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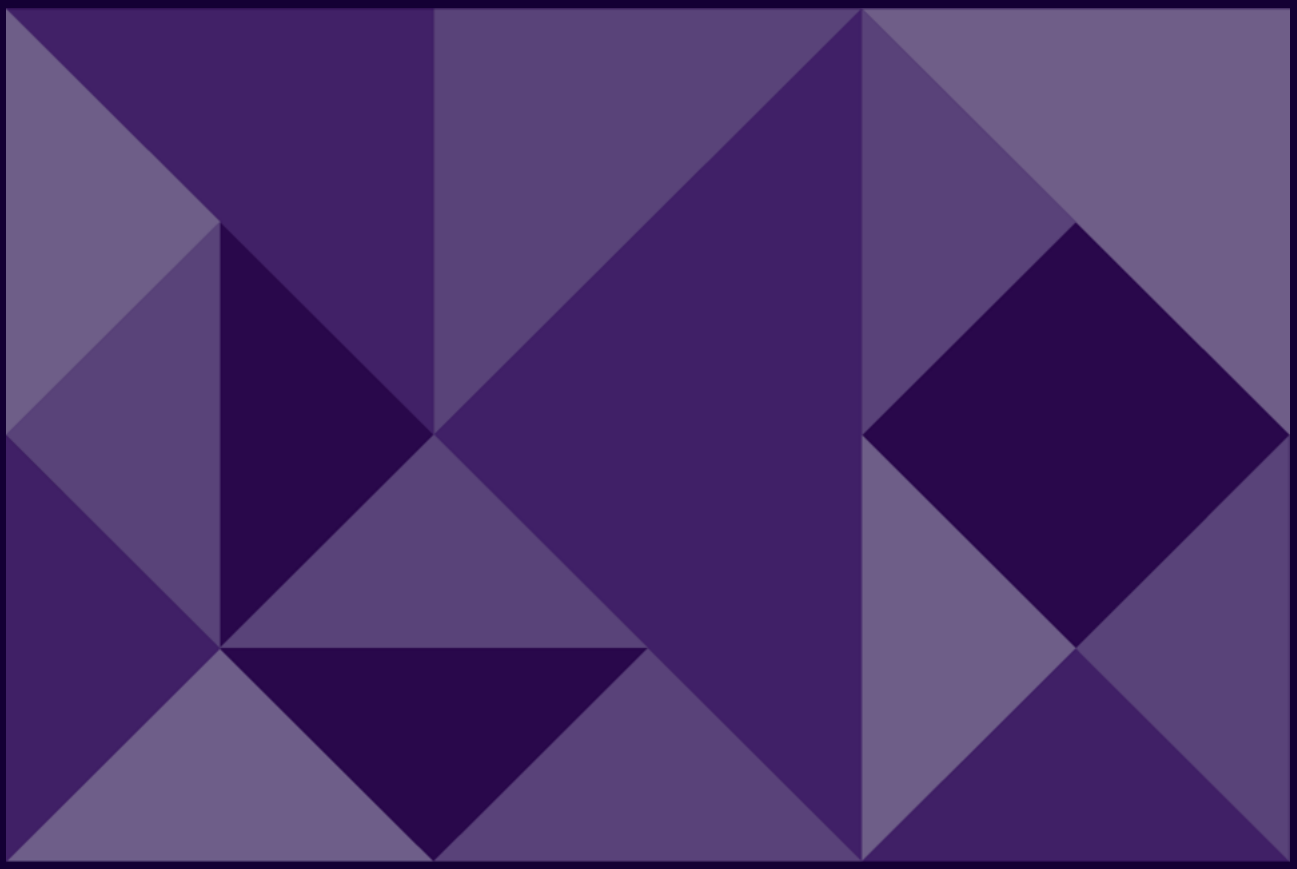
Business Case to review the Nursery Products Levy

Final Report

3 July 2025



About ACIL Allen

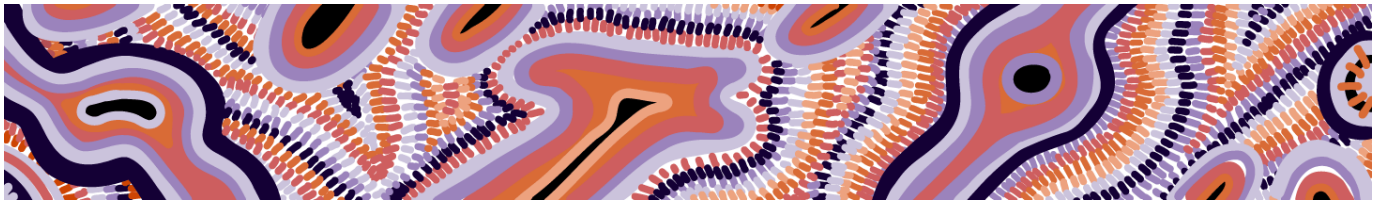
ACIL Allen is a leading independent economics, policy and strategy advisory firm, dedicated to helping clients solve complex issues.

Our purpose is to help clients make informed decisions about complex economic and public policy issues.

Our vision is to be Australia's most trusted economics, policy and strategy advisory firm. We are committed and passionate about providing rigorous independent advice that contributes to a better world.

Report to: Horticulture Innovation Australia Limited

ACIL Allen acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land and its waters. We pay our respects to Elders, past and present, and to the youth, for the future. We extend this to all Aboriginal and Torres Strait Islander peoples reading this report.



Goomup, by Jarni McGuire

Contents

Contents

Glossary

Abbreviations	Definitions
AHA	Animal Health Australia
CPI	Consumer Price Index
DAFF	Department of Agriculture, Fisheries and Forestry (Cwlth.)
DTER	Down to Earth Research
EPPR	Emergency Plant Pest Response
FNRI	Floriculture and Nursery Research Initiative
GLIA	Greenlife Industry Australia
GVP	Gross Value of Production
NRS	National Residue Survey
OECD	Organisation for Economic Co-operation and Development
PHA	Plant Health Australia
PPP	Public-private partnerships
R&D	Research and Development
RDCs	Research Development Corporations
SVS	Sustainable Vegetable Systems
SWOT analysis	Strengths, Weaknesses, Opportunities, and Threats analysis
LRS	Levy Revenue Service, DAFF
The Department	Department of Agriculture, Fisheries and Forestry (Cwlth.)

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Summary Report

Executive Summary

Purpose

Hort Innovation Australia (HIA) engaged ACIL Allen to develop evidence-based recommendations on a fit-for-purpose levy rate and collection mechanism for the Nursery Products Levy (nursery levy) by:

- *reviewing the existing nursery levy collection process and alternative levy settings, and*
- *assessing the potential impact of different levy models on the nursery industry.*

Findings

- *The nursery levy rate of 5% on container sales was set when industry GVP was half current estimates. It generates around 0.1% GVP compared to 0.3% for citrus and 0.2% for vegetables and turf.*
- *Nursery levy revenue is currently tracking GVP which is expected to decline in the short-term and forecast to grow at 1.6% per annum in the long-term.*
- *Container use/cost is not significantly impacting revenue at present, but an incremental decline may do so in the future. Specific information on container use is not available.*
- *Nursery Products Levy collection cost have reduced from 8% to 4% over the past decade. Delays in administering the 2.5% nursery agent rebate have affected net levy revenue available for investment.*
- *The nursery levy collection system is practical and imposes little red-tape on levy payers.*
- *The levy is less equitable than other levies it is imposed on containers rather than plants produced. This can only be addressed by shifting to an ad-valorem based levy collected by nurseries.*

Recommendations

Increase rate equivalent to 0.3% GVP, preferably as an ad-valorem levy

A levy rate increase is the simplest way to raise revenue available for investment. 0.3% is equivalent to peer levies and offsets the container risk and the forecast industry growth rate of 1.6%. Shifting to ad-valorem would further improve the levy but not should not constrain realisation of a rate increase.

