

Banana Fund

2017/18
ANNUAL REPORT



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SUMMARY BY
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We're for growers

At Hort Innovation it's our job to work with industry to invest the banana levy and Australian Government contributions into initiatives to help growers be as productive and profitable as possible – and 2017/18 was another fantastic year of growing better, together.

With **more than \$3.62 million invested by Hort Innovation into R&D for the banana industry during 2017/18**, including into a host of new projects, I'm happy to be able to share with you all the key insights in this Hort Innovation Banana Fund Annual Report.

You'll find a top-level list of all R&D investments from the year on **p3**, and can explore the research projects in more detail from **p4**. Just some of the highlights include the many new and continuing investments to bolster disease management and biosecurity for the industry – with a particular focus on TR4 activities – as well as work to deliver consumer insights, export market guidance, benchmarking information and more.

Meanwhile **in marketing, the Banana Fund program saw in excess of \$4 million invested during the year to raise the profile and consumption of Australian bananas**. Find an overview of this activity from **p14**.

On a personal note, thank you for welcoming me as your new Relationship Manager during the year. Both I and your previous contact, Astrid Hughes, enjoyed getting to connect with you about everything going on in the Banana Fund, and getting to hear your thoughts and share ideas. During 2018/19 I'm looking forward to even more opportunities to connect in person, and I remind you that you can reach me any time at corrine.jasper@horticulture.com.au or on 0439 433 885 if there's something you'd like to ask or discuss around levy investments.

I also encourage you to explore the easy ways you can stay close to all of the good things your levy is achieving throughout the year...

- » **Become a member.** Paying a levy doesn't automatically make you a Hort Innovation member, but signing up is free at www.horticulture.com.au/membership. As well as providing the opportunity for voting rights at the organisation's Annual General Meeting, Hort Innovation membership includes exclusive email alerts with industry-specific news and opportunities, direct invitations to explore investment updates and more.
- » **Check out *Hortlink*.** This digital publication provides an update on all new, ongoing and recently completed investments in the Hort Innovation Banana Fund. The latest edition is always available from the Banana Fund page at www.horticulture.com.au/banana, while members have *Hortlink* sent straight to their inboxes.
- » **Engage with your industry communications program.** The *Australian banana industry communications program* (BA15005) is dedicated to bringing the latest information and advice to growers, including news, outcomes and resources related to levy investments (look for the Hort Innovation Banana Fund logo to easily identify work related to your levy). The communications program is funded through the Hort Innovation Banana Fund and delivered by The Australian Banana Growers' Council, with more info available on **p10**.

Here's to another great year of investments and connection in 2018/19,

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Making levy investments

Discover how the banana levy and Australian Government contributions are invested through the Hort Innovation Banana Fund in this quick recap.

Where do investment ideas come from?

Great investments start with great ideas, and Hort Innovation encourages all growers and other industry participants to share their thoughts and suggestions for the research and marketing initiatives they want to see.

Ideas can be submitted any time via Hort Innovation's simple Concept Proposal Form. Visit www.horticulture.com.au/innovation-concept-pipeline.

Ideas can be for your specific industry – to be funded by the industry levy and, in the case of R&D, Australian Government contributions – or they can be for Hort Innovation's strategic partnership initiative, Hort Frontiers. Hort Frontiers projects address broader, longer-term and more complex issues facing Australian horticulture as a whole, and are funded through partnerships with co-investors. Visit www.hortfrontiers.com.au for more.

How are levy decisions made?

Let's talk 'SIPs' and 'SIAPs'!

Investments specific to the Hort Innovation Banana Fund are guided by the industry's Strategic Investment Plan (SIP), which was finalised by Hort Innovation in August 2017 after close consultation with growers and other industry stakeholders.

The SIP outlines key industry priorities for investment and can be found on the Banana Fund page at www.horticulture.com.au/banana.

The SIP document is used like a 'roadmap' by the banana Strategic Investment Advisory Panels (SIAPs), which are panels made up of growers and other industry representatives that have a key role to play in the investment process. The banana industry has two SIAPs – one for R&D and one for marketing. The SIAPs discuss investment ideas at consultation meetings, with the SIP guiding them, in order to provide advice to Hort Innovation on potential levy investments.

Details of the SIAP panellists and summaries of the SIAPs' meetings can be found at www.horticulture.com.au/banana.

What happens next?

The SIAPs' advice is used by Hort Innovation to work suitable ideas into project proposals. The proposals are then made public for potential delivery partners to submit responses. Current opportunities are always listed at www.horticulture.com.au/delivery-partners.

At the end of the process the 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.

How can I keep track of investments?

Newly contracted projects are announced in Hort Innovation's *Hortlink* publication, with the latest edition emailed directly to members three times a year and always available from the Banana Fund page at www.horticulture.com.au/banana. *Hortlink* also provides updates on ongoing and recently completed investments.

The industry communications program, run through the investment *The Australian banana industry communications program* (BA15005), also provides regular information on levy-funded activity. See **p10** for more.



