

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

**Annual Report 2020/21**



# About Hort Innovation and the Mushroom 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 mushroom R&D and marketing levies, together with Australian Government contributions, into key initiatives for growers, through the Mushroom Fund. We're extremely proud of the work we do to help drive productivity, profitability and demand for mushroom growers, and for the horticulture sector at large.

Throughout another challenging year for the horticulture sector, activity in the Mushroom Fund remained strong. Read on for an overview of what was delivered.

We also encourage you to download a copy of the overarching Hort Innovation Annual Report 2020/21 at [www.horticulture.com.au/annual-report-portal](http://www.horticulture.com.au/annual-report-portal) to better understand how Hort Innovation worked for the benefit of the horticulture sector during the year.

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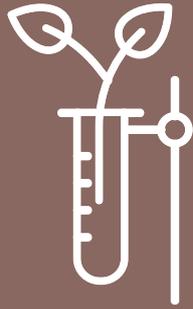
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**\$1.37M**

invested in R&D



**\$3.34M**

invested in marketing



**18**

active R&D investments



**\$4.99M**

in levies collected

by the Government and passed on to Hort Innovation for investment



**70,000t**

The Australian mushroom industry produced around 70,000 tonnes per annum over the five years to 2019/20



**22%**

Around 22 per cent of mushrooms are sent to foodservice (higher than the average for vegetables at 17 per cent)



**35%**

Victoria is Australia's main mushroom-producing state, growing 35 per cent of total production volume, followed by New South Wales at 31 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, for use by individual industries and the wider sector. The 2019/20 edition was released in early 2021 and features an interactive dashboard format for desktop users. See [www.horticulture.com.au/horticulture-statistics-handbook](http://www.horticulture.com.au/horticulture-statistics-handbook).

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



**A new extension and adoption program** to deliver targeted information on food safety, quality and risk management – see [hortinn.com/mu20000](http://hortinn.com/mu20000)



**The industry communications program**, delivering the *Australian Mushrooms Journal*, *Industry Update* emails and more



**AGORA**, which is the industry's knowledge database for pest and disease management ([agora.australianmushrooms.com.au](http://agora.australianmushrooms.com.au))



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



**A multi-pronged domestic marketing campaign** and **The Good Mood Food** across-horticulture campaign to support industries through the effects of another challenging year – see [www.horticulture.com.au/the-good-mood-food](http://www.horticulture.com.au/the-good-mood-food)\*