Objectively assess all investments to justify the levy and a rate increase

At present the benefits of only 2 Nursery Fund levy projects have been objectively assessed. The business case for a levy change requires assessments of existing investments and new investments the additional revenue will be used for. These assessments also assist in demonstrating the value created to levy payers and assist Nursery Fund Panels and Hort Innovation in selecting priorities and investment decisions.

Update levy communications plans

Inconsistent and variable understanding on the levy model, its performance and levers is limiting stakeholders support for the levy and improvements. We recommend the industry, Nursey Fund, Hort Innovation and Greenlife Industry Australia update their communications based on the review findings.

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Main Report

1 Introduction

This section provides an overview of the industry, levy model and business case scope.

1.1 Purpose

Hort Innovation Australia (HIA) engaged ACIL Allen to develop evidence-based recommendations on a fit-for-purpose levy rate and collection mechanism for the Nursery Products Levy by:

- *reviewing the existing nursery levy collection process and alternative levy settings, and*
- *assessing the potential impact of different levy models on the nursery industry.*

1.2 Production nursery industry

The Australian production nursery industry involves the commercial growing, propagating, and wholesale distribution of live plants. In 2023-24, there were an estimated 1,589 production nursery businesses across Australia who collectively generated $3.4 billion in Gross Value of Production (GVP) (Figure 1.1).

Figure 1.1 Production nursery industry snapshot 2023-24

Source: ACIL Allen; DTER. Hort Innovation: Production Nursery Data Capture Report/ Survey 2023-24 data

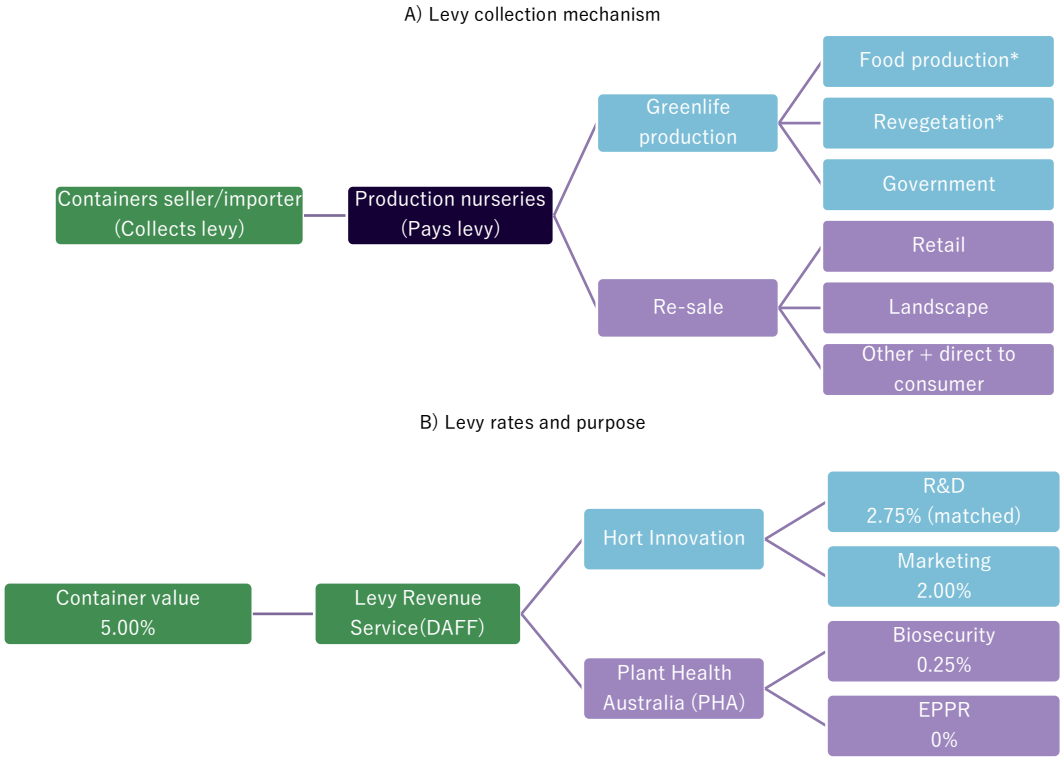
The peak industry body, Greenlife Industry Australia (GIA), describes the industry as one that is "broad and encompasses the ornamental market, supplies starter plants for fruit and vegetable production as well as stock for landscaping, forestry and revegetation," which crosses all state borders and covers urban, peri-urban, and rural environments.[1] Further information on the structure of the industry is provided in Appendix B.

1.3 Nursery Products Levy Model

The Nursery Products Levy is collected through a 5% levy of the sale price or landed cost of the container used by production nurseries. Levy revenue is used to fund research and development (R&D) (2.75%), marketing (2.00%) and biosecurity (0.25%) purposes for the nursery industry. The levy collection mechanism and levy rates and purpose is presented in Figure 1.2.

[1] *GIA. Greenlife Industry. https://www.greenlifeindustry.com.au/about/industry/greenlife-industry*

Figure 1.2 Nursery Products Levy model



Source: ACIL Allen

The rationale for a container-based levy collection system stems from the "complexity of products, goods and services contained within the overall sector and a diverse range of product movements and transactional pathways within and between various businesses in the sector." [2]

Commonwealth levy principles state that levies need to be placed as close to production and first point of sale as possible, in the most cost effective and equitable manner possible. When the Nursery Products Levy was established, industry and government agreed to an input levy (i.e. before first point of sale) because:

- *Nursery Products*[3] *are not easily identified and levied by the collection agent*
- *a levy collected by container sellers/importers would be more cost effective than a network of production nursery, greenlife production and re-sale businesses collecting a Nursery Products levy*
- *the mechanism imposes less collection cost on production nurseries.*

The 5% levy rate was set based on the best available estimate of the value of production at the time. A direct consequence of the chosen model is not all production is levied, and levy revenue is driven by the value of containers rather than value of production. Since that time:

- *the supply and use of containers have changed, and container-based collection mechanism retained*
- *the value of production has grown and is greater than originally estimated*
- *the levy rate has stayed the same (other than adding the marketing levy)*

[2] *Brian Newman & Associates (2004) A New Model for the Nursery & Garden Industry's 'Nursery Product Levy' to Support Industry R&D and Marketing Initiatives into the Future*

[3] *The Department of Agriculture, Fisheries and Forestry (DAFF), which administers the Nursery Products Levy, defines nursery products as "trees, shrubs, plants, seeds, bulbs, corms, tubers, propagating material and plant tissue cultures, grown for ornamental purposes or for producing fruits, vegetables, nuts or cut flowers and foliage." Seedlings grown in containers for forestry operations are not classified as nursery products.*

This business case examines options available to improve the levy model to ensure the levy rate and collection mechanism are fit for purpose.

1.4 Business Case limitations

This analysis is subject to a number of limitations primarily arising from the reliance on modelling assumptions related to levy collection costs, levy leakage, and levy payment exemptions. While available data and industry benchmarks have been used to inform and support the analysis where possible, several key variables remain estimates and should be the focus of further investigation in future work.

Specifically, the report incorporates assumptions regarding

- *the changes in collection costs to the Department of Agriculture, Fisheries and Forestry (DAFF) under alternative levy structures*
- *The potential rate of levy leakage under different implementation and enforcement scenarios*
- *the proportion of producers exempted from levy payments (e.g., based on turnover thresholds)*
- *the expected rate of levy revenue recovery relative to the industry's gross value of production (GVP)*
- *the potential future decline in use of pots and containers (pot use decline risk).*

These assumptions have been adopted in the absence of detailed administrative cost data or historical leakage trends under similar schemes. As such, the estimates presented should be interpreted as indicative rather than definitive. Further data collection and stakeholder consultation would strengthen the robustness of future analysis and support more precise modelling of the levy's impacts.

2 Levy purpose and review criteria

The Nursery Product levy's purpose is to fund industry R&D, marketing and biosecurity under Commonwealth legislation. The associated levy principles and RFQ are used to establish the criteria for evidence-based assessment needed to develop the business case recommendations.

2.1 Levy purpose

Under Commonwealth legislation agricultural commodities can be levied for R&D, marketing, biosecurity, market access (residue testing) purposes. The Commonwealth matches the R&D proportion of each commodity levy up to 0.5% of the three-year rolling average of the GVP.

