Strawberry Fund





STRAWBERRY FUND



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



SUMMARY BY BRAD MILLS, RELATIONSHIP MANAGER, HORT INNOVATION

We're for growers

At Hort Innovation it's our job to work with industry to invest the strawberry 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 \$1.13 million invested by Hort Innovation into R&D for the strawberry industry during 2017/18, including into several new projects, I'm happy to be able to share with you all the key insights in this Hort Innovation Strawberry 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 continuation of the industry's varietal improvement program (with the concluding project having delivered 12 new varieties), new research to deliver key consumer insights, and ongoing work to help growers access and implement best practice, new knowledge and current technologies.

On a personal note, during the year it was great getting to connect with you about everything going on in the Strawberry Fund, to hear your thoughts, and to 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 **bradley.mills@horticulture.com.au** or on 0408 635 465 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 Strawberry Fund. The latest edition is always available from the Strawberry Fund page at www.horticulture.com.au/strawberry, while members have Hortlink sent straight to their inboxes.
- Engage with your industry development program. The three-pronged industry development program which has a national and two state-based components 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 Strawberry Fund logo to easily identify work related to your levy in print and digital communications). The program is funded through the Hort Innovation Strawberry Fund, with more info available on p6.

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

Luc

Brad Mills Strawberry Relationship Manager, Hort Innovation (e) bradley.mills@horticulture.com.au (m) 0408 635 465

Making levy investments

Discover how the strawberry levy and Australian Government contributions are invested through the Hort Innovation Strawberry 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 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 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 Strawberry Fund are guided by the industry's Strategic Investment Plan (SIP), which was finalised by Hort Innovation in April 2017 after close consultation with growers and other industry stakeholders.

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

The SIP document is used like a 'roadmap' by the strawberry industry's Strategic Investment Advisory Panel (SIAP) – a panel made up of growers and other industry representatives, which has a key role to play in the investment process. The SIAP discusses 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 SIAP's meetings can be found at www.horticulture.com.au/strawberry.

What happens next?

The SIAP's advice is used by Hort Innovation to work suitable ideas into project proposals. The proposals are then made public for potential delivery partners to make 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 Strawberry Fund page at **www.horticulture.com.au/strawberry**. *Hortlink* also provides updates on ongoing and recently completed investments.

The industry's national and state-based development program investments also provide regular information on levy-funded activity. See **p6** for more.



R&D project list 2017/18



NEW INVESTMENTS IN 2017/18

BS17000	National strawberry varietal improvement program (2017-2022)
AM17001	Developing a national systems approach for meeting biosecurity requirements to access key Asian markets
MT17001	Berry export strategy
MT17015	Consumer behavioural and retail data for fresh produce
MT17016	Coir waste management for hydroponic berries
ST16008	AgVet collaborative forum
ST17000	Generation of data for pesticide applications in horticulture crops 2018

ONGOING INVESTMENTS IN 2017/18

BS15002	Facilitating the development of the Australian strawberry industry – national oversight and communications
BS15003	Facilitating the development of the Australian strawberry industry – sub-tropical regional delivery
BS15004	Facilitating the development of the Australian strawberry industry – temperate regional delivery
BS15005	Improved management of charcoal rot of strawberry
BS16001	Strawberry industry minor use program
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
ST16006	Generation of residue, efficacy and crop safety data for pesticide applications in horticulture crops
INVESTM	ENTS COMPLETED IN 2017/18
BS12021	National strawberry varietal improvement program
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 Strawberry 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/strawberry as they become available.

National strawberry varietal improvement program (BS12021)

NOW COMPLETE

Key research provider: The Queensland Department of Agriculture and Fisheries

To ensure the Australian strawberry industry has access to improved, locally-adapted varieties into the future, this national breeding project continued the development and commercial release of superior strawberry varieties for targeted environments.

