

# What happened in the **Almond Fund** last year?

**Annual Report 2021/22**



# About Hort Innovation and the Almond Fund

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

Read on for an overview of what Hort Innovation delivered in the Almond Fund during the year.

We also encourage you to download a copy of the overarching Hort Innovation Annual Report 2021/22 at [www.horticulture.com.au/annual-report-portal](http://www.horticulture.com.au/annual-report-portal) to see how Hort Innovation worked to benefit the horticulture sector during the year.

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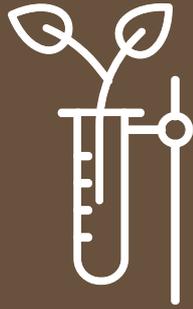
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**\$4.35M**

invested in R&D



**\$2.85M**

in levies collected

by the government and almond collective industry fund  
and passed on to Hort Innovation for investment

## Industry facts



**\$721.6M**

Almonds are the most valuable nut industry in Australia, with a production value of \$721.6 million in 2020/21



**9.7%**

Exports continue to drive recent growth in the almond industry, which have grown at an average annual rate of 9.7 per cent over the last five years



**61%**

Victoria is responsible for 61 per cent of Australia's total almond production, followed by New South Wales (18 per cent) and South Australia (20 per cent)

These facts and more can be found in the Australian Horticulture Statistics Handbook, which is delivered by Hort Innovation each year. The handbook is packed with horticulture statistical information and analysis for some 75 categories. See [www.horticulture.com.au/horticulture-statistics-handbook](http://www.horticulture.com.au/horticulture-statistics-handbook).

## Consumer insights



**1.7kg**

Australian households purchased 1.7 kilograms of almonds on average in the twelve months to June 2022. This is a 3.2 per cent increase compared to a year ago.

These insights were made available through the Harvest to Home platform ([www.harvesttohome.net.au](http://www.harvesttohome.net.au)) delivered as part of an investment providing regular consumer behaviour data and insight reporting.

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



**Efforts to quantify the impact of whole orchard recycling on the carbon footprint of an almond orchard** through a new investment – read more at [hortinn.com/al21000](https://hortinn.com/al21000)



**Access to self-fertile almond varieties**, developed through the industry's long-running breeding and evaluation program – read more at [hortinn.com/al17005](https://hortinn.com/al17005)



**Industry communication and extension programs**, delivering best practice information, *In a Nutshell*, the industry website, webinars, events and more – see [industry.australianalmonds.com.au](https://industry.australianalmonds.com.au)



**Support for the National Bee Pest Surveillance program** to help safeguard honey-bee and pollinator-dependent industries in Australia – read more at [hortinn.com/mt21008](https://hortinn.com/mt21008)



**Research into orchard intensification** through a Hort Frontiers investment for tree crop industries such as almond, avocado, citrus, macadamia and mango – see [hortinn.com/as18000](https://hortinn.com/as18000)



**The Almond Centre of Excellence**, a demonstration orchard that showcases new technologies and practices to the almond industry – see [hortinn.com/al19000](https://hortinn.com/al19000)



**Access to consumer insights through multi-industry investments** to understand consumer behaviours, attitudes and purchase intentions – see [www.horticulture.com.au/almond](https://www.horticulture.com.au/almond)



**The almond Harvest to Home dashboard** providing regular household purchase data and insight reporting at [www.harvesttohome.net.au](https://www.harvesttohome.net.au)