Investment of levy funds collected are restricted to one of 15 RDCs (R&D and marketing), Plant Health Australia (PHA) or Animal Health Australia (AHA) (biosecurity) and National Residue Survey (NRS) (residue testing) for expenditure.

The Nursery Products levy is collected for R&D, marketing and biosecurity purposes. Residue testing levies are collected for export market access purposes and are not part of the Nursery Products Levy.

2.2 Review criteria

The Commonwealth provides 12 principles that need to be met when introducing a new or amending an existing levy (Appendix A). These have been combined with the industry issues listed in the RFQ[4,5,6] to develop assumptions which will be stated and criteria that will be assessed.

We have assumed the Nursery Products **levy rationale continues**. *That is levies create an investment pool larger than (individual) producers could achieve, avoid free-riding and to provide* **equitable access** *to the resulting R&D, marketing and biosecurity. We also assume the RD&M and biosecurity funds raised continuing to be* **invested by Hort Innovation and AHA respectively** *(Principles 1 and 10, Appendix A) using their existing plans (Principle 4d Appendix A). This project will inform how stakeholders* **could be engaged to support amendments** *to the levy. Completing all the consultation and documentation required is not in scope (Principles 2, 3 ,4c ,5, 9, 11, 12).*

There are four criteria which need to be assessed to scope the business case.

1. **Net levy revenue** – *amount of levy raised less collection costs (Principle 4a)*
2. **Levy costs** – *collection system must be efficient and practical. It must impose the lowest possible 'red tape' impact on business and satisfy transparency and accountability requirements (Principle 8)*
3. **Levy equitability** – *imposition must be equitable between levy payers (Principle 6)*
4. **Levy-industry relationship** - *the imposition of the levy must be related to the inputs, outputs, or units of value of production of the industry or some other equitable arrangements linked to the function causing the market failure (Principle 7).*

These criteria will address industry issues around levy leakage, equity, costs and the relationship between the value of the levy and nursery industry.

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[4] *Nursery levy leakage and equitable payment methods under current levy collection mechanisms.*

[5] *Current challenges of the container levy, specifically levy exceptions not accounted for in the current collection method.*

[6] *Industry changes since the levy was introduced in 1989; growth (quantum) of the nursery industry production value and the % increase in levy collection over this same period; and the effect of increased efficiency over the last 35 years.*

3 Levy model performance

The structure and financial performance of the Nursery Products Levy and comparable levies are assessed to provide insights on its relative strengths, weaknesses and threat to identify opportunities to improve the Nursery Products levy rate and collection system.

Industries have considerable flexibility in determining what product will be levied, the levy rate, and how the levy will be collected based on the levy principles of **practicality, cost-effectiveness and equity**.

Levies can be set for **one or more product and purpose**. *Best practice is to levy sales value (ad-valorem[7]) at the first point of sale after production and align who pays with production value and levy purpose.*

3.1 Levy product, rate and purpose

In horticulture different **units and levies are used to cater for the range of products sold** *(Table 3.1).*

Nursery levies a single product using a single rate, *as do bananas and turf. Others use multiple levies to differentiate whether product is sold to fresh or processing markets and adjust product units and rates accordingly. Levy product units are based sale measures used at sale to aid collection. For example, citrus currently has three units across five levies. In contrast the vegetables and nursery levy value of product sold, and containers bought respectively* **due the lack of standard products and units**.

Rate is a key determinant of levy yield, *i.e. what proportion of Gross Value of Production (GVP) the levy generates for investment. At present* **nursery levy yield is 20 to 100% lower** *than the comparison levied horticultural industries. The reason why is the rate was set in 1989 when nursery GVP was more than* **half current estimates**, *and the* **rate has not changed** *recently.*

Table 3.1 Levied product, rate and yield comparison (horticulture)

Industry levy		Product	Rate	Purpose				Yield*
		Unit		R&D	Marketing	PHA	EPPR	GVP (%)
Nursery Products		container	5%	2.75%	2.00%	0.25%	nil	0.10%
Avocados	processed	kg	$0.010		-	-	-	1.58%
	all other	kg	$0.075	$0.029	$0.450	$0.10	nil	
Bananas		kg	$0.0219	$0.054	$0.150	$0.05	nil	1.21%
Citrus	Oranges – boxed	20 kg box	$0.106	$0.064	$0.015	$0.06	$0.021	0.32%
	Other citrus – boxed	20 kg box	$0.091	$0.064	-	$0.06	$0.021	
	Grapefruit	16.67 kg	$0.091	$0.064	-	$0.06	$0.021	
	Oranges – all other	tonne	$5.300	$3.200	$0.75	$0.30	$1.050	
	Other citrus – all other	tonne	$4.550	$3.200	-	$0.30	$1.050	
Turf		sq. metre	$0.150	$0.120	$0.03	-	-	0.21%
Vegetables	processed	sale value	0.51%	0.485%	-	0.015%	0.01%	0.22%
	unprocessed	sale value	0.51%	0.485%	-	0.015%	0.01%	

Note* 2023-2024

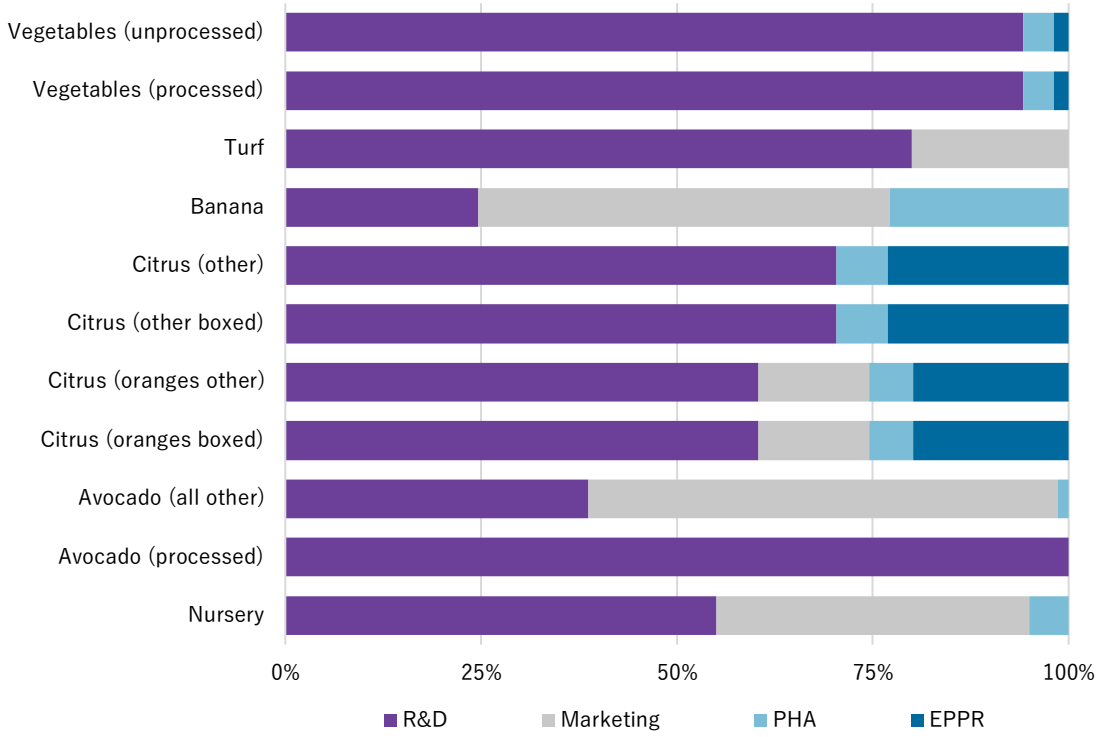
Source: DAFF, Hort Innovation

An important feature of the levy system is the ability to target levy purpose. **The nursery levy can be used for all available purposes,** *currently, R&D, marketing, biosecurity with provisions are in place to fund.*

[7] *Ad valorem levies are more equitable because the levy burden is based on the value of production and adjust to market conditions*

Levies ***can target priorities and equality****. For example, avocados and bananas allocate more than 50% to marketing, citrus only levy marketing on boxed oranges and the vegetable marketing levy is currently set at zero. The Plant Protection Response is currently being levied in the vegetable and citrus industries.*

Figure 3.1 Proportion assigned to levy purpose across selected horticultural industries



Source: DAFF 2025

Finding 1 Nursery Products Levy is set for all purposes with options to adjust rate or allocation. The rate is generating a lower yield (GVP) compared to other horticultural industries.