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

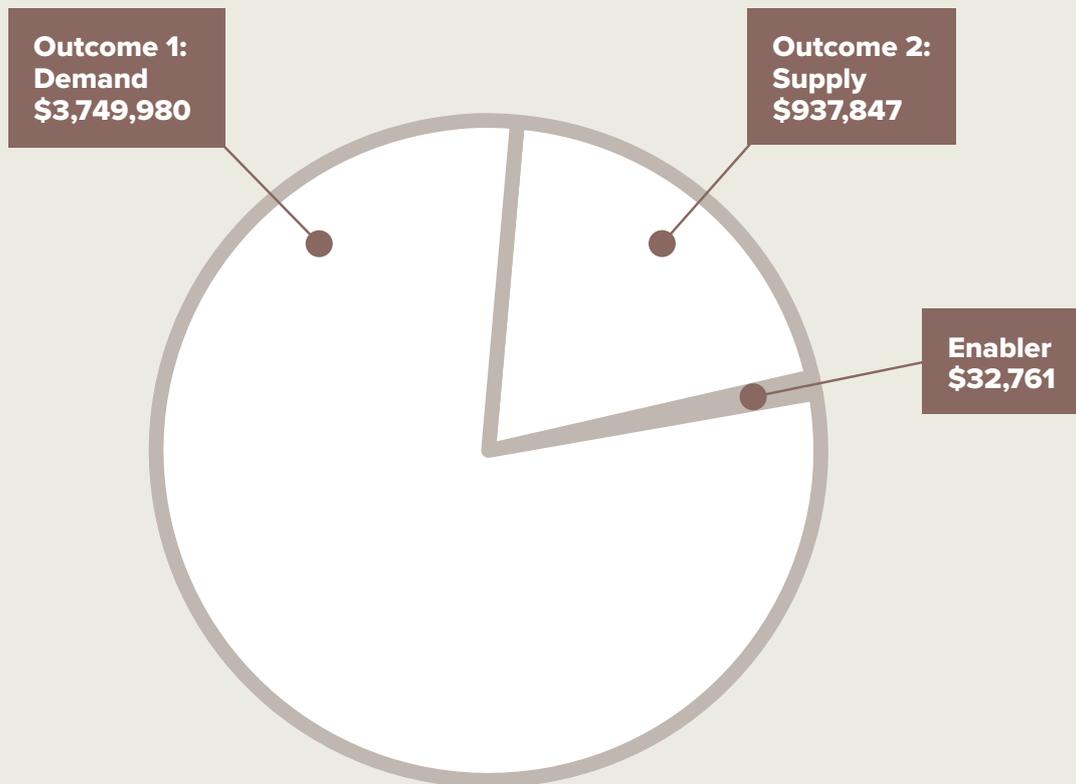


**Projects supported by grants** secured by Hort Innovation, ranging from cross-sector Rural R&D for Profit initiatives to horticulture-specific work to aid in access to crop protection products – see the Hort Innovation Annual Report 2020/21 for more\*

You can visit [www.horticulture.com.au/mushroom](http://www.horticulture.com.au/mushroom) at any time to access information on new, ongoing and completed projects, and to download resources produced by levy investments such as fact sheets and guides.

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

# Here's what your fund invested in over the year



Investments that are specific to the Hort Innovation Mushroom Fund are guided by the mushroom Strategic Investment Plan (SIP). The SIP features priority outcome areas that have been identified and agreed upon by the industry, and Hort Innovation works to invest in R&D and marketing initiatives that are aligned to these.

In the above chart, you can see how project expenditure in the Mushroom Fund during 2020/21 was aligned to the SIP. Each project has been allocated to a SIP outcome based on its primary objective.

Expenditure on projects classified as 'enabler' support the broader delivery of the industry's strategic investment plan, such as impact assessments.

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

## Outcome 1: Demand

**Achieve the bold and ambitious target of domestic consumption of four kilograms per person of mushrooms by 2021**

Marketing activities during 2020/21 contributed to demand-related outcomes in the SIP. You can read more about the mushroom marketing campaign on p10.

Project title and code	2020/21 investment	Status	More information
<b>Consumer behavioural and retail data for fresh produce</b> (MT17015)	\$98,229	Ongoing	<a href="https://hortinn.com/mt17015-mushroom">hortinn.com/mt17015-mushroom</a>
<b>Educating health professionals about Australian mushrooms</b> (MU17002)	\$145,760	Ongoing	<a href="https://hortinn.com/mu17002">hortinn.com/mu17002</a>
<b>Educating the food industry about Australian mushrooms</b> (MU20003)	\$163,561	Ongoing	<a href="https://hortinn.com/mu20003">hortinn.com/mu20003</a>



## Investments

### Outcome 2: Supply

Mushroom growers are profitable and sustainable through increased yields, reduced costs and effective risk management

Project title and code	2020/21 investment	Status	More information
<b>Generation of data for pesticide applications in horticulture crops 2019/20</b> (MT18018)	\$20,433	Ongoing	<a href="http://hortinn.com/mt18018">hortinn.com/mt18018</a>
<b>Mushroom industry minor use program</b> (MU16002)	\$2,800	Ongoing	<a href="http://hortinn.com/mu16002">hortinn.com/mu16002</a>
<b>Pest and disease management and research services</b> (MU16003)	\$153,878	Ongoing	<a href="http://hortinn.com/mu16003">hortinn.com/mu16003</a>
<b>Marsh Lawson Mushroom Research Centre</b> (MU16004)	\$95,880	Ongoing	<a href="http://hortinn.com/mu16004">hortinn.com/mu16004</a>
<b>Optimising nitrogen transformations in mushroom production</b> (MU17004)	\$165,600	Ongoing	<a href="http://hortinn.com/mu17004">hortinn.com/mu17004</a>
<b>Developing a database of bio-markers for compost quality control to maximise mushroom production yield</b> (MU17006)	\$38,740	Ongoing	<a href="http://hortinn.com/mu17006">hortinn.com/mu17006</a>
<b>Mushroom industry communication program</b> (MU18001)	\$215,725	Ongoing	<a href="http://hortinn.com/mu18001">hortinn.com/mu18001</a>
<b>Development of a biosecurity plan for Australian mushrooms</b> (MU18006)	\$20,336	Ongoing	<a href="http://hortinn.com/mu18006">hortinn.com/mu18006</a>
<b>Australian mushrooms crisis and risk management</b> (MU18007)	\$49,151	Completed	<a href="http://hortinn.com/mu18007">hortinn.com/mu18007</a>
<b>New innovations to improve mushroom whiteness shelf life</b> (MU19005)	\$14,160	Completed	<a href="http://hortinn.com/mu19005">hortinn.com/mu19005</a>
<b>Extension and adoption for food safety, quality and risk management</b> (MU20000)	\$64,400	Ongoing	<a href="http://hortinn.com/mu20000">hortinn.com/mu20000</a>
<b>A scoping study to review fungi based global innovations to inform product development opportunities</b> (MU20004)	\$17,280	Ongoing	<a href="http://hortinn.com/mu20004">hortinn.com/mu20004</a>
<b>Mushroom industry crisis and reputation risk management</b> (MU20006)	\$79,465	Ongoing	<a href="http://hortinn.com/mu20006">hortinn.com/mu20006</a>

