 2016, projects AP15004 and AP15005 deliver the apple and pear industry's Future Orchards program, which is responsible for accelerating and expanding the adoption of innovation and technology in apple and pear businesses, and facilitating industry capacity-building.

Future Orchards is an internationally renowned technology-transfer program. It includes regular orchard field walks, orchard benchmarking, and orchard business analysis to deliver world's best practice and R&D linkages to apple and pear growers in Australia's major growing regions.

The program also aims to upskill the workforce, improve grower crop and business risk mitigation strategies, and provide grower services and technical support along the supply chain. It seeks to improve crop protection stewardship and chemical access, provide biosecurity preparedness, improve post-harvest productivity, and nurture technical preparedness for export.

Project AP15005 is specifically responsible for the technical delivery of the Future Orchards program. It covers the Focus Orchards network to demonstrate the adoption of best practice and new technology, Focus Orchard properties, OrchardNet, Orchard Business Analysis reporting and regional trials.

Consumer behavioural and retail data for fresh produce (MT17015)

Key research provider: Nielsen

This multi-industry investment is tasked with providing 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 dedicated dashboards for both apples and pears, 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 Apple and Pear Fund marketing plans.

Apple and pear crop estimate (AP16002)

Key research provider: AgFirst

This project is responsible for producing apple and pear crop estimates for each season. Detailed crop estimates are designed to provide information on the size and quality of national crops that can then be used by growers, packers, marketers and the industry at large to plan more effectively and maximise the value of the crops.

Masterclass in Horticultural Business (LP15001)

HORT FRONTIERS

Key research providers: University of Tasmania in partnership with Lincoln University and Wageningen Research Academy

The Masterclass in Horticultural Business course was developed under the Hort Frontiers Leadership Fund and is aimed at fostering new innovators and leaders for the Australian horticulture industry. Best described as a 'mini MBA', it's a nine-month course where participants develop their business skills and build their own business plans for the future. The course is delivered predominantly online, with several face-to-face sessions and field trips to some of Australia's savviest horticulture outfits.

Apple and pear levy has been co-invested into the Masterclass investment to support scholarships for industry levy-payers. For the 2018 Masterclass, four apple and pear scholarships were awarded, while one scholarship was available for the 2019 course.



Attracting new entrants into Australian horticulture (LP15006)

HORT FRONTIERS

Key research provider: Rimfire Resources

This project is part of the Hort Frontiers Leadership Fund and is about engaging graduate students with the horticulture industry. It involves a Graduate Engagement Program with a two-phased approach designed to attract the right people, retain them and support their ongoing leadership development.

The first phase involves students undertaking internships within horticulture business, for which funding support is offered for both the student and the business. The second phase involves employment of students following graduation, with Hort Innovation co-investing to support the first-year salary and participation in a five-day leadership program.

This initiative involves co-investment from different levy industries and from additional sources.

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

Key research provider: Plant Health Australia

This multi-industry investment is tasked with improving industry awareness of the risks posed by spotted wing drosophila, which attacks a range of soft-skinned fruit, and also with increasing the capacity to detect and respond to any incursions of the pest.

Activities include building knowledge and capacity around appropriate surveillance and management tools and strategies within the growing industries, government and among other relevant stakeholders. Looking at options for meeting domestic and international quarantine requirements are also among the project's activities.

Developing a national systems approach for meeting biosecurity requirements to access key Asian markets (AM17001)

HORT FRONTIERS

Key research provider: Queensland Eco-sciences Precinct

Most horticultural trade relies on exporters demonstrating that the commodity either comes from an area that is free of pests and diseases (area freedom), or application of an agreed, stringent end-point treatment. Such end-point treatments are often costly, can negatively impact quality, and may often be avoidable if other risk mitigation factors are accepted by importing countries.

This national project is a collaboration between industry, researchers and regulators that will help Australian horticultural enterprises realise market opportunities in Australia and Asia by developing a quantitative systems approach that will be

acceptable to regulators. It will also be providing the supporting information necessary to help industries evaluate and adopt systems approaches.