The Nursery Products rate was set when industry GVP was more than half current estimates. At present the levy rate is yielding a lower proportion of GVP than other industries. The levy can be used for all available purpose and is currently allocated to R&D, marketing, biosecurity with provisions are in place to fund Emergency Plant Pest Response (EPPR).

3.2 Alternatives

A review alternative levies (Appendix E) found the Australian agricultural levy model is unique and voluntary levies are difficult to sustain. Public private partnerships are becoming increasingly important in horticulture and nursery R&D and the tax system works alongside levies to provide additional incentives.

Finding 2 Levies can be combined with other incentives and initiatives to increase impact

The international experience suggests a trend towards more diversified and collaborative funding models that combine industry leadership with public research capacity rather than maintaining arrangements for a specific commodity. Public private partnerships and tax incentives are increasingly important in horticulture and nursery R&D which the Nursery Fund can use to leverage existing levy revenue to increase impact.

3.3 Collection system

Each industry needs to establish its own **efficient, practical and equitable collection system that minimises "red-tape" on businesses and costs** *(Table 3.2) in-line with the levy principles (Appendix A).*

Table 3.2 Levy collection system comparison across industries

Levy	Products	Rates	Levy payers	Collection agent	Rebate	Exemptions
Nursery	1	1	1,589	Pot seller/importer (48)	2.5%	Unpotted sales
Avocados	2	2	800	Grower or agent	-	Low sales
Bananas	1	1	600	Grower or agent	-	Low sales
Citrus	3	5	1,500	Grower or agent	-	Low sales
Turf	1	1	214	Grower	-	Low sales
Vegetables	2	1	3,600	Grower or agent	-	If levied elsewhere*
Grape + Wine	2	13	6,000 + 2,156	Winery (grape + wine)	-	Trade + low sales

Note* Asparagus, Garlic, Herbs, Seed Sprouts, Hard onions, Melons, Mushrooms, Potatoes, Sweet Potatoes, Tomatoes.

Source: DAFF

The general principle is to **position levy collection as close to the point of production** *as possible. In practice, this is often at first point of sale post farm-gate where a smaller pool of buyers or intermediaries collect levies as agents on behalf of a larger pool of growers***. Nursery is the only industry where the levy collected before production** *because nursery products are sold across multiple value chains which generated too many different first points of sale to collect the levy from when it was established (Figure B.3).* **Exemptions** *are provided for businesses with low sales to avoid levy costs exceeding revenue, unlevied uses and in the case of vegetables, crops levied elsewhere.*

This **reduces levy payer impost and offers cost efficiencies** *by having fewer agents the Department needs to deal with to administer levies on a cost recovery basis. Where producers sell products individually, they are required to remit levies. In the case of turf, the levy payer is also the collection agent.*

In the case of **nursery,** *the* **best available agent network** *was pre-farm gate, container wholesalers and importers (including nurseries), when the levy was established and* **unpotted plants are exempt***. The levy is less equitable than others because it is not related to the value of plants sold. Agents receive a 2.5%* **rebate** *to incentivize levy collection, unique to nursery.*

Over the past 10 years horticultural industries have **streamlined** *levied products and rates to reduce collection costs and burden. In comparison Grape and Wine maintain a more complex rate structure, enabled by wineries being regulated businesses who collect both grape and wine levies.*

Finding 3 Nursery Products Levy collection system is practical, efficient and imposes little red-tape on levy payers. The levy is less equitable compared to other levies because it is imposed on containers rather than plants produced.

Levying one product at one rate makes the nursery levy practical and efficient to administer for collection agents and the Department compared to other levies. The levy is based on an input (containers) for practical reasons but means levy collections are not directly linked to the product sold and its value. The levy is unique in providing a nursery agent rebate to incentivise collection.

3.4 Levy leakage and duplication

Levy leakages arise from exemptions (product and business), efficacy of the collection network and in the case of nursery the use and cost of containers.

Levies are a legal obligation and must be paid unless there are exemptions which are used to make collection more practical, efficient and less burdensome. **Nursery exempts unpotted products** *(e.g. bare-rooted stock, corms, bulbs, seeds[8]) while other industries provide exemptions based on business production size, product use or if the product is levied elsewhere (Table 3.2).*

An important part of levies is the Department developing and maintaining a **levy payer register[9]** *(growers and agents) in order to administer the collection system. For Nursery Products this includes container wholesalers and importers (including production nurseries) who collect 67% and 33% respectively[10]. At present there are 48 collection agents. Wholesalers are required to identify which containers are levied and whether they are sold to a production nursery to collect the levy and submit quarterly returns (even when no levied containers are sold). The Department is responsible agent oversight, distributing funds and reporting levy collection system revenue and cost performance. New agents are added when their container wholesaling or importing are sufficient to be identified. Levies are not collected from agents when the costs of administering the receipt, distribution and oversight is greater than revenue generated.*

The **use and cost containers** *is a source of levy collection leakage. While* **specific details are not available** *a number of points were noted by stakeholders consulted. Plastic containers are widely used in the industry and provide the basis for the schedule of levied containers. Containers made from other materials are not included and new plastic containers need to be added to the schedule. While container returns are limited for retail sales the increasing focus on recycling containers within and between production nurseries for cost and environmental reasons impacts plastic container consumption and use of alternative. Market forces and imports put pressure on the unit cost of levied containers which have not grown at the same rate as CPI or industry over time.*

Levy duplication *occurs when the Nursery Products and agricultural levy are applied to the same plant. For example a plant sold in a levied container by a production nursery to a grower to produce vegetables, nuts or fruits (e.g. blueberries) be levied again. In 2023-2024 sales from production nurseries for horticultural production was estimated to be around 11-12% of GVP.*

In practice, all industries need to **accept a degree of levy leakage** *given there are diminishing marginal returns associated between the cost of improving collection and collecting additional levy revenue\.*

Finding 4 The Nursery Products Levy leaks through exemptions, collection network efficacy and container use/cost. Specific details are not available.

Levy leakage results from embedded exemptions and the need to balance administrative cost against revenue collected. In the case of Nursery Products container use and cost can impact levy collection but specific details are not available. There is levy duplication when production nursery plants are sold to grower producing levied horticultural produce.

[8] *Technically a plant grown in a levied pot at some stage prior to sale has been levied.*

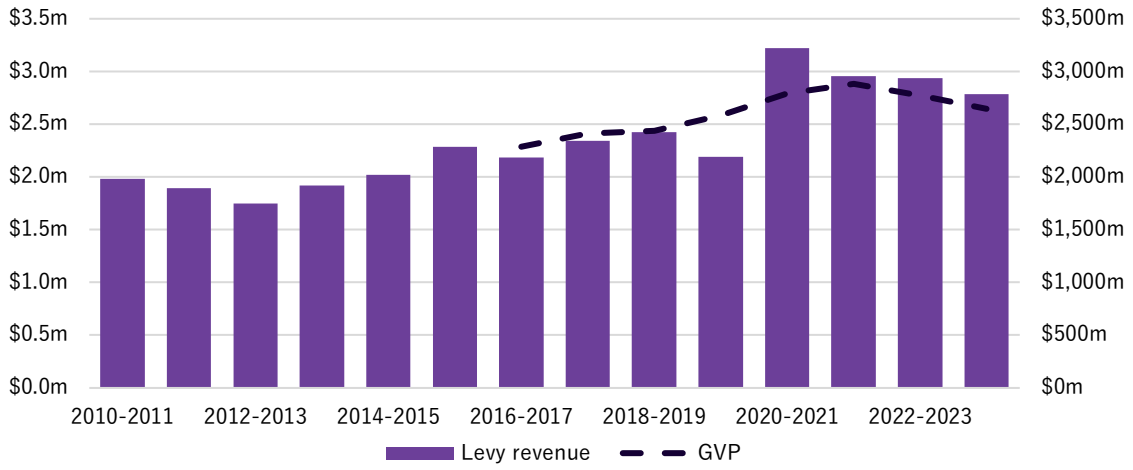
[9] *The Department, Hort Innovation and Peak Industry Bodies need to develop their own registers and constrained by the Privacy Act on how much levy payer and collection agent details can be shared. In the levied industries compared Wine and Grape is an exception because wineries are registered premises.*