# Financial operating statement

## Mushroom Fund Financial operating statement 2020/21

	R&D (\$)	Marketing (\$)	Total (\$)
	2020/21 July – June	2020/21 July – June	2020/21 July – June
<b>OPENING BALANCE</b>	<b>2,081,037</b>	<b>835,753</b>	<b>2,916,790</b>
Levies from growers (net of collection costs)	1,346,837	3,641,643	4,988,480
Australian Government money	792,418	–	792,418
Other income*	6,929	3,570	10,499
<b>TOTAL INCOME</b>	<b>2,146,184</b>	<b>3,645,213</b>	<b>5,791,397</b>
Project funding	1,366,262	3,342,577	4,708,839
Consultation with and advice from growers	7,791	3,958	11,749
Service delivery	210,783	626,406	837,189
<b>TOTAL EXPENDITURE</b>	<b>1,584,836</b>	<b>3,972,941</b>	<b>5,557,777</b>
Levy contribution to across-industry activity	–	–	–
<b>CLOSING BALANCE</b>	<b>2,642,385</b>	<b>508,025</b>	<b>3,150,410</b>
Levy collection costs	3,164	8,360	11,524

\*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 Mushroom Fund's focus over the next five years?



The mushroom Strategic Investment Plan (SIP) was created in 2021 to reflect current priorities for the mushroom industry. This involved extensive consultation with mushroom growers and industry stakeholders, including the Australian Mushroom Growers' Association. The SIP is the roadmap that helps guide Hort Innovation's oversight and management of individual levy industry investment programs.

The mushroom SIP lays the foundation for decision making in levy investments and represents the balanced interest of the particular industry from which the levy is collected. The most important function of the SIP is to make sure that levy investment decisions align with industry priorities.

The mushroom SIP identifies four outcome areas that will contribute to the productivity and profitability of the mushroom 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 mushroom Annual Investment Plan (AIP) 2021/22 will detail how levy funds will be spent over the 12-month period. Investment decisions will be guided by the industry SIP and prioritised based on potential industry impact, as well as availability of levy funds.

The AIP is developed by Hort Innovation, and is informed by the SIP and industry consultation, including collaboration with the Australian Mushroom Growers' Association.

The AIP is then discussed with the industry SIAP for feedback and prioritisation. All investments will need to link to the industry's SIP by addressing a minimum of one KPI against a strategy under one of the four outcomes.

Annual Investment Plans will be published each year over the lifespan of the SIP and industry stakeholders will be advised via established communication channels.

Hort Innovation will continue to report on fund performance regularly, with more focus on reporting on outcomes and the impact of investments.



**When available, you can visit [www.horticulture.com.au/mushroom-fund-management](http://www.horticulture.com.au/mushroom-fund-management) to view both documents and get a full picture of how your levy will be invested over the next five years.**

# Defending Aussie mushrooms against pests and disease

**This national research and extension project is providing Australian mushroom farmers with the information and techniques they need to reduce the threat of pests and disease to their profits and productivity.**

## The challenge

The Australian mushroom industry is relatively disease-free, and they'd like to keep it that way. To do that, growers, pickers, and packers need the knowledge and skills to spot potential threats and handle them effectively.