Initially focused on developing varieties adapted to subtropical climatic regions, during its course the project grew in scope to include breeding for Australia's temperate and Mediterranean production regions (which included taking management of the existing Victorian Strawberry Breeding Program).

Twelve new strawberry varieties were developed, protected under Plant Breeder's Rights, and positioned for commercialisation under its work.

For subtropical production, there were seven varieties:

- » Red Rhapsody
- » Parisienne Kiss
- » Sundrench
- » Scarlet Rose-ASBP
- » Sunglow-ASBP
- » Meadowsong
- » Venus-ASBP

For temperate production there were two:

- » Summer Song
- » Scarlet-silk

For Mediterranean production there were three:

- Rosalie-ASBP
- Jubilee-ASBP
- » Fanfare-ASBP

To produce the new varieties, individual breeding targets for each production region were set in consultation with the local industries, with desirable traits including improved resistance to the crown wilt diseases *Macrophomina phaseolina* (charcoal rot), *Colletotrichum gloeosporioides* and *Fusarium oxysporum* f. sp. *fragariae*. Building on the breeding strategy developed in earlier industry work, the project incorporated quantitative genetic analysis and economic modelling of fruit and plant traits to guide crossing and selection decisions.

The project team reported that, "in 2017, varieties from the Australian Strawberry Breeding Program (ASBP) captured 44 per cent of the subtropical market and 19 per cent of the national market. These plantings had a farm-gate value of approximately \$78 million and contributed approximately 2700 jobs in production. Indications from runner growers suggest that 2018 sales of ASBP varieties will be substantially higher than 2017 levels." There is still more work to be done for the temperate and Mediterranean regions, with other potential new varieties in the pipeline.

Breeding work is now being continued through the investment *National strawberry varietal improvement program* 2017-2022 (BS17000), established at the end of the 2017/18 period.

Like its predecessor, this new iteration of the program will ensure the Australian strawberry industry has access to improved, locally-adapted varieties into the future, continuing the development and commercial release of superior varieties for targeted environments including temperate, subtropical and Mediterranean growing regions. The program's advanced breeding and evaluation approaches will be further enhanced through the inclusion of alternative production systems and the latest advancements in genomics.

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/strawberry.



Berry export strategy (MT17001)

NEW IN 2017/18 & NOW COMPLETE

Key research provider: Auspex Strategic Advisory

Funded by both the strawberry and raspberry and blackberry industries, this project was tasked with identifying, sizing and prioritising opportunities for the industries in international markets, through the development of an export strategy. The Berry Export Strategy 2028 was released in July 2018, providing the industries with a strategic assessment of future opportunities for export market development over a 10-year horizon. A strategy overview is available to download from Hort Innovation at www.bit.ly/20kXqCM.

As an initial step, an export working group will be established to review the recommendations in the strategy and to provide further advice to the industry Strategic Investment Advisory Panel and Hort Innovation on any immediate and ongoing investment areas that will assist in the development of strawberry exports.

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 strawberry 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.

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.

Coir waste management for hydroponic berries (MT17016)

NEW IN 2017/18

Key research provider: RMCG

Beginning in June 2018, this new multi-industry investment for both the strawberry and raspberry and blackberry industries is set to investigate new, creative approaches to coir waste management from hydroponic berry production. The project team will be working closely with Australian growers and the country's major coir supplier, while also investigating international approaches, to put forward recommendations and practical information for the industry on economically and environmentally feasible coir waste management approaches.

Generation of data for pesticide applications in horticulture crops 2018 (ST17000)

NEW IN 2017/18

Key research provider: Peracto

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.

In May 2018, Hort Innovation announced the securing of more than \$1 million in assistance grants under the Australian Government's Access to Industry Uses of Agricultural and Veterinary (AgVet) Chemicals program. Through this project, the grant funding is being used, along with levy contributions, to generate the data required for a range of registration and minor use applications across a variety of horticulture crops, including for the strawberry industry.