R&D project list 2017/18

NEW INVESTMENTS IN 2017/18

BA16007	National banana development and extension project – tropical
BA16007	National banana development and extension project – subtropical
BA16008	Banana strategic industry development manager
BA16009	Banana enterprise performance comparison 2016/17
BA16010	Alternative quarantine treatment for bananas infested with coffee bean weevil
BA16012	Revision of the owner reimbursement costs framework for the Australia banana industry
BA17001	Banana bunchy top virus control data
BA17003	Banana Industry Congress 2019
MT17002	Tropical fruit export strategy
MT17015	Consumer behavioural and retail data for fresh produce
ST16008	AgVet collaborative forum

ONGOING INVESTMENTS IN 2017/18

BA14012	Coordination of banana industry R&D (Panama TR4)
BA14014	Fusarium wilt Tropical Race 4 research program
BA15001	Review of the National Biosecurity Plan for the Banana Industry
BA15003	Integrated management of yellow Sigatoka
BA15004	Horticulture Nuffield scholarships

ONGOING INVESTMENTS IN 2017/18 (continued)

BA15005	The Australian banana industry communications program
BA15006	National banana bunchy top virus program – phase 3 (QLD)
BA15007	National banana bunchy top virus program – phase 3 (NSW)
BA16001	Improved plant protection for the banana industry
BA16003	Banana industry minor use program
BA16005	Strengthening the banana industry diagnostic capacity
ST15027	Generation of residue data for pesticide minor use permit applications in horticulture crops 2015/16

INVESTMENTS COMPLETED IN 2017/18

BA13011	The cause and management of crown rot of banana
BA13023	Banana strategic industry development
BA13025	New South Wales banana industry development officer
BA14013	Fusarium wilt Tropical Race 4 – biosecurity and sustainable solutions
BA16700	Banana industry congress 2017
MT13061	Understanding the purchase behaviour of fresh produce consumers
MT15032	Monitoring and evaluation framework for the industry Strategic Investment Plan
MT15033	Strategic Investment Plan

During the 2017/18 financial year, all Australian levy paying horticulture industries also contributed to across-industry projects addressing issues that affect horticulture as a whole. Visit www.horticulture.com.au/across-horticulture for financial documents and information on this program.

R&D report

Take a closer look at some of the key investments in the Hort Innovation Banana Fund during 2017/18. 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/banana as they become available.

Improved plant protection for the banana industry (BA16001)

Key research provider: The Queensland Department of Agriculture and Fisheries, in collaboration with several organisations

Carrying on from the previous iteration of the Banana Plant Protection Program, this investment continues to expand on plant protection for the banana industry. Its work focuses on...

- » Access to and evaluation of banana varieties with improved pest and disease traits (as well as improved agronomic and consumer preference traits)
- » Access to clean planting material that has been pathogen tested
- » Enhancing the diagnostic capacity for endemic and exotic threats
- » Improving integrated pest and disease management, and general understanding and management of key pests and diseases.

The Banana Plant Protection Program is a significant investment for the banana industry and has a broad range of activities taking place at any given time. With such a large program undertaking, you can find snapshots of the latest work in the channels of the industry's levy-funded communications program, and editions of Hort Innovation's *Hortlink*, accessible from www.horticulture.com.au/banana and released three times a year.

Project BA16001 works closely with *Strengthening the banana industry diagnostic capacity* (BA16005), which is focused on growing the industry's ability to detect and identify emerging endemic and exotic plant pathogens. Along with diagnostic work, BA16005 is increasing knowledge of the biology and spread of key diseases, and developing and testing eradication strategies.

National banana development and extension project (BA16007) – with both a tropical and subtropical component

NEW IN 2017/18

Key research providers: The Queensland Department of Agriculture and Fisheries (for the tropical component) and NSW Department of Primary Industries (for the subtropical component)

This project has two components working closely together to form a national program: a tropical component specific to the Queensland industry, and a subtropical one for New South Wales and Western Australian production regions. They follow the previous *National banana development and extension project* (BA13004) and are tasked with helping deliver the outcomes of levy-funded and other R&D back to the banana industry, to help growers access and implement new information, technologies and approaches, and make better decisions for their businesses.

Their activities involve industry development officers – Matt Weinert for the subtropical regions (matt.weinert@dpi.gov.au) and Tegan Kukulies for the tropical regions (tegan.kukulies@daf.qld.gov.au) – and include but aren't limited to...

- » National banana roadshow events, held biennially
- » Field walks and industry workshops, with details circulated in industry channels as they become available
- » Industry meetings and tours, including NextGen young banana grower group activities
- » Grower training activities
- » Development of resources, including fact sheets, videos and articles for *Australian Bananas* magazine
- » Direct engagement with growers and others in the banana supply chain
- » Innovative field trials and other research activities.

Want to keep up to date with the latest information on new, ongoing and recently completed R&D investments throughout the year? Check out Hort Innovation's *Hortlink* publication – the latest edition is always available from your grower page, www.horticulture.com.au/banana.

Tropical fruit export strategy (MT17002)

NEW IN 2017/18 & NOW COMPLETE

Key research provider: MCKINNA et al

This investment was tasked with developing individual export strategies for a range of tropical commodities including banana, papaya, passionfruit, persimmon and lychee, feeding into an overarching export strategy for Australian tropical fruit.

The Banana Industry Export Market Development Strategy was released during May 2018, with its top-level overview of trade opportunities and considerations available from Hort Innovation at www.bit.ly/2JG0Hcz in a brief market mapping report.

Some quick takeaways:

- » The best opportunity for Australian banana exports is with differentiated products, with potential opportunities around flavour and nutritional claims; organics; eco-friendly messaging; ethical, fair trade messaging; value-added pre-packs (such as tropical gift packs, children's snack packs); branding such as dipping and tattoos; and new varieties.
- » Even highly price-sensitive markets have niche markets for ultra-premium, differentiated products.
- » Challenges include an underdeveloped export supply chain, with the industry currently largely focused on servicing the domestic market.
- » The market mapping acknowledges that, realistically, Australia is not price competitive globally with Cavendish bananas by a significant margin compared to the dominant players of Ecuador and the Philippines. However, the report shows there is a period from March to July when prices in potential target markets spike due to reduced supply from the main supply countries – a window that coincides with a period of peak supply in Australia, when domestic market prices are significantly lower.