Systems approaches integrate those pre- and post-harvest practices used in production, harvest, packing and distribution of a commodity which cumulatively meet requirements for quarantine security. The systems approach used in each region will set safeguards and mitigation measures which individually and cumulatively provide a reduction in plant pest risk.

SITplus: Developing and optimising production of a male-only, temperature-sensitive-lethal, strain of Qfly, *B. tryoni* (MT13059)

HORT FRONTIERS

Key research provider: South Australian Research and Development Institute (SARDI)

This project is developing a 'temperature-sensitive lethal, male-selecting' strain of Queensland fruit fly. To put simply, the research will allow for male-only, sterile fruit flies to be bred in large numbers. It is one of the key projects in the broader strategic co-investment SITplus initiative that's tackling the issue of fruit fly. The male flies are to ultimately be released in growing regions of south-eastern Australian that are affected by the pest. They will come to outnumber the wild male population in these areas and by mating with wild females – and limiting the opportunity for wild males to do so – they are intended to lead to the collapse of wild Queensland fruit fly populations.

Levies from several horticulture industries are involved in the project which, as a SITplus initiative, is part of the Hort Frontiers Fruit Fly Fund.

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 upon the previous *National Bee Pest Surveillance Program* (MT12011), 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 apple and pear industry is one of several contributors to the work, and the program is part of the Hort Frontiers Pollination Fund.

Apple and pear industry minor use program (AP16001)

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 apple and pear 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 p15.

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 data for pesticide applications in horticulture crops 2018 (ST17000)

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 the APVMA which, when approved, provide access to safe and effective chemicals for the management of pests, weeds and diseases.

In 2018, Hort Innovation secured more than \$1 million in assistance grants under the Australian Government's Access to Industry Uses of Agricultural and Veterinary (AgVet) Chemicals program. This funding is being used to generate the data required for a range of registration and minor use applications across a variety of horticulture crops.

For the apple and pear industry, grant funding is supporting a Syngenta label registration application for Switch (cyprodinil + fludioxonil) for the control of *Alternaria* leaf blotch and fruit spot.



Impact assessment work

During 2018/19, Hort Innovation engaged independent consultants to evaluate the impact of our R&D investments. This included looking across a random sample of all Hort Innovation R&D projects completed in the 2017/18 financial year, plus a specific look at the impact of work within the Hort Innovation Apple and Pear Fund. The assessments revealed a range of economic, social and environmental benefits being generated for growers, supply chain participants and the community at large. The results also highlighted the value of these benefits in monetary terms.

Results and information on the whole-of-R&D impact assessment, facilitated through the project *Ex-post impact assessment* (MT18011), can be found at www.horticulture.com.au/mt18011. The work specific to the Apple and Pear Fund took place through the investment *Ex-post impact assessment – industry specific* (MT18009) and you can download a fact sheet on the results, plus find full assessment documents, at www.horticulture.com.au/mt18009.



To keep up to date with the latest information on new, ongoing and recently completed R&D investments throughout the year – and to search and find resources and reports from these investments – visit www.horticulture.com.au/apple-and-pear.

Minor use permits

The Hort Innovation Apple and Pear 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-apple-and-pear.

Permits in 2018/19

During the 2018/19 financial year, a successful renewal application for PER12590 was prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Apple and pear industry minor use program* (AP16001).

Meanwhile, a successful renewed permit PER14562 was also issued during 2018/19, with the application submitted through the industry minor use program in the previous financial year.

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

Current permits

Below is a list of minor use permits for the apple and pear industry, current as of 23 September 2019.

PERMIT ID	DESCRIPTION	DATE ISSUED	EXPIRY DATE	PERMIT HOLDER
PER12590 Version 4	Delegate (spinetoram) / Pome fruit and stone fruit / Fruit fly (suppression only)	06-Oct-11	31-May-24	Hort Innovation
PER12864 Version 2	Polyram (metiram) / Apple varieties / Alternaria	18-Apr-13	30-Jun-21	Growcom C/O Hort Innovation
PER14562 Version 2	Thiacloprid (Calypso) / Pome fruit and stone fruit / Mediterranean fruit fly (WA only)	13-Dec-13	30-Sep-23	Hort Innovation
PER13859	Dimethoate / Orchard clean-up – fruit fly host crops following harvest / Fruit fly	09-Feb-15	31-Jul-24	Growcom C/O 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.