[10] *Ratio of levy payer to other income reported for 203-2024 in Hort Innovation | Nursery Fund 4-year forecast.*

3.5 Levy revenue

Between 2010-11 and 2023-24, the nursery products levy has **increased by 41%**, *generating approximately* **$2.35 million** *per annum, with annual revenue* **tracking** *the rise and fall in GVP since 2016-17 (Figure 3.2).*

Figure 3.2 Nursery Products Levy revenue (LHS) and production nursery GVP (RHS)



Source: Hort Innovation; Hort Innovation: Production Nursery Data Capture Report. R&D and marketing levies

In comparison other horticultural levies raised growth ranged from **-0.7% (turf) to +176% (avocados**) *and raised between* **$0.56 million (turf) to $9.20 million (vegetables)** *over the same period (Figure 3.3).* **Export** *focused industries (avocados, citrus and vegetables) have increased GVP (and levies) more than domestic focused industries (nursery, bananas and turf).* **Market** *(citrus) and* **environmental risks** *(cyclones and disease) had a negative impact, and industries experienced an increase in GVP and levies from* **COVID**. *the existing nursery pot-based levy results in the* **lowest ratio of levy revenue to industry GVP**, *and is half the ratio of turf and vegetables, one third of citrus and less than a tenth of bananas and avocados.*

Figure 3.3 Gross levy revenue for nursery and other industries (2010-11 to 2023-24)

	Levy revenue (annual average, $ million)			Levy revenue growth			Levy as proportion GVP		
	FY11-17	FY18-24	Overall	FY11-17	FY18-24	Overall	FY11-17	FY18-24	Overall
Nursery	2.01	2.69	2.35	10.0%	19.0%	41.0%	0.1%	0.1%	0.1%
Avocados	4.37	7.77	6.05	95.0%	47.0%	176.0%	1.5%	1.6%	1.2%
Bananas	5.88	6.41	6.14	-6.0%	24.0%	10.0%	1.3%	1.1%	1.2%
Citrus	1.80	2.86	2.33	-1.0%	90.0%	112.0%	0.3%	0.3%	0.3%
Turf	0.54	0.57	0.56	-12.0%	3.0%	-7.0%	n/a	0.2%	0.2%
Vegetables	7.99	10.40	9.20	16.0%	13.0%	50.0%	0.2%	0.2%	0.2%

Source: HIA

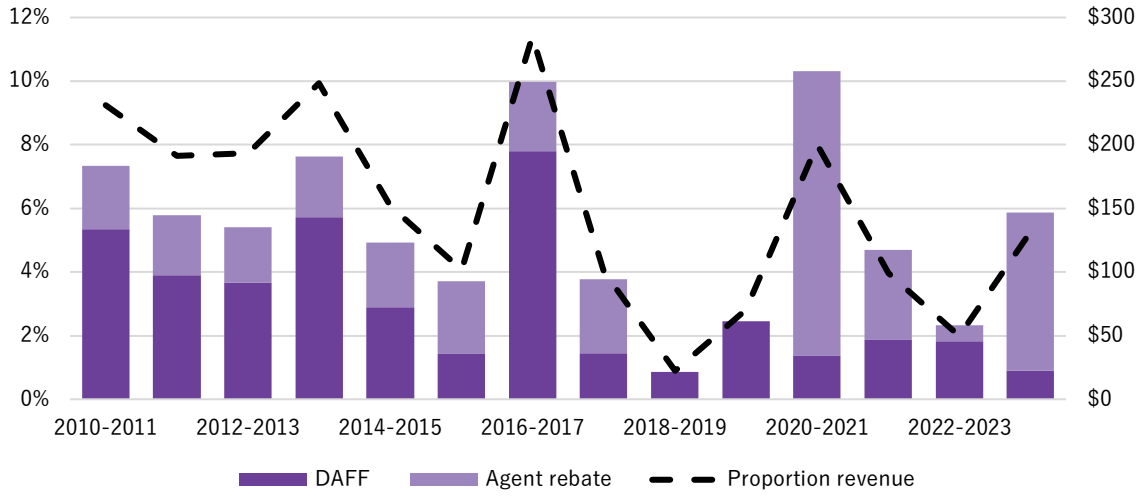
Finding 5 Nursery Products Levy settings generate the lowest revenue to GVP ratio compared to six other levies. The levy is tracking industry conditions which affect all levies.

Levy rate is the key determinant of levy revenue generated while industry conditions affect trends and annual collections. The Nursery Products levy rate consistently generates the lowest revenue to GVP ratio. The Nursery levy has grown 41% since 2010-11 which is in line with the ABS CPI (40%) and industry GVP.

3.6 Levy collection costs

Between 2010-11 and 2023-24 annual nursery products levy **collection costs have trended down,** *from an average of* **$159,914** *(2010-11 to 2016-17) to* **$108,278** *(2017-18 to 2023-2024).* **Costs are recouped** *in arrears by the* **Department** *(based on actuals)* **and 2.5% agent rebate** *paid by Hort Innovation, creating considerable fluctuations which affect net revenue available for investment (Figure 3.4).*

Figure 3.4 Nursery Products Levy collection costs and collection agent rebates $'000 (RHS) as a proportion of total levy revenue (LHS)



Source: Hort Innovation

The **downward trend is reflected in other levies** *where median costs have reduced from* **6.7% to 3.1%** *by simplifying levies, removing low revenue collection points and streamlining administration. The* **Nursery Products Levy is higher than other levies** *as a proportion of revenue when the rebate is included.*

Table 3.3 Levy collection costs for nursery and other industries (2010-11 to 2023-24)

	Levy collection costs (7-year average)		Proportion gross revenue (7-year average)		
	FY11 to FY17	FY18 to FY24	FY11 to FY17	FY18 to FY24	Change
Nursery	$159,914	$108,278	8.0%	4.0%	-50.0%
Avocados	$56,246	$46,946	1.3%	0.7%	-46.2%
Bananas	$72,994	$35,715	1.4%	0.6%	-57.1%
Citrus	$107,500	$86,819	6.2%	3.1%	-50.0%
Turf	$101,623	$39,266	19.1%	6.9%	-63.9%
Vegetables	$335,342	$313,056	4.2%	3.0%	-28.6%
Average	$138,937	$105,013	6.7%	3.1%	-49.3%

Source: HIA

Finding 6 Nursery Levy collection costs have reduced, but vary and are higher than other levies

The Nursery Products Levy collection system is regarded as efficient based on Department costs (1.5%) but is higher than other levies when the 2.5% rebate is included (4.0%). Levy revenue available for investment is net of collection costs.