See the market mapping report for other information, including insights looking at Japan, Qatar, Singapore, New Zealand and China (subject to market access). Following the market mapping findings, the next steps involve Hort Innovation working with industry to determine the appetite for levy investment in the export space and to subsequently roll out any trade-related R&D activities.

Consumer behavioural and retail data for fresh produce (MT17015)

NEW IN 2017/18

Key research provider: Nielsen

Contracted in June 2018, this multi-industry investment is tasked with providing regular consumer behaviour data and insight reporting to a range of industries, including the banana industry. This 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 will be available to support strategic activities, as well as Hort Innovation Banana Fund marketing plans.

At the time of writing, the data and insights were soon to be easily accessible via a new online dashboard – look for further information in industry and Hort Innovation channels as it becomes available.

This project represents an evolution of previous investment *Understanding the purchase behaviour of fresh produce consumers* (MT13061).

Banana enterprise performance comparison 2016/17 (BA16009)

NEW IN 2017/18

Key research provider: Pinnacle Agribusiness

This benchmarking project for the Australian banana industry began in mid-2017. It has been collecting data on productivity, quality, profitability and other information from Australian banana businesses, and bringing this data together with information from previous projects to provide a comprehensive six-year picture of the industry's performance.

From this, it's intended that growers and other industry stakeholders will be able to identify the most relevant factors currently affecting industry performance, and factors that are driving individual business performance. Insights from the research will be used to highlight opportunities for growers to improve their businesses, which will be showcased in industry communication channels.

The project is also looking at the industry's currently heightened biosecurity requirements and any impacts on on-farm processes, management practices and costs.

Banana bunchy top virus control data (BA17001)

NEW IN 2017/18

Key research provider: The University of Queensland

Beginning in early 2018 and due to finish towards the end of the year, this investment is intended to help the industry contain and further lower the incidence of banana bunchy top disease, and provide the capacity to ensure a faster response time to any new incursions of the virus. Its work has included the development of a model for bunchy top spread, which is being used to look at the control and cost effectiveness of current and potential management strategies. The project is also tasked with communicating to industry on preparedness for and management of the virus, and the development of recommendations for future bunchy top control programs.

Alternative quarantine treatment for bananas infested with coffee bean weevil (BA16010)

NEW IN 2017/18

Key research provider: The Queensland Department of Agriculture and Fisheries

Coffee bean weevil is a major pest of many agricultural commodities, and has been detected by Biosecurity Western Australia in consignments of bananas from far north Queensland. As a possible alternative to the current use of methyl bromide, this project is looking at the effect of an ethyl-formate-based fumigant on coffee bean weevil eggs, larvae and adults at various doses, and determining any effects of the label rate on commercial fruit. The information will feed into trials that will provide the data needed to demonstrate efficacy to quarantine standards.

Banana strategic industry development manager (BA16008)

NEW IN 2017/18

Key research provider: The Australian Banana Growers' Council

This investment follows earlier iteration *Banana strategic industry development* (BA13023). Like its predecessor, it supports the role and activities of industry strategy manager (ISM) Michelle McKinlay within the Australian Banana Growers' Council. The ISM works with growers to develop, implement and respond to industry-related strategies and policies, and provides support for the adoption of new practices to align with these strategies.

The project has a focus on biosecurity and the environment – two priority areas identified in the Banana Strategic Investment Plan. This dual focus responds to the banana industry's need to both be prepared for exotic pest and disease incursions, and to adopt best management practices on-farm to improve the water quality of the Great Barrier Reef. Two key platforms for this



project are to be the implementation of the Banana Industry Water Quality Strategy and the priorities from the Banana Industry Biosecurity Framework. As a result of this project, banana growers will be informed and engaged in stakeholder discussions; be better prepared to deal with biosecurity threats; and maintain their 'social license' to farm in close proximity to the Great Barrier Reef.

Banana Industry Congress 2019 (BA17003)

NEW IN 2017/18

Key research provider: The Australian Banana Growers' Council

This new investment will support the 13th Australian Banana Industry Congress, to be held during May 2019 on the Gold Coast and for which planning is already underway. The Congress is a biennial event for the Australian banana industry, and in 2019 it will continue to deliver research outcomes back to growers, along with insights into other latest developments and technologies, and info on current international and domestic work on TR4. The 2017 event was supported by the investment *Banana industry congress 2017* (BA16700).

Revision of the owner reimbursement costs framework for the Australia banana industry (BA16012)

NEW IN 2017/18 & NOW COMPLETE

Key research provider: Ag Dynamics

Beginning and ending in 2017/18, this investment was responsible for revising the Evidence Framework for Owner Reimbursement Costs, developed for the banana industry in response to the freckle incursion in the Northern Territory. As part of the Emergency Plant Pest Response Deed, the framework is required to assist Deed partners allocate compensation. The revision was needed to meet the structure of the entire Australian banana industry for use in response to Panama disease incursions.

Cause and management of crown rot of banana (BA13011)

NOW COMPLETE

Key research provider: The Queensland Department of Agriculture and Fisheries

Beginning in mid-2015 and finishing in early 2018, this project developed a greater understanding of the factors that contribute to crown end rot, which has re-emerged as an important problem in the banana supply chain.