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

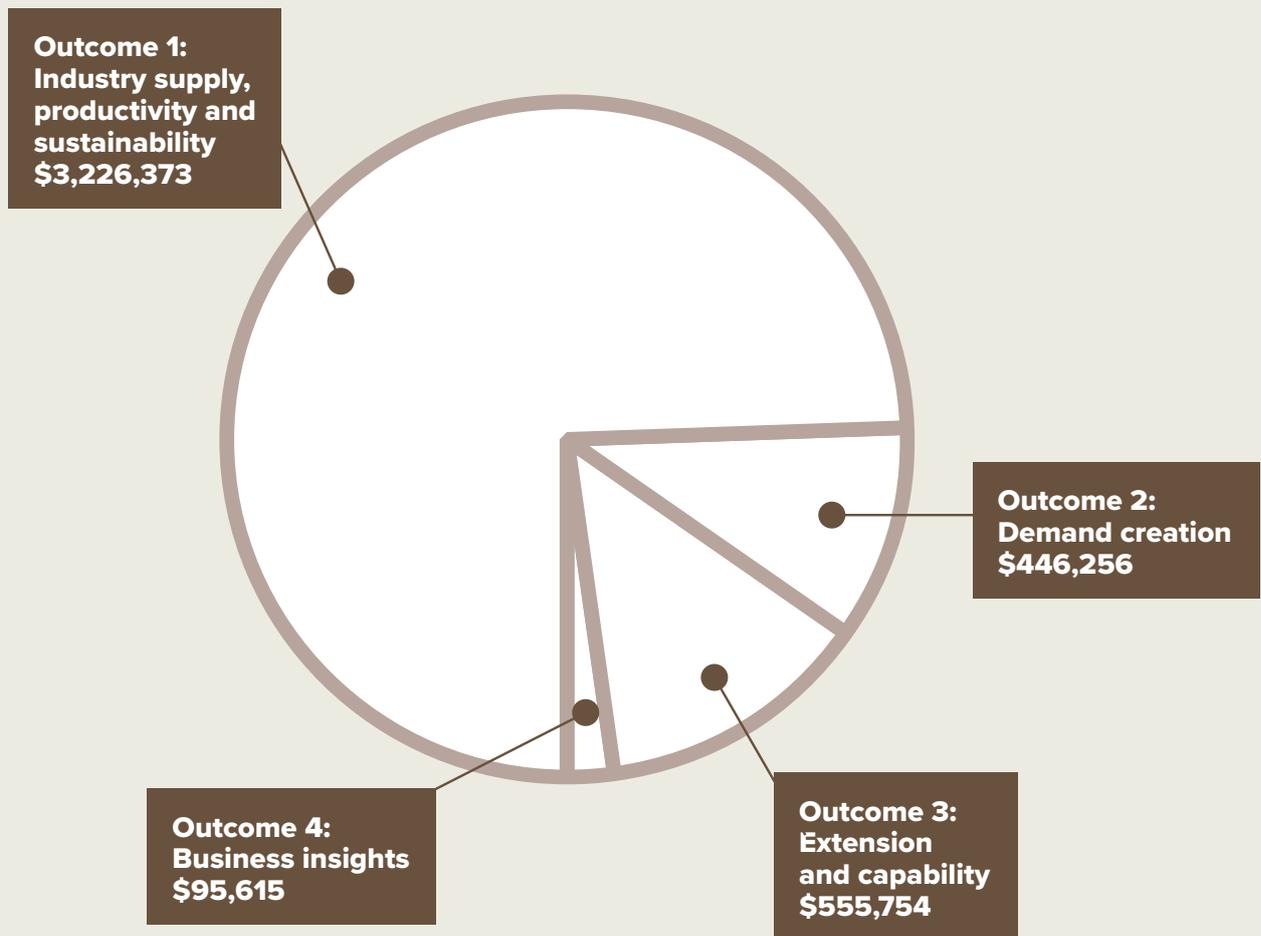


**Projects supported by grants secured by Hort Innovation**, ranging from cross-sector Rural R&D for Profit initiatives to horticulture-specific work to aid in access to crop protection products – see the Hort Innovation Annual Report 2021/22 for more details\*

You can visit [www.horticulture.com.au/almond](https://www.horticulture.com.au/almond) at any time to access information on new, ongoing and completed projects, and to download resources produced by your levy investments.

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

# Here's how your R&D levy was invested over the year



The almond Strategic Investment Plan (SIP) guides investments specific to the Hort Innovation Almond Fund. The SIP features priority outcome areas identified and agreed upon by the industry. Hort Innovation works to invest in R&D initiatives aligned to these.

The above chart shows how project expenditure in the Almond Fund during 2021/22 was aligned to the SIP. We have allocated each project to a SIP outcome based on its primary objective.

# Which projects were in each of the SIP outcome areas?

## Outcome 1: Industry supply, productivity and sustainability

The Australian almond industry has increased profitability, efficiency and sustainability through innovative R&D focusing on an integrated approach to plant improvement, orchard productivity, soil health, water-use efficiency, pollination, IPDM and emerging technologies.