4 Problem statement

The levy model is assessed against the criteria to identify the problem statement and options

Current nursery products **levy revenue** *is proportionally* **lower** *than comparable levies due the levy* **rate.** *Nursery industry GVP and therefore levy* **revenue** *is expected to* **decline in the short***-term in line with industry conditions and forecast to* **grow at 1.6% p.a. in the long term***, which is below CPI.*

The industry is concerned about **reduced levy collections and container expenditure** *impacting revenue. This is not currently observed given gross levy revenue reflects GVP reasonably well. A partial explanation is* **collection costs rose temporarily** *due to delayed rebates reducing net revenue available, while the Department has worked to* **streamline low revenue collection points** *to reduce costs. There is* **no data** *on container expenditure or use. Anecdotally container re-use and alternative packaging and importing are increasing at* **incremental** *rate.*

Inequities *arise from the Nursery Products levy* **only applying to levied container-based sales***. This exempts a small proportion of production and a means the* **levy does not capture the value plants sold***. Levies are* **charged twice** *when levied Nursery Products are used to produce other levied products (e.g. vegetables, fruits and nut producers) creating inequalities for the latter levy payers.*

Levy collection **costs have reduced to 4%** *which is* **higher than comparable levies** *due to the* **rebate***.* **Levy payer costs and "red-tape" are low** *given the levy is collected by agents (container wholesalers) on their behalf. The collection system has* **limited transparency** *with limited information on levied containers or producers provided to DAFF, Hort Innovation or industry.*

The Nursery Product levy's key **strengths** *are a revenue stream reasonably aligned with GVP, with a practical and reasonably efficient collection cost that links to a production input that imposes little red tape on levy payers. Key* **weaknesses** *are embedded inequality (levy on containers not plants and unlevied sales) and needing the rebate to incentivise collection which* **threaten** *levy support, along with risk of reduced container expenditure impact revenue. The key* **opportunities** *to improve the levy are increasing rate, changing to an ad-valorem (value based), adding more levies and exemptions, and strengthening collection (Table 4.1).*

Table 4.1 Nursery Product Levy SWOT analysis

Criteria	Strengths	Weakness	Opportunities	Threats
Net levy revenue	GVP alignment One levy and rate	Lower than other industries Forecast below CPI	Increase levy Leverage existing levies	Support for levy increase Pot expenditure declines
Levy costs	Reasonable cost (including rebate)	Rebate increases costs Lack transparency	Remove rebate Add exemptions	Rising collection costs Support for levy
Levy equity	Low levy payer effort ("red-tape")	Unlevied sales + leakage Products levied twice	Change levied product Expand collection	Increased levy leakage Support for levy change
Levy-industry relationship	Production nursery focus and link	Levy input not value based	Shift to value-based levy Add more levies	Higher collection costs Support for levy change

Source: ACIL Allen

Problem statement

How can the nursery industry ensure Nursery Products Levy generates revenue reflecting the value of production without increasing cost or inequality?

5 Levy model options assessment

5.1 Options

To assess the impact of changing levy rate or other improvements, three options were developed:

1. **Option 1: Maintain status quo** *to provide a baseline (with and without a levy rate increase)*
2. **Option 2: Improve levy collection process** *to reduce leakage (with and without a levy rate increase)*
3. **Option 3: Change to an ad-valorem levy** *to link levy to GVP (with and without a rate increase)*

Two scenarios were used to test options under different levy rates (same or higher). An incremental decline to container risk (declining cost, use and expenditure reduces revenue) was included under both scenarios.

A qualitative analysis against the criteria shows that **increasing the levy rate has a positive impact on levy revenue across all options.** *(Table 5.1). It also provides for exemptions and leakages.*

Table 5.1 Multi-criteria assessment of options

Criteria	1 Status quo		2 Improve collection		3 Ad valorem	
Levy rate levy scenario	Same	Higher	Same	Higher	Same	Higher
Levy revenue						
Increases net revenue						
Offsets container risk						
Levy costs						
Cost ($)						
Cost (% revenue)						
Levy equity						
Reduce loss (not collected)						
Reduce exemptions (product)						
Minimise levy payer red tape						
Option more practical						
Levy – industry relationship						
Based on value of production						
Levied at first point of sale						

Grey = status quo or same/similar to status quo, Red = reduction. Green = improvement

Source: ACIL Allen

Finding 7 Multi-criteria assessment results

Levy costs increase under all options and scenarios. *This is due to the agent rebate in Option 1 and Option 2 and the cost of strengthening the collection system required to generate additional revenue in the latter. The additional cost of ad-valorem collection reduces net revenue if the levy rate is not increased.*

Options address **levy equity** *in different ways.* **Option 2 targets uncollected container levies** *by expanding the collection agent network and improved oversight and assistance.* **Option 3 levies all plant sales**. *However, both of these options are* **less practical and increase red-tape**. *This is particularly the case for Option 3 where most production nurseries would need to collect the levy and engage with DAFF.*

Only ad-valorem (option 3) improves the levy-industry relationship. *It shifts the levy from a container that is a small and variable proportion of the plant sold to a levy that reflect to the value of production. It also completely removes container risk all together.*

5.2 Financial analysis

The financial impact of each option was modelled under two scenarios over ten years. Options are defined in Table 5.2. To evaluate the options, two scenarios have been devised:

1. **Scenario 1***: A 'business as usual' scenario, where the levy rate (measured by the ratio of levy revenue to GVP) is held constant across each option, and*
2. **Scenario 2***: A 'levy increase' scenario, where the levy rate increases resulting in the ratio of levy revenue to GVP to increase, making the Nursery Products Levy to comparable industries.*

In evaluating the Status Quo and Option 2, a 'pot decline factor' for future estimates considers the risk of fewer pots being bought for industry use. Under the ad-valorem structure, the risk of pot decline is negated.

Table 5.2 Options subject to assessment

Option	Description
Option 1: Status Quo ('Business as usual')	The 'Status Quo' reflects the existing Nursery Products Levy, which is set at 5% of the amount paid for nursery pots. The levy is collected by the seller of the containers operating in Australia (the collection agent).
Option 2: Improved levy collection	Under this option, levy collection processes are strengthened to reduce revenue leakage. The uplift in levy revenue (10%) reflects a realistic improvement in levy revenue generation, however, collection costs are expected to rise as a result of the increased effort to reduce leakage.
Option 3: Ad-valorem	Under this option, the levy is converted to an ad-valorem structure, linking levy revenue to the industry's value of production (rather than the value of nursery pot purchases – an industry input). This approach equalises the levy burden across production nurseries, who become the new collection agents, applying a percentage-based levy on all industry sales including those to wholesalers. To support smaller operators, businesses with an annual turnover of less than $500,000 are exempt from paying the levy under this option, and there an allowance is made for levy leakage. DAFF collection costs are expected to rise as a result of the increase in the number of collection agents to administer. No collection agent rebate is assumed under this option.

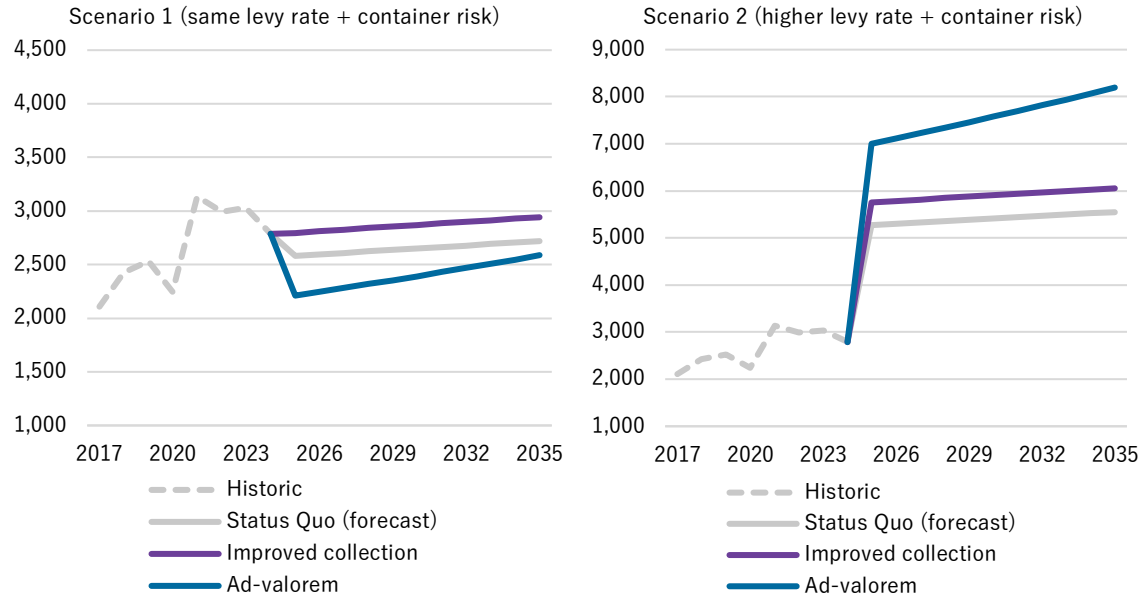
Source: ACIL Allen

Results

Raising the levy rate *(existing container or a new ad-valorem),* **increases revenue but only ad-valorem offsets the container risk** *(expenditure decline) by removing it completely. If ad-valorem collection costs increase from 4.0% to 8.0% the revenue increase will be lower. The improved levy option needs to increase revenue by 10% to match status quo if collection costs increase to 5.5%.*

Ad-valorem and improved collection options both reduce losses through broadening levied products and targeting losses to improve levy equity. Both are less practical than status quo and ad-valorem significantly increases red-tape given levy payers will be required to become levy collection agents. Exempting business from levy collection is required for all options to ensure the levy is efficient. Around 600 production nurseries currently sell less than $500,000 of plants per annum and need to be exempt because they will remit less than $500 in revenue which is less than the $750 it costs DAFF on average to administer an agent's returns.