The project broadened the traditional definition of crown end rot to include moulds and rots of flower ends and flower remnants, as well as crown mould. It undertook various avenues of research – from industry surveys and supply chain monitoring, to laboratory studies and trials – with some of its key findings outlined below.

- » The incidence of crown end rot turned out to be much higher than anticipated or known by banana producers at the project outset. Surveying of supply chain businesses during the project revealed that at some point, every banana supply chain had incidences of crown end rot or moulds, though the severity of the problem varied between suppliers, seasons and years.
- » The incidence of crown end rot is typically higher in summer but with lower severity, in contrast to winter where the issue is found to be more infrequent, but with a higher severity.
- » The longer fruit is held in the supply chain between packing and retail presentation, the higher the incidence and severity of crown end rot. As a result, the problem can be greater during times of oversupply and for market destinations further away from the country's major banana production regions. Also as a result, improved management of fruit 'residence time' within the supply chain can lead to a reduction in rejections.

In relation to time in the supply chain, the researchers noted there was no difference in the rate of symptom development or incidence between cultivars being monitored (Lady Finger and Cavendish), and the bunch position (top, middle or lower) did not appear to have an effect on the presence of crown end rot. However in relation to Cavendish shrink-wrapped cluster packs, as the fruit ripened and lost moisture, the shrink wrap no longer remained airtight around the fruit, creating a more humid environment for the development of crown end rot and also enhancing the presence of mould on the flower-end scars.

- » Crown end rot is caused by a complex of fungi, with the two pathogens most frequently associated with the problem being *Musicillium theobromae* and *Fusarium* (*Fusarium equiseti-incarnatum* complex). Both are widely distributed in northern Queensland banana growing environments, regardless of season. The seasonal occurrence and impact on the market of aggressive crown end rot caused by *Thielaviopsis musarum* (Chalara) was also captured by the project.

- » Infection by crown end rot fungi is not currently able to be linked to endophytic colonisation or colonisation of wound tissue. Instead, the evidence points towards contamination of crowns with airborne inoculum of the various fungi, from the point of removing hands from the peduncle and clustering at the packing shed.
- » Crown end rot management options, from site selection and irrigation practices through to packaging and dispatch, have an incremental influence on disease management (and are outlined in the project's draft management practice framework) – however the main element in effective crown end rot control is post-harvest fungicide application.
- » Lab studies revealed there has been some shift in the sensitivity of crown end rot pathogens to the fungicide thiabendazole. The researchers also noted that "fungicides with the active ingredient prochloraz in general have better activity against the broad spectrum of fungi associated with both crown end rot and crown mould symptoms on banana." Their work involved screening a range of alternative products too, with some identified for further evaluation.

The project team reported that information developed through the project and extended through industry has helped decrease the incidence of crown end rot due to appropriate and timely use of post-harvest fungicides, and helped increase awareness in the supply chain of the different aspects of symptom development. "There has also been an improved understanding reported at the retail level of the low level of risk associated with certain rots and moulds," they noted. "This has resulted in fewer outright rejections for consignments without actual rotting of the crown tissue."



Fusarium wilt Tropical Race 4 – biosecurity and sustainable solutions (BA14013)

NOW COMPLETE

Key research provider: The Queensland Department of Agriculture and Fisheries

This project, which began in mid-2015 and concluded in late 2017, had a focus on biosecurity strategies around the *Fusarium wilt Tropical Race 4 (TR4)* fungus – one of the most destructive diseases of banana. The work delivered new science, information and practices to help in avoiding, containing, and managing TR4, including the *Banana best management practices on-farm biosecurity manual*, which is available from the Hort Innovation Banana Fund page at www.horticulture.com.au/banana.

Project activities were geared towards helping the industry successfully contain the disease and prevent further spread of the fungus through the adoption of robust, science-based biosecurity practices; and facilitating the development of economically viable production systems capable of minimising inoculum build-up, suitable for use on infected or at-risk farms.

The project team reported that adoption of effective biosecurity practices on north Queensland banana farms had been significantly supported by project activities, which included – but weren't limited to – identifying and communicating...

- » **How to monitor for the disease.**
- » **Risk pathways for spread of the pathogen, and associated biosecurity practices.** The fungus that causes TR4 cannot move itself, rather it must be moved for the disease to spread. It can be spread by the movement of contaminated water (spores in irrigation, drainage and flood water), infected plant material and infested soil (a teaspoon of infested soil is enough to start a new infection). The project examined the aspects of the banana production system that related to these movement risks to determine what farm practices presented the greatest risk of spreading the disease. Once these were identified, then effective and practical methods to manage them were developed in conjunction with banana growers. The assessment also helped to identify knowledge gaps that required more R&D effort.
- » **The most effective disinfectant products, and how to manage their use,** with this information collated into project fact sheets on sanitisers.
- » **How to effectively destroy inoculum in infected plants to minimise build up in the soil.** Each infected banana plant is effectively a ticking disease 'time bomb'. As the disease kills the plant the fungus within produces millions and millions of very robust, long-lived survival spores that can persist in the soil for decades. If the plant is allowed to die and fall over on the ground, then those spores return to the soil where they can be picked up and moved elsewhere by machinery,



shoes, wild and feral animals, and washed downhill by surface run-off where the same vectors can pick it up and move it, or it ends up in a river, creek or dam where it can be distributed by irrigation onto a new farm. Hence, being able to kill all the disease in an infected plant is crucial to stopping further spread – even when it means killing the plant and locking up that area so that no crop is grown there again, and no-one can re-enter the locality.