Project title and code	2021/22 investment	Status	More information
<b>An integrated disease management program for the Australian almond industry</b> (AL16005)	\$362,826	Ongoing	<a href="http://hortinn.com/al16005">hortinn.com/al16005</a>
<b>Evaluation of potential prunus rootstocks for almond production – stage 2</b> (AL16006)	\$63,396	Completed	<a href="http://hortinn.com/al16006">hortinn.com/al16006</a>
<b>An integrated pest management program for the Australian almond industry</b> (AL16009)	\$400,526	Ongoing	<a href="http://hortinn.com/al16009">hortinn.com/al16009</a>
<b>National almond breeding and evaluation program</b> (AL17005)	\$232,982	Ongoing	<a href="http://hortinn.com/al17005">hortinn.com/al17005</a>
<b>Almond Centre of Excellence experimental and demonstration orchard</b> (AL19000)*	\$1,167,090	Ongoing	<a href="http://hortinn.com/al19000">hortinn.com/al19000</a>
<b>Evaluation of potential prunus rootstocks for almond production – stage 3</b> (AL20001)	\$95,534	Ongoing	<a href="http://hortinn.com/al20001">hortinn.com/al20001</a>
<b>Pathway to carbon neutral – whole orchard recycling in almond orchards</b> (AL21000)	\$124,323	Ongoing	<a href="http://hortinn.com/al21000">hortinn.com/al21000</a>
<b>Optimising almond production systems</b>	\$532,701	Ongoing	<a href="http://hortinn.com/al21001">hortinn.com/al21001</a>
<b>Trial of almond tree removal of almond trees and shredding</b> (sub-project of AL21001)	\$40,000	Ongoing	<a href="http://hortinn.com/al21001">hortinn.com/al21001</a>
<b>Trial of almond whole orchard recycling for spreading of mulch, ripping and trial site preparation</b> (sub-project of AL21001)	\$17,951	Ongoing	<a href="http://hortinn.com/al21001">hortinn.com/al21001</a>
<b>Plant Biosecurity Research Initiative – Phase 2</b> (HA19007)	\$2,880	Ongoing	
<b>Enhanced National Bee Pest Surveillance Program</b> (MT16005)	\$37,500	Completed	<a href="http://hortinn.com/mt16005">hortinn.com/mt16005</a>
<b>Development and implementation of protocols to enable importation of improved honey bee genetics to Australia</b> (MT18019)	\$20,000	Completed	<a href="http://hortinn.com/mt18019">hortinn.com/mt18019</a>
<b>Regulatory support and coordination (pesticides)</b> (MT20007)	\$9,322	Ongoing	<a href="http://hortinn.com/mt20007">hortinn.com/mt20007</a>
<b>National Bee Pest Surveillance Program: Transition program</b> (MT21008)	\$60,846	Ongoing	<a href="http://hortinn.com/mt21008">hortinn.com/mt21008</a>
<b>Development of non-invasive methods and systems for the assessment of hive health</b> (PH17001)	\$58,497	Ongoing	<a href="http://hortinn.com/ph17001">hortinn.com/ph17001</a>

## Investments

### Outcome 2: Demand creation

Demand creation supports the Australian almond industry to develop existing and future domestic and international markets.

Project title and code	2021/22 investment	Status	More information
Market access, maintenance and development program (AL17008)*	\$83,546	Ongoing	<a href="http://hortinn.com/al17008">hortinn.com/al17008</a>
Market access, maintenance and development program (AL19002)	\$360,273	Ongoing	<a href="http://hortinn.com/al19002">hortinn.com/al19002</a>
Australian horticulture international demand creation (ST21007)	\$2,438	Ongoing	<a href="http://hortinn.com/st21007">hortinn.com/st21007</a>

### Outcome 3: Extension and capability

Improved capability and an innovative culture in the Australian almond industry maximises investments in productivity and demand.

Project title and code	2021/22 investment	Status	More information
Almond industry communications program (AL18001)	\$109,462	Ongoing	<a href="http://hortinn.com/al18001">hortinn.com/al18001</a>
Almond industry innovation and adoption program (AL19001)	\$446,292	Ongoing	<a href="http://hortinn.com/al19001">hortinn.com/al19001</a>

### Outcome 4: Business insights

The Australian almond industry is more profitable through informed decision-making using consumer knowledge and tracking, trade data, production statistics and forecasting, and independent reviews.