Figure 5.1 Nursery Products Levy Options – Net revenue ($ thousands)



Source: ACIL Allen

Finding 8 Increasing the rate is the most effective way to improve levy revenue and costs. Improving the existing collection system will not yield much additional net revenue. Ad-valorem removes container risk improves levy equity more than other options.

Increasing the rate is the most effective way to improve levy revenue and costs. Improving the levy collection system without changing to an ad-valorem levy will not significantly reduce the revenue risk from declining container expenditure or improve levy equity. Ad-valorem imposes additional costs and requires levy payers to become agents (and 600 to be exempted). While the nursery agent rebate becomes redundant, collection costs will need to rise above the current 4% in order to recoup the additional expenses DAFF will incur in administering the levy collected from up to 1,000 levy payers.

6 Conclusion & recommendations

This section summarises conclusions and views of stakeholders consulted to provide evidence-based recommendations to ensure the levy rate and collection remain fit for purpose

Improving the levy model is a matter of industry priority and preference.

If increasing the levy to generate more revenue to maintain or expand funds available for investment is the priority the simplest way is raising the existing levy rate. Doubling the levy would generate revenue comparable to other horticultural levies as a proportion of GVP.

Improving existing collection arrangements will not offset the long-term risk of container expenditure decline reducing the levy or deal with structural inequalities. If this is the priority then changing to an ad-valorem levy is required as recommended by previous review. Ad-valorem requires a rate increase to cover additional costs of having up to 1,000 levy payers rather than 48 agents collecting the levy.

Levy payers consulted were generally supportive of the levy in principle but, support for increasing the levy ranged from unconditional, to only if levy investments are more visible and impactful or not at all. Similarly, while minimising collection leakage and ensuring all producers pay the levy are of concern willingness to increase collection costs is limited. Awareness of how levy costs have reduced over time and that the delay in rebate payments have reduced net revenue in recent years is low. Moving to an ad-valorem levy is seen as a necessary step by some and impractical by others.

Based on these conclusions three recommendations are made that will ensure the levy remains fit for purpose and contribute to preparing the full business case required to improve the levy whenever required.

Recommendation 1 Increase rate equivalent to 0.3% GVP, preferably as an ad-valorem levy

A levy rate increase is the simplest way to raise revenue available for investment. 0.3% is equivalent to peer levies and offsets the container risk and the forecast industry growth rate of 1.6%. Shifting to ad-valorem would further improve the levy but not should not constrain realisation of a rate increase.

Recommendation 2 Objectively assess all investments to justify the levy and a rate increase

At present the benefits of only 2 Nursery Fund levy projects have been objectively assessed. The business case for a levy change requires assessments of existing investments and new investments the additional revenue will be used for. These assessments also assist in demonstrating the value created to levy payers and assist Nursery Fund Panels and Hort Innovation in selecting priorities and investment decisions.

Recommendation 3 Update levy communications plans

Inconsistent and variable understanding on the levy model, its performance and levers is limiting stakeholders support for the levy and improvements. We recommend the industry, Nursey Fund and Hort Innovation update their communications based on the review findings. Greenlife Industry Australia can also use the findings and the Recommendation 2 assessments, once completed, to update its approach to the Recommendation 1 of increasing the levy rate.

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Appendices

A Levy Principles

Table A.1 Levy Principles

Principle	Rationale	Application	Equity	Support
1. The proposed levy must relate to a function for which there is a market failure.	●			
~~2. A request for a levy must be supported by industry bodies representing, wherever possible, all existing and/or potential levy payers, the relevant levy beneficiaries, and other interested parties.~~	●			
~~– The initiator shall demonstrate that all reasonable attempts have been made to inform all relevant parties of the proposal and that they have had the opportunity to comment on the proposed levy.~~				
~~– A levy may be initiated by the government, in the public interest, in consultation with the industries involved.~~				
~~3. The initiator of a levy proposal shall provide an assessment of the extent, the nature and source of any opposition to the levy and shall provide an analysis of the opposing argument and reasons why the levy should be imposed despite the argument raised against the levy.~~				●
4. The initiator is responsible to provide, as follows:				
– an estimate of the amount of levy to be raised to fulfil its proposed function		●		
– a clear plan of how the levy will be utilised, including an assessment of how the plan will benefit the levy payers in an equitable manner		●	●	
~~– demonstrated acceptance of the plan by levy payers in a manner consistent with levy principle 2.~~				●
~~5. The initiator must be able to demonstrate that there is agreement by a majority on the levy imposition/collection mechanism or that, despite objections, the proposed mechanism is equitable under the circumstances.~~			●	●
6. The levy imposition must be equitable between levy payers.			●	
7. The imposition of the levy must be related to the inputs, outputs, or units of value of production of the industry or some other equitable arrangements linked to the function causing the market failure.	●	●	●	
8. The levy collection system must be efficient and practical. It must impose the lowest possible 'red tape' impact on business and must satisfy transparency and accountability requirements.		●		
~~9. Unless new structures are proposed, the organisation/s that will manage expenditure of levy monies must be consulted prior to the introduction of the levy~~				●
10. The body managing the expenditure of levy monies must be accountable to levy payers and to the Commonwealth		●		
~~11. After a specified time, levies must be reviewed against these principles in the manner determined by the government and the industry when the levy was first imposed.~~		●		
~~12. The proposed change must be supported by industry bodies or by levy payers or by the government in the public interest. The initiator of the change must establish the case for change and where an increase is involved, must estimate the additional amount which would be raised. The initiator must indicate how the increase would be spent and must demonstrate the benefit of this expenditure for levy payer~~				●

Note Green cells = assessment criteria. Purple cells = assumptions. ~~Struck through text cells~~ = not in scope

Source: https://www.agriculture.gov.au/agriculture-land/farm-food-drought/levies/about-levies/levy-guidelines

Finding 9 Key business case criteria

The criteria that need to be assessed include levy revenue, costs, equity and industry relationship.

B Nursery Industry Profile

B.1 Nursery definition

The nursery production and wholesale industry in Australia involves the commercial growing, propagating, and wholesale distribution of live plants. As noted by Newman & Associates (2004), the industry "has a complexity of products, goods and services contained within the overall sector and a diverse range of product movements and transactional pathways within and between various businesses in the sector."

The peak industry body, Greenlife Industry Australia (GIA), describes the industry as one that is "broad and encompasses the ornamental market, supplies starter plants for fruit and vegetable production as well as stock for landscaping, forestry and revegetation," which crosses all state borders and covers urban, peri-urban, and rural environments.

The Department of Agriculture, Fisheries and Forestry (DAFF), which administers the Nursery Products Levy, defines nursery products as "trees, shrubs, plants, seeds, bulbs, corms, tubers, propagating material and plant tissue cultures, grown for ornamental purposes or for producing fruits, vegetables, nuts or cut flowers and foliage." Seedlings grown in containers for forestry operations are not classified as nursery products.