*Ilan Chu, mushroom grower, Canberra*

## Meet Ian

Ilan Chu, grower and director at Canberra's Majestic Mushrooms, believes the resources provided as part of this program are vital in the fight against pests and disease and a valuable tool to educate growers and their teams so they can identify biological threats.

"At a farm level we constantly need to review our training because we constantly have new people. For any staff that have not been exposed to disease, knowing what to look for can be crucial. With this training, staff can identify disease and we can then manage it appropriately," says Ian.

"The make-up of farm employees is also changing. There are many ethnicities and language can be a bit of an issue. We're lucky that we have the capacity to translate to different languages on our farm, but that's where the visual resources created by this program are so important. For instance, the videos on the AGORA website. The ones around hygiene and spot treatment are fabulous because staff can see the pictures and we can pause the video and talk about each different point, especially about bubble, because early detection and spot treatment is the key to getting on top of it."

"We use some of the resources from this program in our own induction of all new staff and say, 'When you see this, let us know!'".



### The approach

Because the Australian mushroom industry is relatively disease-free, most of the information and first action responses come from knowledge gathered overseas.

This project brings that knowledge to growers right here in Australia, so when they see something, they know exactly what to do immediately.

Mushrooms are our sixth most valuable horticultural crop, and as one of our most technologically advanced industries, this research and education is necessary to protect such a valuable investment.

Sine 2017 this program has been delivering the latest farm-focused resources and education to growers and is responsible for maintaining AGORA – the industry’s web-based pest and disease management knowledge database, which was established in earlier levy-funded work.

### The impact

While the mushroom industry has good hygiene protocols in place, this project continues to ensure growers are equipped to prevent and manage on-farm disease threats from new and emerging pathogens. A review of such new and emerging pathogens has been undertaken and a new and emerging symptom recognition resources for growers has been developed.



*“We’re lucky that we have the capacity to translate to different languages on our farm, but that’s where the visual resources created by this program are so important.”*

**Ian Chu, mushroom grower, Canberra**

For more information, visit [hortinn.com/mu16003](http://hortinn.com/mu16003)

### Project details

**Pest and disease management and research services (MU16003)**

Key research provider: University of Tasmania

Start date: August 2017

Expected end date: June 2022

Estimated value for life of project: \$1,010,379

# Getting more Aussies to add the mighty mushie to their meals

**Hort Innovation is responsible for investing the mushroom marketing levy into a range of activities to drive frequency of purchase and consumption, under the Hort Innovation Mushroom Fund.**

## The opportunity

The 2020/21 marketing activities capitalised on the mushroom's unique status as a superfood. Highlighting its wealth of health benefits and rich umami flavour, the new 'Add the Mighty Mushie' campaign gave consumers multiple reasons to eat more mushrooms, more often.

## The approach

The 'Add the Mighty Mushie' campaign was launched in 2020 and amplified through an integrated media, PR, and social campaign, backed by a broad range of retailer activities.

For the campaign launch, Australian Mushrooms partnered with renowned Aussie celebrity chefs to create bold and original mushroom recipes. This achieved great media pick-up, with 40 news articles featured nationally, with highlights including News.com.au, Herald Sun and Daily Telegraph.

To drive mass awareness, a new TV commercial ran across free-to-air TV and Broadcaster Video on Demand (BVOD). The commercial aired during the Project, MasterChef, 7 News, 10 News, The Amazing Race, and other top-tier programs, reaching 2.2 million 25–54-year-old grocery buyers.

Video advertising also ran across YouTube, targeting the categories of fitness, food, mushrooms, health and cooking, achieving 1.8 million completed views.



## Marketing case study



In addition, outdoor retail advertising targeted consumers on the path to purchase. Australian Mushrooms had a presence on 4,500 retail panels across the country, with research suggesting 28 per cent of people who saw them were more likely to make a mushroom purchase.

Australian Mushrooms also partnered with NewsCorp to create and distribute highly engaging mushroom content, including recipe videos, online articles, social media posts, e-newsletters and digital ads. Click-through rates for the NewsCorp campaign were 250 per cent higher than the industry benchmark – a clear indicator that the campaign and content resonated with consumers.