Project title and code	2021/22 investment	Status	More information
Australian almond industry statistics and data collection 2020-22 (AL19005)	\$59,907	Ongoing	<a href="http://hortinn.com/al19005">hortinn.com/al19005</a>
Horticulture trade data (MT19005)	\$6,026	Ongoing	<a href="http://hortinn.com/mt19005">hortinn.com/mt19005</a>
Consumer demand spaces for horticulture (MT21003)	\$12,211	Ongoing	<a href="http://hortinn.com/mt21003">hortinn.com/mt21003</a>
Consumer behavioural data program (MT21004)	\$4,475	Ongoing	<a href="http://hortinn.com/mt21004">hortinn.com/mt21004</a>
Pilot program: Consumer usage, attitude and brand tracking (MT21201)	\$2,916	Completed	<a href="http://hortinn.com/mt21201">hortinn.com/mt21201</a>
Consumer usage and attitude tracking 2022/23 (MT21202)	\$10,081	Ongoing	<a href="http://hortinn.com/mt21202">hortinn.com/mt21202</a>

\* These investments were funded through the almond collective industry fund, which supports additional investment into major strategic programs

# Financial operating statement

## Almond Fund (statutory) Financial operating statement 2021/22

	R&D (\$)	Total (\$)
	2021/22 July – June	2021/22 July – June
<b>OPENING BALANCE</b>	<b>378,939</b>	<b>378,939</b>
Levies from growers	2,184,253	2,184,253
Australian Government money	1,798,041	1,798,041
Other income*	20,573	20,573
<b>TOTAL INCOME</b>	<b>4,002,867</b>	<b>4,002,867</b>
Project funding	3,102,576	3,102,576
Consultation with and advice from growers	844	844
Service delivery	492,663	492,663
<b>TOTAL EXPENDITURE</b>	<b>3,596,083</b>	<b>3,596,083</b>
<b>CLOSING BALANCE</b>	<b>780,773</b>	<b>780,773</b>
Levy collection costs	4,950	4,950

\* Interest, royalties

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

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

**Almond Fund (collective)**  
**Financial operating statement 2021/22**

	R&D (\$)	Total (\$)
	2021/22 July – June	2021/22 July – June
<b>OPENING BALANCE</b>	<b>67,293</b>	<b>67,293</b>
Voluntary levies from growers	667,227	667,227
Australian Government money	724,586	724,586
Other income*	–	–
<b>TOTAL INCOME</b>	<b>1,391,813</b>	<b>1,391,813</b>
Project funding	1,250,636	1,250,636
Consultation with and advice from growers	–	–
Service delivery	198,537	198,537
<b>TOTAL EXPENDITURE</b>	<b>1,449,173</b>	<b>1,449,173</b>
<b>CLOSING BALANCE</b>	<b>9,934</b>	<b>9,934</b>

\* Interest, royalties

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

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

# Making sure that levy investment decisions align with industry priorities

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



Hort Innovation developed the almond Strategic Investment Plan (SIP) in 2021 to reflect current priorities for the almond industry, involving extensive consultation with almond growers and industry stakeholders, including the Almond Board of Australia. The SIP is the roadmap that helps guide Hort Innovation's oversight and management of individual levy industry investment programs.

The almond SIP lays the foundation for decision-making in levy investments and represents the balanced interests of the almond industry. The most important function of the SIP is to make sure that levy investment decisions align with industry priorities.

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

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

## What projects will the Fund be investing in next year?

The almond Annual Investment Plan (AIP) 2022/23 details how Hort Innovation spends levy funds over 12 months. The almond industry SIP guides investment decisions, and our consultation process prioritises investments based on potential impact and levy fund availability.

Hort Innovation publishes Annual Investment Plans each year over the lifespan of the SIP and advises industry stakeholders via various communication channels.

Hort Innovation will continue to report on fund performance regularly, focusing on outcomes and the impact of investments.



**Visit [www.horticulture.com.au/almond-fund-management](http://www.horticulture.com.au/almond-fund-management) to view both documents and better understand how Hort Innovation invests your levy.**

# New almond varieties planted in Mildura

**New high-yielding, self-fertile varieties are available after 30 years of research through the levy-funded *National almond breeding and evaluation program (AL17005)*.**

Hort Innovation's almond breeding program first began in 1997 and has since commercialised six new varieties that are performing better than previously available options. This long-standing investment runs a targeted breeding program to develop new almond varieties with improved production characteristics, while progressing

the evaluation of varieties from earlier iterations of the program and from overseas breeding programs. The aim is to ultimately provide industry access to new varieties that are high yielding, with self-fertility, improved disease tolerance, closed shells and strong visual and eating qualities.