Minor use permit updates are circulated in Hort Innovation's e-newsletter, *Growing Innovation*. Don't yet receive it? Sign up for free at www.horticulture.com.au/sign-up.

Marketing report

Hort Innovation is responsible for investing the apple and pear marketing levy into a range of activities to drive awareness and consumption, under the Hort Innovation Apple and Pear Fund. Here's a quick look at some of the activities and achievements of 2018/19.

APPLE MARKETING

The 2018/19 financial year was another big year for Aussie Apples, with the continuation of the Get Your Crunch On campaign that was launched in March 2017. With activity across television, digital, radio, outdoor and social media, the campaign built on previously established messaging that apples are the ultimate go-to, on-the-go healthy snack.

Some key highlights for apple marketing in 2018/19:

- » The Get Your Crunch On TV campaign proved to be a hit with parents, being recognised by the Parents Voice Awards for the second year in a row for positive food advertising to children.
- » As of October 2018, 29 per cent of consumers could recall the Aussie Apples ad when prompted. This figure has grown month on month since the campaign's inception and is a fantastic result when compared to benchmarks for the food and beverage industry (24 per cent) and automotive industry (27 per cent), demonstrating how successful the campaign has become.

- » The number of people stating that they are buying apples weekly or more increased from 52 per cent in 2017/18 to 59 per cent in 2018/19.
- » The number of people stating they are very likely or likely to purchase apples in the next two weeks also increased in 2018 compared to 2017 and 2016.

Aussie Apples on TV

In 2018/19, the Aussie Apples Get Your Crunch On ad appeared on TV for nine weeks, as a key channel to drive consumer awareness. For four weeks between July and August 2018, the commercial featured in the top 10 performing shows airing at the time, including *Ninja Warrior* and *MasterChef*, and hit every target set in every market.

To drive demand for the 2019 apple season, another round of advertising kicked off in April 2019, with five weeks of TV ads in all major metro markets, as well as key regional markets on the eastern seaboard. The campaign targeted the strong opening schedule of programs such as *My Kitchen Rules*, *Lego Masters* and *Bachelor in Paradise*, resulting in over four million grocery buyers seeing the Aussie Apples ad.



Digital media activity

Digital advertising for the Get Your Crunch On campaign involved playing the 15-second television commercial across catch-up television streaming services such as 10play, 9now and 7plus, six unskippable ads on YouTube, and 15-second audio ads on music service Spotify. Across the main networks, the Aussie Apples 15-second non-skippable ads were played on key shows such as *MasterChef*, *House Rules* and *The Voice*. All benchmarks for each activity were exceeded, and during the 2018 campaign, which ran from April to August, over 5.5 million consumers were reached.

In 2019, the digital campaign ran again from the end of April to the end of June 2019, also across catch-up services, YouTube and Spotify. Popular shows on other channels were also targeted to extend the campaign's reach, such as *Game of Thrones* on Foxtel and *The Handmaid's Tale* across SBS. This activity delivered 3.1 million impressions, with both catch-up television and YouTube exceeding their targets by 113 per cent and 181 per cent respectively.

Radio activity

Radio is considered an effective way to reach target audiences, with 40 per cent of Aussies considering radio an important part of their daily routine and 63 per cent of grocery buyers listening to radio on the way to the shops, according to 2018 Roy Morgan research. The unique "crunch" sound of someone biting down on an apple in the Aussie Apples campaign is ear-catching, and radio is a cost-effective channel to further leverage the brand and reach consumers during their commute to work, school and the shops.