The project showed that the use of very high, toxic rates of urea fertiliser (much higher than the normal fertiliser rates used) to produce ammonia gas in very localised plots and in specific ways (bagging infected banana stem and adding urea, spreading it on the ground adjacent to the plant and sheeting the site with plastic) can dramatically reduce the amount of inoculum that persists. This means that the risk of accidental movement of infected plant or soil from the site is very much reduced – a key part of containing the spread of the disease.

The project also significantly progressed development of methods for assessing plant stress and its influence on *Fusarium* infection, identified possible rotation crops that suppress fungus populations in the soil, and looked at the influence of ground cover and nitrogen management practices on the soil microbiome and its capacity to suppress *Fusarium*.

The project's work was world-leading in many areas, with the project team linking in with the international R&D community as a part of its work. This disease is spreading rapidly internationally, and the team reported that researchers and growers from Central America, Israel, South Africa and other areas have been visiting to learn about the work, especially the biosecurity practices work.

Coordination of banana industry research and development (Panama TR4) (BA14012)

NOW COMPLETE

Key research provider: The Australian Banana Growers' Council

Beginning in 2015 and ending just inside 2018/19, this investment was established to coordinate the industry's efforts, and build knowledge and capacity, to manage and contain the Panama TR4 fungal disease, first identified in Queensland in March 2015. The Australian Banana Growers' Council's Dr Rosie Godwin was employed under this project as the Banana Industry R&D Manager, to ensure R&D on Panama TR4 had tangible outcomes for banana growers that could be adopted on-farm.

As a sampling, project activities included helping with Biosecurity Queensland's TR4 response program; consulting with growers on TR4 and other relevant issues; developing guidelines, fact sheets and training material to support the containment of the disease; and developing a biosecurity action plan template for banana growers highlighting risks and biosecurity measures to reduce TR4 infection and spread.

New investment *Banana industry R&D coordination* (BA17002), established in the 2018/19 financial year, will continue to support Dr Rosie Godwin in the Banana Industry R&D Manager role.

Fusarium wilt Tropical Race 4 research program (BA14014)

Key research provider: The Queensland Department of Agriculture and Fisheries

This ongoing project seeks to provide medium- and long-term solutions for banana growers to allow continued profitable production, should Fusarium wilt become widespread in the North Queensland banana industry. Key goals of the project are to...

- » Improve cultivar resistance, by developing and identifying TR4-resistant varieties
- » Build resilient banana production systems, by developing a better understanding of the TR4 pathogen and its interactions with plants and soils
- » Improve on-farm biosecurity practices.

Review of the national biosecurity plan for the banana industry (BA15001)

Key research provider: Plant Health Australia

This project is responsible for updating the industry's biosecurity plan. The plan is a top-level document that identifies high-priority endemic and exotic pests and diseases, along with the risk mitigation activities required to reduce their biosecurity threat.

National banana bunchy top virus program – Phase 3 – QLD (BA15006) and National banana bunchy top virus program – Phase 3 – NSW (BA15007)

Key research provider: Both components are led by Barry Sullivan

With banana bunchy top virus the most serious viral disease of bananas, these projects represent the third phase in a 10-year plan aimed at controlling the disease in Australia. Project activities are designed to protect uninfested areas; remove infestation from farms and protect from reinfestation; and to reduce the disease range.

The program's ongoing strategy involves risk-based surveillance and plant rogueing conducted by surveillance teams, along with awareness activities. All commercial banana farms that have previously had bunchy top infections continue to be inspected on a monthly program, with inspections also taking place in buffer zones around commercial growers, and in private backyard properties on an invitational basis. New technologies are also being explored, including a cloud-based Geographic Information System (GIS) that will simplify mapping, planning, recording and reporting.



Integrated management of yellow Sigatoka (BA15003)

Key research provider: The Australian Banana Growers' Council

Beginning in January 2016, this investment supports the work of the Yellow Sigatoka Liaison Officer of the Australian Banana Growers' Council. The liaison officer's Queensland-based role includes educating growers on yellow Sigatoka and leaf speckle ('leaf spot') symptoms and integrated control, and assisting growers to voluntarily keep levels of leaf spot disease on their plantations below prescribed levels (less than five per cent).

The officer continues to undertake leaf spot inspections on commercial farms and in some backyards, and is responsible for alerting Biosecurity Queensland when any other suspected banana diseases are found. A key part of the role is also sharing information with and between growers, aerial operators, chemical sellers, government and university research staff. The officer also supports north Queensland banana growers in best practice disease management.

The Australian banana industry communications program (BA15005)

Key research provider: The Australian Banana Growers' Council

This investment is responsible for keeping Australian banana growers and other industry stakeholders informed about key industry issues and the latest R&D in a timely way. The ultimate goal is to facilitate the uptake of new information, technologies and practices – in turn helping growers forge more productive, profitable and resilient businesses.

The project continues to produce and maintain key communication channels, including but not limited to:

- » The quarterly *Australian Bananas* magazine
- » Industry e-bulletins, sent at least twice per month but delivered more frequently as needed
- » The Australian Banana Growers' Council website, www.abgc.org.au, which is updated regularly with content
- » The Australian Banana Growers' Council Facebook page
- » SMS notifications and phone calls to growers, used for urgent industry updates

- » Video content to help convey information to growers, available through the Australian Banana Growers' Council YouTube page.

The project is also responsible for media relations services, creating and distributing media releases and fielding media enquiries on behalf of the industry.