## Meet almond growers Luke and Lucinda Englefield

Luke and Lucinda Englefield grow almonds in Mildura and have been involved in the industry for around a decade. Five years ago they made the decision to plant nine hectares of two new varieties (Maxima and Mira) developed through the almond breeding program.

"We decided to have a look at these varieties and began our research by talking with other growers, as well as the Industry Liaison Officer at the Almond Board of Australia, about the opportunities and risks involved," said Luke Englefield.

"We knew that almost 30 years of research had gone into getting the varieties to this point in the breeding program. We also trusted the people involved with steering the project and their desire to breed innovative varieties that are easier to farm in Australia and don't have as many of the problems that our current commercial varieties have."

"Previously we were dealing with two or three different types of kernel bugs that appear at harvest time. They're very hard to control and although we use orchard hygiene methods, it's not perfect. These new varieties don't have that problem because they've been bred to have different characteristics."

"We didn't want to continue dealing with the same issues the almond industry has had for the past 20 years when we could try something different that could be better. And so far, we've found these varieties easier to farm – we don't have to worry as much about the main pests that we don't quite know how to control. For us, the aim was to do better with less inputs. If I could plant more almond trees, I would choose to plant more of these varieties. One of them requires a lot less bees and they both require a lot less insecticides."



Continued



“

“The way I see it is that there’s risk involved both ways. There’s risk in continuing to do the same thing you’ve always done for 30 years, where you don’t fully understand how to control the pests and diseases you’re coming up against. But there’s also risk in trying something new.”

“At the moment we’re seeing a lot of almond growers dipping their toes into trying the new varieties – starting with a small selection of their orchard before they make a larger commitment.”

“There are royalties that need to be paid on every tree, which is a significant upfront cost in planting a new variety. However, when you compare that cost against 20 years of using extra efforts needed to control carob moth and other pests and diseases linked with the conventional varieties, you’ll actually be in front.”

“I think that increased pressures on bee supply for pollination will encourage other almond growers to consider new varieties that seem to be more efficient. Trees that need less bees and less chemical inputs, while still maintaining yields, are going to provide better returns for growers. At the moment it seems to be the more innovative leaders who are taking advantage of this opportunity, but for me it was very much a commercial choice.

*At the moment it seems to be the more innovative leaders who are taking advantage of this opportunity, but for me it was very much a commercial choice. I guess I’ll be able to tell you in 20 years whether the decision was a winner!”*

**Luke Engelfield, almond grower**

I guess I’ll be able to tell you in 20 years whether the decision was a winner!”

Dr Michelle Wirthensohn from the University of Adelaide said the breeding program is now aiming to produce varieties which are resistant to diseases such as almond hull rot – which costs the industry millions of dollars in production losses each year and bacterial spot disease – both common plant diseases that affect plant productivity.

“We’re also looking to increase the diversification of current varieties for the almond industry by 2023; incorporating a selection of new self-fertile varieties with larger kernels, higher yields; and improved pollinators for Nonpareil,” she said.

# Minor use permits

The Hort Innovation Almond 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 to manage pests, weeds and diseases. For full details on these activities and links to relevant information, visit [hortinn.com/almond-minor-use](https://hortinn.com/almond-minor-use).

## Current permits

Below is a list of minor use permits for the almond industry, current as of 15 August 2022.

Permit ID	Description	Date issued	Expiry date	Permit holder
PER12989 Version 4	Propiconazole / Almonds / Blossom blight and anthracnose	01-Sep-11	31-Aug-26	Hort Innovation
PER13642 Version 2	Chlorpyrifos and Maldison / Tree nuts / Australian plague locust <i>Please note: Chlorpyrifos is under APVMA review</i>	01-Sep-12	30-Jun-25	Australian Nut Industry Council (ANIC) C/Hort Innovation
PER14866	Carpophilus Catcha Trapping System / Almonds / Carpophilus beetles	29-Mar-15	29-Mar-25	Almond Board of Australia (ABA) C/Hort Innovation
PER87216 Version 2	Bifenthrin (Talstar) / Almonds / Carpophilus beetle or dried fruit beetle	01-Apr-19	28-Feb-26	Hort Innovation
PER89259 Version 2	Chlorantraniliprole / Almonds / Fall armyworm	06-Mar-20	31-Mar-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](https://portal.apvma.gov.au/permits). Details of the conditions of use associated with these permits can also be found on the APVMA site.