One burst of the Aussie Apples radio campaign ran late in 2018, with 754 spots across Sydney, Brisbane and Melbourne. This led to some great results – in Sydney alone, 66 per cent of the target audience were exposed to the ad an



average of 4.6 times. A further three weeks of radio were used to kick off the 2019 season, with 668 spots aired across Sydney, Melbourne, Brisbane and Adelaide, which reached 3.8 million grocery buyers.

Outdoor media

Outdoor media is a growing channel that is effective at driving mass awareness and capturing attention. To remind consumers to purchase apples when they are on the

go, Aussie Apples panels were positioned across street furniture and buses in 2019, delivering almost 4.5 million opportunities to people to see apples messaging.

To act as a final reminder at the point of purchase, Get Your Crunch On ads also appeared outside of major retailers on shopping centre panels, with messages communicating convenience and versatility. These retail ads were seen more than five million times by consumers from April to June 2019.



PEAR MARKETING

The primary goal of the 2018/19 Australian Pears marketing campaign was to increase the number of households who buy pears – as well as how often they purchase them – by giving consumers the confidence to pick, ripen and use pears. This activity was about helping grow demand and increasing the value of the marketable harvest, key priorities as identified in the apple and pear industry's Strategic Investment Plan.

The campaign provided education to consumers about pear ripening, different varieties and the health benefits of pears, as well as inspiring them to use pears in different meal occasions. The key target audiences identified were main grocery buyers between 25 to 54 years of age, with a particular focus on young 'transitionals' between 25 to 39 years, and families with kids under the age of 15.

Some key highlights for pear marketing in 2018/19:

- » 60 per cent of respondents claimed they were likely or very likely to purchase pears in the next two weeks when surveyed across August to October 2018, up from 53 per cent in the same period last year.
- » 86 per cent of consumers at the end of 2018 said they agreed that there are a variety of pears available, an improvement of eight per cent in three months alone.
- » There was an increase in usage occasions of pears across breakfast, mid-morning, lunch and dinner/ dessert in 2018 compared to 2017.

Social media activity

Social media is a cost-efficient way to reach the public and also to 'keep a finger on the pulse' on how people are using pears, answer any questions they have, and give people an opportunity to simply share their love of pears. The role of social media in the Australian Pears

campaign is to help remind shoppers and consumers of the benefits of pears through compelling content.

In 2018/19, the focus was on leveraging Facebook (www.facebook.com/australianpears) to keep pears top of mind, with one in two Australians using Facebook on a daily basis. In 2018, there was the launch of the Australian Pears Instagram channel (@australianpears), with one in three Australians using Instagram on a daily basis. Content was promoted across Facebook and Instagram to educate consumers about pear varieties and ripening indicators, tips for selection and ripening, along with delicious pear recipes to inspire consumers.

The campaign had positive results, delivering over six million impressions and 1.9 million engagements (likes and comments), exceeding the KPI of 1.5 million. Sentiment on Facebook was strong throughout the campaign, with the community sharing many comments on their love for pears and positively responding to educational content pieces such as ripening hacks.

Influencer activity

Word of mouth remains an influential mechanism to target consumers, so in 2018/19 the Australian Pears marketing campaign partnered with TRIBE, an influencer platform, to connect with 'micro-influencers' who could share pear-related content with their audiences. This was an effective way to create content, increase audience reach, and grow the new Instagram account in a short amount of time. TRIBE influencers were asked to craft content that showed their audiences how to check for ripeness and how to ripen pears, and also created recipe content for Packham, Bosc and Corella varieties. Over the course of the campaign, 52 pear ripening content pieces were shared to a combined total of 1.3 million followers, providing nearly 36,000 engagements (likes and comments).

Print

Australian Pears were featured in a double page spread by leading magazines *Taste*, *Delicious* and *Super Food Ideas*. The article talked to the different pear varieties, including their seasonality, flavor profiles, uses and ripening indicators.

Public relations (PR)

As with other elements of the campaign, the PR strategy for pears sought to inspire people to use pears for different occasions, and to educate consumers about ripening.