Similarly, data generation is also undertaken by the project *Generation of residue, efficacy and crop safety data for pesticide applications in horticulture crops 2017* (ST16006) which involves grant funds from an earlier round of the AgVet program, plus some levy contributions.

Strawberry industry minor use program (BS16001)

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 strawberry 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 **p8**.

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**.



Facilitating the development of the Australian strawberry industry – national oversight and communications (BS15002) as well as Facilitating the development of the Australian strawberry industry – sub-tropical regional delivery (BS15003) and Facilitating the development of the Australian strawberry industry – temperate regional delivery (BS15004)

Key research providers: RMCG (BS15002); Qld Strawberry Industry Promotions Council (BS15003); Victorian Strawberry Industry Development Committee (BS15004)

Together, these three investments form a development program geared towards improving Australian strawberry growers' knowledge and skills, facilitating the adoption of innovation and R&D, and supporting practice change to ensure the profitability and sustainability of the industry.

National project BS15002 produces and maintains key industry communication channels, including...

- » The Strawberry Innovation website, www.strawberryinnovation.com, for industry news and R&D communications
- » The quarterly national industry newsletter Simply Red
- » The monthly national e-newsletter The Punnet.

The regional projects each feed into this national program and deliver additional activities such as workshops, grower groups, farm walks, field days, study tours, case studies and industry analysis.

Specifically, BS15003 and BS15004 are responsible for funding the positions of industry development officers (IDOs) to carry out these activities. Activities run by the IDOs are advertised in industry channels, including newsletters and the events section of the Strawberry Innovation website.

Improved management of charcoal rot of strawberry (BS15005)

Key research provider: The Queensland Department of Agriculture and Fisheries

Beginning in mid-2017, this investment is tasked with helping tackle charcoal rot, reducing its occurrence and related losses and costs for the Australian strawberry industry. It is responsible for investigating improved management approaches including chemical, biological and cultural options for the disease, which is caused by the fungus *Macrophomina phaseolina* and has symptoms including crown and root rot, plant wilting and yellowing of leaves (chlorosis).

Enhanced National Bee Pest Surveillance Program (MT16005)

HORT FRONTIERS

Key research provider: Plant Health Australia

This investment is delivering a nationally coordinated beepest 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 strawberry industry is one of several contributors to the work, with the program now part of the Hort Frontiers Pollination Fund.



SITplus: Developing and optimising production of a male-only, temperaturesensitive 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, maleselecting' strain of Queensland fruit fly (Qfly). 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 Qfly. The male flies are to ultimately be released in growing regions of south-eastern Australian that are affected by Qfly. 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 Qfly populations. The strawberry industry is one of several involved in the project which, as a SITplus initiative, is now part of the Hort Frontiers Fruit Fly Fund.

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

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 strawberry 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, successful minor use permit renewals for PER14192 and PER14483 were prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Strawberry industry minor use program* (BS16001). A renewal was also submitted for PER81745 which, at the time of writing, remained with the APVMA for assessment.

Meanwhile, a renewal for PER13697 was also issued during 2017/18, with the application submitted through the industry minor use program in the previous financial year. See details for all of these permits in the table below.

Current permits

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

PERMIT ID	DESCRIPTION (CHEMICAL/CROP/PEST OR USE)	ORIGINAL DATE OF ISSUE	EXPIRY DATE	PERMIT HOLDER
PER12486 version 5	Trichlorfon / Specified berry fruit / Fruit fly	06-Oct-11	31-May-21	Australian Blueberry Growers' Association C/ Hort Innovation
PER14598	Fenamiphos (Nemacur) / Strawberry runner production crops only / Leaf and bud nematode	01-Apr-14	31-Mar-19	Queensland Strawberry Growers Association C/ Hort Innovation
PER12927 version 4	Spinetoram (Success NEO) / Strawberries, rubus and rubus hybrids, and blueberries / Fruit fly (suppression only)	06-Oct-11	31-May-19	Strawberries Australia Inc (SAI) C/Hort Innovation
PER80064 version 2	Phosphorous acid / Strawberries / Crown rot (Phytophthora spp.)	01-Nov-14	31-Oct-20	SAI C/Hort Innovation
PER13331 version 2	Pyriproxyfen (Admiral) / Strawberries / Greenhouse and silverleaf whitefly	08-May-12	31-Oct-20	SAI