Australian Mushrooms continued its collaboration with MasterChef's Reynold Poernomo as he unveiled his Autumn mushroom menu and other seasonal mushroom recipes, maintaining media coverage and delivering almost 29 million impressions. Articles and recipes appeared in *body+soul*, *Women's Health*, *9Honey* and *Woman's Day*, to name just a few.

In store, Australian Mushrooms collaborated with major retailers to put mushrooms front and centre. November was Mushroom Month in Woolworths, with recipe cards rolled out across all stores to promote mushrooms in the lead-up to summer.

Aldi stores featured on-pack stickers with summer-inspired recipes, while Coles Online had a dedicated Australian Mushrooms Shop page, an Australian Mushrooms banner in the Coles FlyBuys e-Newsletter and a full-page advertisement featuring recipe inspiration in Coles Magazine.

### The outcome

To ensure the monitoring and continued optimisation of the 'Add the Mighty Mushie' campaign, a brand and campaign tracking research study was conducted at each campaign burst. Key findings include:

- Media campaign reached 96 per cent of 25-54-year-old Australian Grocery Buyers
- 2.4 million people reached via Broadcaster Video On Demand (catch-up TV) ads
- 1.8 million completed ad views on YouTube, exceeding forecasts
- *body+soul* exposure reached 620k readers
- 4.2m reached via social media
- 32 per cent of those surveyed (prompted) recalled the campaign – higher than all previous Australian Mushrooms campaigns
- 8 out of 10 research respondents agreed key messages were easily understood at that mushroom are both tasty and healthy
- Campaign led to positive changes in mushroom perceptions, specifically around taste and nutrition
- 7 out of 10 respondents were more likely to purchase or use Australian mushrooms after exposure to the campaign

Read more about the campaign at [hortinn.com/mushroom-marketing-snapshot](https://hortinn.com/mushroom-marketing-snapshot)

### Project details

These marketing activities are strategic levy investments in the Hort Innovation Mushroom Fund

# Minor use permits

The Hort Innovation Mushroom Fund supports the submission of applications for new and renewed minor use permits for the industry, as well as data generation activities to support chemical permits and registrations, and strategic agrichemical reviews.

Together these efforts provide industry access to safe, relevant and effective chemicals for the management of pests, weeds and diseases.

For full details on these activities and links to relevant information, visit [hortinn.com/mushroom-minor-use](http://hortinn.com/mushroom-minor-use).

## Permits in 2020/21

During the 2020/21 financial year, a successful renewal for PER14949 was prepared by Hort Innovation and submitted to the APVMA, facilitated through the *Mushroom industry minor use program* (MU16002).

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

## Current permits

**Below is a list of minor use permits for the mushroom industry, current as of 24 August 2021.**

Permit ID	Description	Date issued	Expiry date	Permit holder
PER12172 Version 4	Pyrethrins and Piperonyl Butoxide (Pyzap Insecticide) / Mushrooms / Mushroom flies Note: Botanical Resources Australia – Registered Label extension to mushrooms for SUPAPY Insecticide	01-Jul-10	30-Sep-22	Australian Mushroom Growers Association (AMGA)
PER12645 Version 2	Prochloraz (Octave WP Fungicide) / Mushrooms / Cobweb disease	01-Apr-12	31-Mar-22	AMGA
PER87515	Bacillus Thuringiensis Subsp. Israelensis Serotype H14 (Vectobac WG Biological Larvicide) / Mushrooms / Sciarids	15-Mar-19	30-Jun-24	Hort Innovation
PER14949 Version 4	Carbendazim (Howzat SC Fungicide) / Mushrooms / Dry bubble, wet bubble and green mould	16-Mar-16	30-Jun-26	Hort Innovation
PER88212	Salt (Sodium Chloride) / Mushrooms / Dry bubble and cobweb disease (Suppression only)	07-Nov-19	30-Nov-24	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](http://portal.apvma.gov.au/permits). Details of the conditions of use associated with these permits can also be found on the APVMA site.