Generation of residue data for pesticide minor use permit applications in horticulture crops 2015/16 (ST15027)

Key research provider: Eurofins Agrisearch

The generation of pesticide residue, efficacy and crop safety data is required to support label registration and minor use permit applications made to the Australian Pesticides and Veterinary Medicines Authority which, when approved, provide access to safe and effective chemicals for the management of pests, weeds and diseases. This investment has been responsible for producing the data required to support a range of registration and permit applications across a host of horticulture industries, including banana.

Banana industry minor use program (BA16003)

Key research provider: Hort Innovation

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

For more on minor use permits, including a list of permits, see [p12](#).

All current permits for the industry remain searchable at portal.apvma.gov.au/permits, while permit updates are also circulated in Hort Innovation's *Growing Innovation* e-newsletter, which levy-paying members receive monthly. Not a member? Sign up to the Hort Innovation membership program for free at www.horticulture.com.au/membership.

Full details of completed research can be found in project final reports which, when finalised, are available to order at www.horticulture.com.au/final-report-order-form. Final reports are free to Australian horticulture levy payers, registered Hort Innovation members and industry representative bodies.

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Minor use permits

Why minor use permits?

While the use of pesticides and other chemicals in the horticulture industry is being modified through the increasing uptake of integrated pest management approaches, there remains a need for the strategic use of specific chemicals.

Chemical companies submit use patterns for product label registrations to the Australian Pesticides and Veterinary Medicines Authority (APVMA), and the banana industry is generally provided with a number of label registrations because of its 'major' crop status in this area. However, there are instances where chemical companies consider the market size too small to generate adequate commercial returns, based on the R&D investment required. This is where minor use permits come into play. The APVMA's national permit system adds some flexibility to the approval process and provides a legal framework that can allow access to products for minor use purposes.

Permits in 2017/18

During the 2017/18 financial year, a successful renewal for PER14966 was prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Banana industry minor use program* (BA16003) and supported by data generated by the project *Generation of residue data for pesticide minor use permit applications in horticulture crops 2015/16* (ST15027). See details of the permit in the table that follows.

Through the minor use project, a new permit application was also submitted for surface and equipment sanitisers for the control of Panama disease. This was issued as PER86485 just inside the 2018/19 period.



Current permits

Below is a list of minor use permits for the banana industry, current as of September 1, 2018.

PERMIT ID	DESCRIPTION (CHEMICAL/CROP/PEST OR USE)	ORIGINAL DATE OF ISSUE	EXPIRY DATE	PERMIT HOLDER
PER9409 version 2	Sulfur dust / Banana bunches / Mites	01-Oct-06	30-Sep-19	Australian Banana Growers' Council (ABGC) C/Hort Innovation
PER14850 version 3	Glyphosate, imidacloprid and paraffinic oil / Bananas / Destruction of banana plants and control of susceptible disease vectors	01-Oct-14	30-Sep-19	ABGC C/Hort Innovation
PER13158 version 9	Dimethoate / Specified citrus and tropical fruit commodities (inedible peel, post-harvest) / Various fruit fly species	06-Oct-11	06-Mar-19	Hort Innovation
PER14235	Rattoff Zinc Phosphine Bait Sachets / Banana plantations / Roof or black rat and mice	1-Jul-13	30-Jun-23	ABGC C/ AgAware
PER14239	2,4-D (Amicide) / Cavendish bananas / Destruction of banana suckers	01-Jul-13	30-Jun-23	ABGC C/ AgAware
PER14240 version 2	Chlorpyrifos / Bananas / Sugarcane bud moth, banana scab moth, banana rust thrips, mealy bugs and caterpillars	28-Jun-13	30-Sep-20	ABGC
PER81199	Mancozeb (Tatodust) / Banana bunches / Banana fruit speckle disease	27-Oct-15	31-Mar-21	ABGC
PER12450 version 6	Trichlorfon / Specified fruit crops / Fruit fly	06-Oct-11	31-Jan-21	Growcom
PER14966 version 3	Ethephon / Bananas / Pseudostem injection for crop timing management	23-Dec-14	31-Aug-23	ABGC C/Hort Innovation
PER14237 version 2	Diesel distillate / Bananas / Removal of unwanted suckers (New South Wales and Queensland)	1-Dec-13	30-Sep-23	ABGC C/Hort Innovation
PER86485	Didecyl dimethyl ammonium chloride (Agricrop Steri-Max Biocide) and benzalkonium chloride (Bactex CF Santiser and Agriquat Disinfectant-Sanitiser-Deodorant) / Banana – sanitising and decontamination of surfaces and equipment / Panama disease (<i>Fusarium oxysporum f. sp. Cubense Race 4</i>)	12-Jul-18	31-Jul-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.

Minor use permit updates are circulated in Hort Innovation's e-newsletter, **Growing Innovation**, which levy-paying members receive monthly. Not a member? Sign up for free at www.horticulture.com.au/membership.

Marketing report

Hort Innovation is responsible for investing the banana marketing levy into a range of activities to drive frequency of purchase and consumption, under the Hort Innovation Banana Fund. Here's a quick look at some of the activities and achievements of the 2017/18 program.

The 2017/18 marketing program focused on getting consumers to snack on bananas more frequently – in particular, people aged 25 to 39, and families with kids 12 years and younger. It involved a number of activities, from advertising and traditional media outreach, to a strong social media program and participation in community events.