Continues >>

PERMIT ID	DESCRIPTION (CHEMICAL/CROP/PEST OR USE)	ORIGINAL DATE OF ISSUE	EXPIRY DATE	PERMIT HOLDER
PER13377 version 2	Emamectin (Proclaim) / Strawberries / Cluster caterpillar, heliothis, light brown apple moth and looper NB: With Proclaim Opti now registered for this use, this permit is to be surrendered by the end of 2018	08-Aug-12	30-Sep-20	SAI
PER13542 version 2	Maldison / Strawberries / Rutherglen bug	01-Jul-12	30-Jun-22	SAI C/Hort Innovation
PER13697 version 2	Metalaxyl-M (Ridomil Gold 480SL) and phosphorous acid / Strawberry runners / Root and crown rot (<i>Phytophthora cactorum</i>)	28-Aug-12	30-Sep-22	SAI C/Hort Innovation
PER14483 version 2	Pyraclostrobin (Cabrio Fungicide) / Strawberry runners (non-fruiting) / Crown or petiole rot	29-Oct-13	30-Sep-23	SAI C/Hort Innovation
PER14192 version 2	Indoxacarb (Avatar) / Strawberries / Whitefringed weevil and garden weevil	24-Dec-13	30-Sep-23	SAI C/Hort Innovation
PER14307 version 2	Zinc phosphide (Rattoff) / Strawberry / Mice	5-May-14	31-Jan-22	SAI C/Hort Innovation
PER14577	Quinoxyfen (Legend) / Strawberry runner production / Powdery mildew	23-May-14	30-Sep-19	SAI C/Hort Innovation
PER80670	Cyflufenamid (Flute) / Strawberry runner production only / Powdery mildew	8-Aug-15	31-Jul-20	SAI C/Hort Innovation
PER80543	Bupirimate (Nimrod Fungicide) / Strawberry runner production only / Powdery mildew	11-Oct-15	31-Aug-20	SAI C/Hort Innovation
PER81745	Chlorpyrifos (Suscon Green and Suscon Blue soil insecticide) Strawberries / Scarab beetles	21-Oct-15	30-Nov-18	SAI
PER82598	Flonicamid (Mainman) / Strawberries (field and protected grown) / Aphids, whiteflies and green mirid <i>All states</i>	31-Mar-17	30-Nov-21	SAI C/Hort Innovation
PER83871	Fluazinam (Gem fungicide) / Strawberry runner production / Leaf blotch	19-May-17	30-Jun-22	SAI C/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**.

Connect with Hort Innovation! Become a member at www.horticulture. com.au/membership

Financial statement

Financial operating statement 2017/18

	R&D (\$)	TOTAL (\$)
	2017/18 July – June	2017/18 July – June
OPENING BALANCE	1,722,995	1,722,995
Levies from growers (net of collection costs)	980,305	980,305
Australian Government money	700,494	700,494
Other income*	168,958	168,958
TOTAL INCOME	1,849,757	1,849,757
Project funding	1,134,160	1,134,160
Consultation with and advice from growers	51,184	51,184
Service delivery – Base	48,981	48,981
Service delivery – Shared	74,171	74,171
Service delivery – Fund specific	92,492	92,492
TOTAL EXPENDITURE	1,400,988	1,400,988
Levy contribution to across-industry activity	29,933	29,933
CLOSING BALANCE	2,141,830	2,141,830
Levy collection costs	17,513	17,513

At the end of 2016/17, the industry's pro rata share of levy funds were committed to strategic reserves (\$141,364 for R&D), 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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