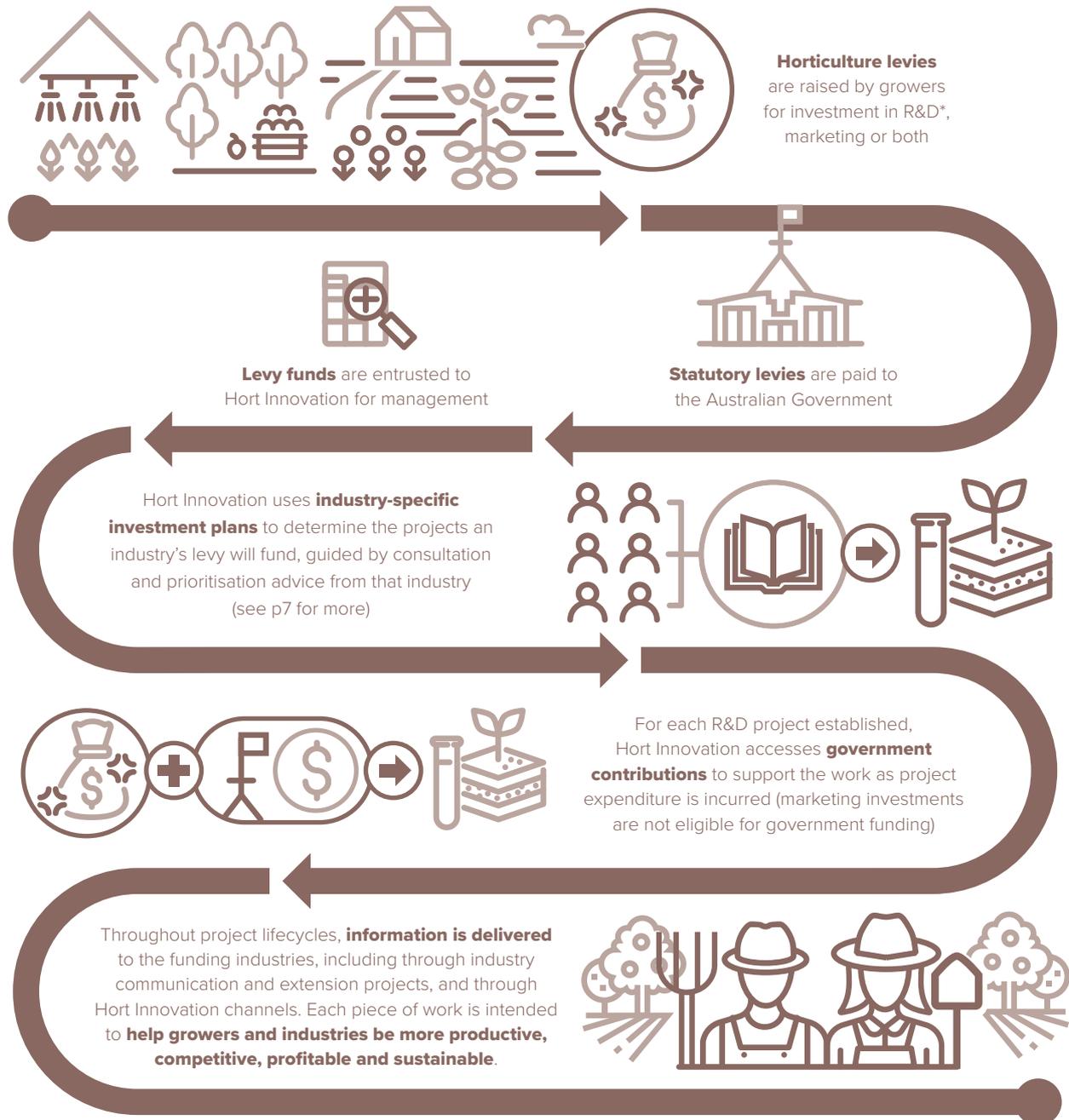
## Keep up to date!

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

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

# How strategic levy investments are made in the Mushroom Fund

The below diagram shows how Hort Innovation makes strategic levy investments on behalf of horticulture industries. The mushroom R&D and marketing levies were invested this way during the year, guided by the mushroom Strategic Investment Plan 2017-2021 and advice from the industry’s investment advisory panel.



\* Encapsulating extension and international trade

To learn more about funding specific to the Hort Innovation Mushroom Fund, visit [www.horticulture.com.au/mushroom](http://www.horticulture.com.au/mushroom). 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.

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