Advertising

During 2017/18 a range of advertising channels were used to encourage Australian consumers to purchase more bananas, with the activity building on the successful theme of 'Nature's non-stop energy snack'.

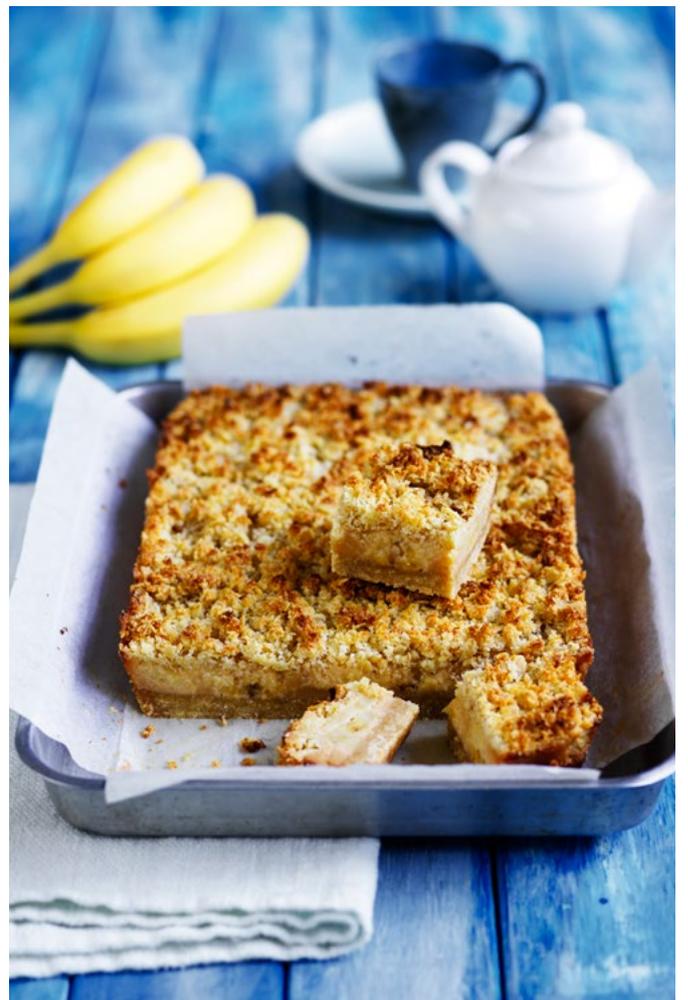
Television activity

The Australian Bananas TV campaign aired in two bursts during the financial period – during August and September 2017, and again during March and April 2018. The ads retained the iconic 'Make your body sing' jingle and showed a fast-moving montage of people powering through their day thanks to an energy burst from bananas. Activity took place across all major capital cities and in key regional markets, across major free-to-air networks and also on pay TV.

Out-of-home advertising

Driving awareness of the campaign and frequency of messaging to remind consumers about bananas, the out-of-home campaign involved Australian Bananas advertising on bus panels during September to October 2017, and between March and April 2018, across five capital cities.

The out-of-home approach also involved digital display ads in shopping centres, placed in close proximity to supermarkets and grocers. Involving 805 panels, the first 11-week burst took place from early September 2017, and the second burst, involving 714 panels, ran from mid-March to early-June 2018 across the country.





Digital campaign

Digital Australian Bananas advertising was run across desktop, tablet and mobile phone devices at various stages from August to November 2017, and then again from mid-March to May 2018. A number of digital strategies were employed for this campaign, ranging from 'programmatic video' (automated video advertising based on specifications), Coles Flybuis signal data, Woolworths data through Quantum, YouTube bumper ads as well as Snapchat.

There were three components, including:

- » **Video and online display advertising.** Video ads were shown to more than 7.4 million people during the financial year, with a strong result of, on average, 78 per cent of all people watching the ad through to completion. The activity involved 15-second Australian Bananas ads delivered across some of the most-visited websites in market, including the catch-up TV services of channels Seven, Nine and Ten. There were particular strategies around targeting sports and time targeting of news sites to ensure the ads would appear when the highest number of people were on these sites during the day.
- » **YouTube 'bumper' video ads.** This approach was used to showcase Australian Bananas across YouTube cost effectively. It involved a new format of non-skippable six-second ads, with a variety of creative options. These ads ran with age demographic targeting across each video. In total, six videos ran for the duration of the campaign.
- » **Coles and Woolworths data-based activity.** Using Woolworths data through Quantum and Coles Flybuis data (which give insights into shoppers), there was the ability to target lapsed/lapsing and new/active banana buyers with digitally served ads, with the aim of changing buying behaviour and ensuring a sales uplift in both segments. Overall the campaign using Quantum data saw an uplift in sales of more than \$200,000, which amounts to an extra 4.73 per cent purchases and means a return on ad spend of \$2.93 for every dollar spent. The best performing segments were new and active banana lovers, who had a higher propensity to purchase more bananas during the campaign period. Meanwhile, the campaign run with Coles data saw a larger purchase uplift from the lapsed and lapsing group.



Website and social media activity

Throughout the year, the consumer-facing website www.australianbananas.com.au remained a hub for recipes and banana facts, as well as health and nutrition information. The website also remained (and remains) the number-one result in Google for the search term 'bananas'. Via a log-in, growers can also gain access to monthly marketing updates and research reports through the site.

The industry's 'always on' approach to social media also continued during 2017/18 as an important channel for keeping bananas top of mind. Across Facebook (www.facebook.com/australianbananas) and Instagram (@australianbananas), the social media program delivered content and messaging around core content themes including bananas as a fun fruit, bananas as a source of energy/nutrition, and bananas as 'a-peeling snacks' – plus there was content on the growers behind the produce.