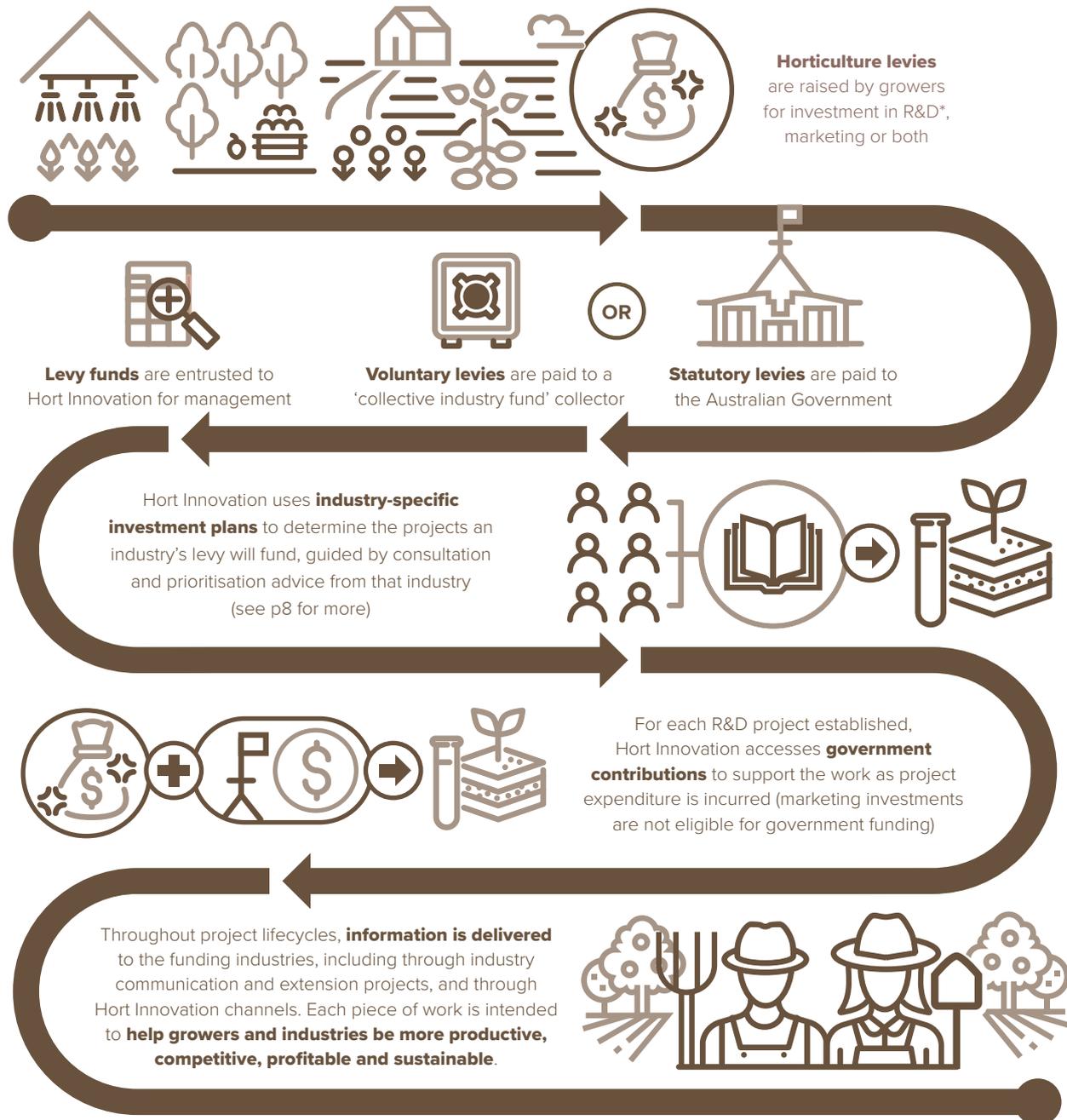
## Keep up to date!

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

Sign up for free at [www.horticulture.com.au/sign-up](https://www.horticulture.com.au/sign-up).

# How strategic levy investments are made in the Almond Fund

The below diagram shows how Hort Innovation makes strategic levy investments on behalf of horticulture industries. The almond statutory and voluntary R&D levies were invested this way during the year, guided by the almond Strategic Investment Plan 2022-2026 and advice from the industry’s investment advisory panel.



\* Encapsulating extension and international trade

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

# Hort Innovation

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