To deliver messages with impact, media drawcard and trusted voice Justine Schofield was secured as the campaign ambassador. The *ex-MasterChef* contestant and star of the TV show *Everyday Gourmet* provided her secrets for picking the perfect pear and insights on how to ripen pears for a media release. She created two recipes showcasing pears, which were professionally photographed for media use. To reinforce the selecting and ripening messages, a tip sheet was also created for media. These materials were shared to high-reaching outlets with a hamper containing all the ingredients to make Justine's Grilled Pear and Haloumi Salad. TV coverage was successfully secured with a feature on *Studio 10*, where Justine demonstrated how to make her pear-centric salad.

A social influencer program was also undertaken as part of the PR activity to reach the target audience with educational messages about selecting pears. Rebecca Gawthorne (2017 Australian Pears ambassador) and Aussie food blogger Leah Itsines were commissioned to deliver education and usage inspiration using Instagram posts, as well as videos and time-bound 'Instagram stories' content. Combined, these two influencers have over 582,000 followers on Instagram.

In total, the PR campaign provided over 9.2 million opportunities for people to see Australian Pears content across traditional and social media, exceeding the KPI of five million opportunities to see.

In-store demonstrations

Following strong results from in-store demonstrations in the previous year, a further 200 sampling sessions were conducted nationally across Woolworths and Coles in August and September 2018. The intent was to increase awareness of pears by keeping them top-of-mind at the point of purchase, to give consumers the confidence to choose ripe pears or ripen them at home, increase varietal awareness, and ultimately, to drive sales.

Major pear varieties were displayed in-store to demonstrate their difference in flavour, ripening and seasonality, and there was also sampling wedges of Packham pears. Leaflets were also handed out that contained information on ripening, different varieties, seasonality and recipe tips. Shoppers indicated that they were interested in learning about ripening techniques and different varieties, and found the leaflet informative. The positive consumer feedback also translated to sales – over the campaign, Woolworths saw an 11 per cent increase in sales (based on Quantum Data from sales in stores where sampling occurred versus the prior 13 weeks).

Consumer research

Under earlier work in the Hort Innovation Apple and Pear Fund program, key consumer insights were delivered. During 2018/19, this work was used in the development of the new marketing strategy for Australian Pears, to be implemented in 2019/20.

The consumer research found that while pears were often overlooked, the majority of buyers still counted them among their favourite fruits and were quite open to buying them.



Repositioning pears as a 'different' and 'inspirational' choice to those who already buy lots of fruit, but less frequently pears, and tapping into their desire for fresh, healthy, sweet and in-season fruit, was identified as having the the greatest potential to get pears back on shopping lists and into baskets.

Hort Innovation has developed a fresh, new logo for Australian Pears with this

and other insights from the research in mind. The logo will appear throughout the upcoming marketing campaign, which will involve outdoor media such as shopping centre panels; digital media including YouTube; social media including Facebook and Instagram; PR; and more in-store sampling. A new website will also be launched to align with the new look and feel of Australian Pears.

Financial statement

Financial operating statement 2018/19

	R&D (\$)	MARKETING (\$)	TOTAL (\$)
	2018/19 July – June	2018/19 July – June	2018/19 July – June
OPENING BALANCE	1,380,958	4,403,476	5,784,435
Levies from growers (net of collection costs)	2,040,692	3,185,664	5,226,357
Australian Government money	2,697,897	–	2,697,897
Other income*	31,382	158,638	190,019
TOTAL INCOME	4,769,971	3,344,302	8,114,273
Project funding	4,742,244	2,393,137	7,135,381
Consultation with and advice from growers	25,304	10,599	35,902
Service delivery – base	188,853	99,626	288,479
Service delivery – shared	312,956	165,094	478,051
Service delivery – fund specific	126,438	178,000	304,438
TOTAL EXPENDITURE	5,395,795	2,846,456	8,242,250
Levy contribution to across-industry activity	123,588	–	123,588
CLOSING BALANCE	631,547	4,901,323	5,532,870
Levy collection costs	41,475	91,911	133,387

* Interest, royalties



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