Events

During 2017/18, the marketing program continued to promote the health benefits of Australian bananas on a national stage through product sampling, promotion and supply of merchandise at various sporting and community events around the country. Events included the Weet-Bix Kids TRYathlon 2017/18 series, which had more than 13,700 participants and close to 27,200 spectators to cheer on competitors. Two new events were added to 2017/18 – the Western Sydney Marathon and MS Walk Fun Run. These two events had in excess of 6200 participants.

Australian Bananas also sponsored breakfast tents at family-focused Little BIG DASH events in Sydney and Brisbane in mid-2017, while other events from the financial period included promotion and sampling of bananas included Ride2Work, with eight events held in October 2017 across all states, the Fleurieu Fondo Festival held in South Australia, and the JP Morgan Corporate Challenge held in Sydney in November 2017.

Australian Bananas continued sponsorship of community events held in growing regions around the country, including the Innisfail, Tully and Atherton Shows, the Banana Industry Race Day in Innisfail, the Nambucca Banana Hurl, and various sporting clubs in Queensland, New South Wales and Victoria. More than 3000 pieces of Australian Bananas merchandise were handed out at these events.

Schools programs

During 2017/18, Australian Bananas sponsored two school programs in Western Australia and Victoria. The Melbourne Market Authority Schools Program reached more than 20,000 people over the year-long duration of their program, while over 2000 students were involved in the Foodbank WA program. These sponsorships were a great way to educate children about fresh fruit and bananas specifically, building consumers for today and into the future.



Public relations activity, including ambassadors

Taking banana messaging to the Australian media, the Australian Bananas public relations (PR) strategy for 2017/18 had a focus on young families and people aged 25 to 39. It was designed to encourage this audience to snack on the fruit more frequently.

Activities included the distribution of banana tips and recipes to media, plus interviews and the production and distribution of content with Australian Bananas ambassador Susie Burrell.

Susie is one of Australia's leading dietitians and runs her own healthy eating blog. As well as media activities, she posted regularly about bananas to her website and social media channels during 2017/18 with content including banana recipes produced for the campaign, reaching more than 9.8 million people. Likewise, ambassador footballer Billy Slater continued to post about bananas to his social media audience.

Over the last 12 months, there were 139 pieces of coverage with a total combined audience reach of 30,151,674 people.

Bounty Bags for new mums

The Bounty New Mother bags, as the name suggests, are designed for women with newborns and distributed through hospitals nationally by midwives and Bounty representatives.

There were 204,000 Australian Bananas banana cases included in the bags during 2017/18, each featuring a leaflet detailing the benefits of bananas as both a baby's first food and an ideal snack for busy mothers.

Overall campaign results

There was a large amount of activity for Australia's most-consumed fruit during 2017/18, and the marketing messaging resonated. Tracking data shows advertising recall from April/June 2017 to April/June 2018 increased from 31 to 40 per cent.

The last three-year campaign was strong, with Nielsen data showing 91.6 per cent of Australian families purchasing bananas (Nielsen Homescan, MAT to 19/5/18) and maintaining a leading position in both the snack and energy snack categories.



Financial statement

Financial operating statement 2017/18

	R&D (\$)	MARKETING (\$)	TOTAL (\$)
	2017/18 July – June	2017/18 July – June	2017/18 July – June
OPENING BALANCE	1,187,293	418,127	2,888,220
Levies from growers (net of collection costs)	2,083,630	4,436,192	6,519,822
Australian Government money	2,164,691	–	2,164,691
Other income*	30,259	17,955	48,214
TOTAL INCOME	4,278,580	4,454,147	8,732,727
Project funding	3,620,955	4,088,080	7,709,035
Consultation with and advice from growers	43,123	31,132	74,255
Service delivery – Base	151,408	170,215	321,624
Service delivery – Shared	229,275	257,755	487,030
Service delivery – Fund specific	284,621	316,114	600,735
TOTAL EXPENDITURE	4,329,382	4,863,296	9,192,678
Levy contribution to across-industry activity	92,529	–	92,529
CLOSING BALANCE	1,043,963	8,978	1,052,940
Levy collection costs	12,635	28,057	40,693

At the end of 2016/17, the industry's pro rata share of levy funds were committed to strategic reserves (\$384,242 for R&D and \$898,557 for marketing), and so have been deducted from the 2017/18 opening balance

* Interest, royalties

Service delivery costs explained

Base service delivery (flat rate) = keeping the lights on

This figure contributes to the standard fixed costs that are incurred with the running of the business (for example, costs relating to rent, utility bills, equipment). These costs are calculated on a monthly basis and are based on actual program expenditure.

Shared service delivery (flat rate) = related to program delivery

Shared costs are related to program delivery and include costs that are incurred in supporting activities relating to R&D and marketing programs that are not attributable to any one levy industry (for example, costs relating to procurement and information technology activities). These costs are calculated on a monthly basis and are based on actual program expenditure.

Fund specific service delivery (flat rate for 2017/18) = direct servicing costs

These are the actual costs for activities and services that are directly incurred in the administration of levy program expenditure, and which are identifiable and attributable to a specific levy investment fund (for example, costs around direct relationship, marketing and fund management, and logistical costs around industry advisory meetings and activities). From 2018/19 these costs will be charged at cost on a monthly basis.

For more information explaining the costs in the financial summary, visit www.bit.ly/2x7ERLC.

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