The complexity of the industry's value chain means there is no consistent point of sale for nursery products sold in Australia, a situation amplified by the range and form of product types sold across market segments.

Finding 10 Nursery is broadly defined through products and use

The nursery industry is made up of businesses that produce trees, shrubs, plants, seeds, bulbs, corms, tubers, propagating material and plant tissue cultures for ornamental purposes or for producing fruits, vegetables, nuts or cut flowers and foliage. The peak body includes stock for landscaping and forestry and revegetation. The department excludes seedlings grown in containers for forestry operations.

B.2 Industry profile

In 2023-24, the Hort Innovation funded Nursery Industry Statistics Project (NY21000) estimated there to be 1,589 production nursery businesses in Australia. Most of these businesses can be classified as small businesses, with over 70% having a turnover of less than $2 million (table below).

Table B.1 Greenlife production nursery businesses in Australia, by turnover size

	<$500k	$500k-$2m	$2m-$4m	>$4m	Don't know turnover	Total
Number of businesses	579	549	224	221	15	1,589

Source: DTER, Nursery Industry Statistics 2023-24 Data Collection Report

Australian production nurseries supply a wide range of customers across several key market segments. These include retail nurseries, wholesale buyers, landscapers, and primary producers. They also grow plants for revegetation and government projects, while some sell directly to consumers through online or farmgate channels (table overleaf). Each segment has unique plant needs, shaping how nurseries grow and supply their stock.

In 2023-24, the retail supply chain was found to be the largest sales channel (estimated to account for 41% of total sales value), followed by other wholesale nurseries. Sales to the landscape, builder and developer

channel are the third largest market segment, while smaller market segments typically include primary industry, revegetation, government, and direct to consumers. About one third of businesses were found to sell plants to 'big box' retailers in 2023-24 (Hort Innovation, 2024).

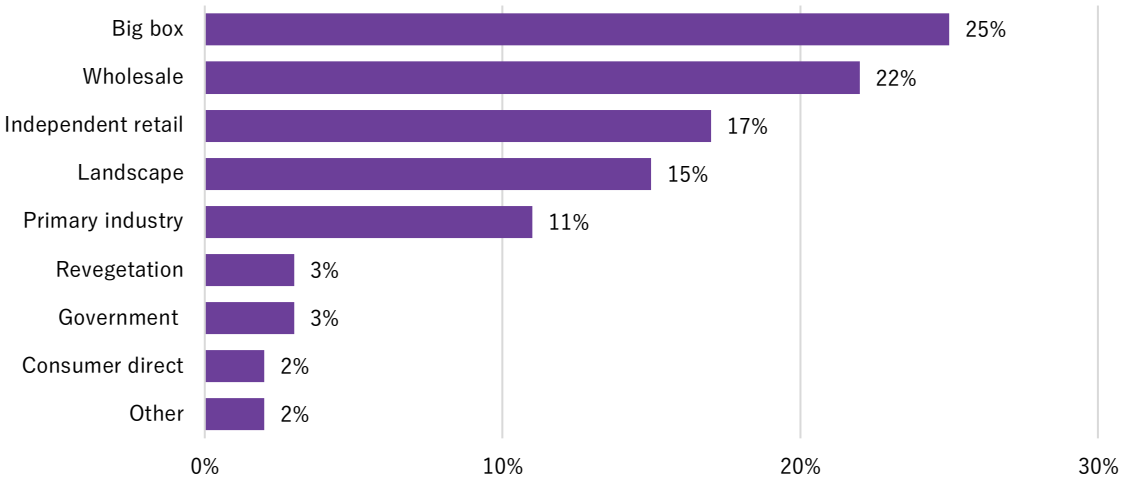
Table B.2 Market segments in the Australian nursery industry

Market segment	Description
Retail	Supplying plants to garden centres or plant retailers who then sell to the general public. Plants are typically in smaller containers and of high quality.
Production (Wholesale)	Selling bulk quantities of plants to other nurseries, resellers, or distributors. Emphasis is on large volumes, and standardised product lines.
Landscape	Providing plant stock to landscape contractors or designers for use in residential, commercial, or public landscaping projects.
Primary Industry	Supplying specialised plant material such as fruit tree seedlings, tubestock, or vine rootstocks to farmers, foresters, and agribusinesses.
Revegetation	Growing native or local provenance plants for environmental restoration, land rehabilitation, and biodiversity projects. Typically includes hardy, tubestock-grown species.
Government	Contract growing or supplying plants for local, state, or federal government projects such as streetscaping, public parks, roadside planting, or urban greening.
Consumer Direct	Selling plants directly to consumers via on-site retail, online platforms, farmers markets, or pop-up events.

Source: ACIL Allen; DTER, Nursery Industry Statistics 2023-24 Data Collection Report

Figure B.1 presents the diversity of the production nursery industry's supply chain, by value of sales.

Figure B.1 Production nursery sales by market segment, 2023-24



Source: Hort Innovation. Production Nursery Data Capture Report/ Survey 2023-24 data

Finding 11 Nursery Products originate from different market segments

Nursery Products can originate from Production (Wholesale), Primary Industry and Revegetation businesses that can be public, private or not for profit organisations. Some businesses may operate in more than one market segments (e.g. wholesale and retail).

Under the levy principles Nursery Products should be levied as close as possible to the first point of sale.

Product categories

Greenlife products cover a broad range of living plants grown by nurseries. Key categories include perennials, trees, shrubs, and groundcovers for outdoor planting; indoor plants for interior spaces; and propagation material like seedlings and tubestock. Bedding and potted colour provide seasonal blooms, while herbs, vegetables, fruits, nuts, and vines support edible gardening.

It's important to note that the list of 'Greenlife' does not give a measure of the potential complexities in some of these product category areas. For instance, Newman and Associates (2004) note that vegetable growers who, as a part of their nursery operation, may supply vegetable seedlings to other vegetable growers. This is one such example where product movements and transactional pathways within and between various businesses in the sector complicates the value chain.

Table B.3 Product categories in the Australian production nursery industry

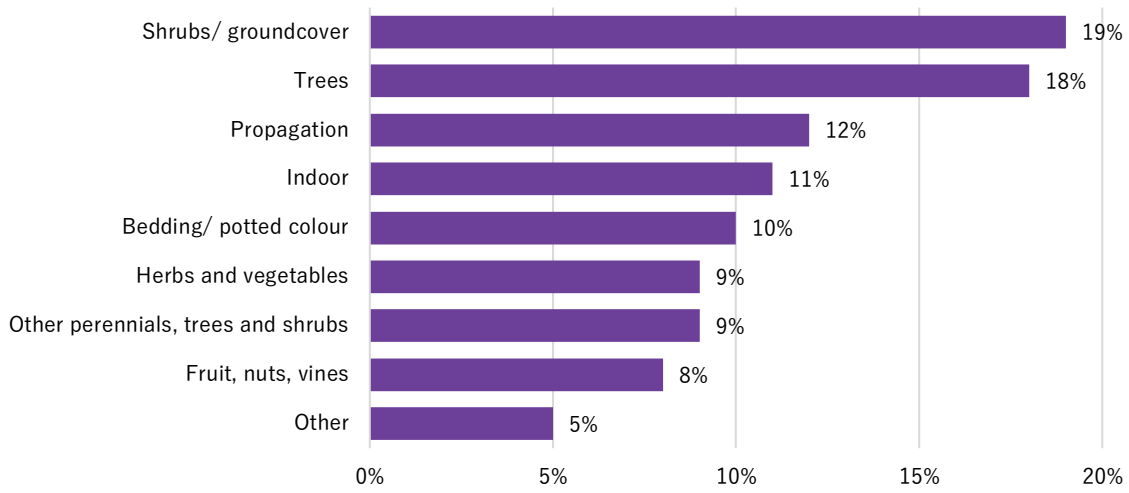
Product category	Category	Examples
Greenlife/ production nursery products	Trees	Advanced trees, deciduous, exotic trees, and native trees
	Shrubs and groundcovers	Climbers, conifers, exotic shrubs, ground covers, and native shrubs
	Indoor	Flowering indoor, foliage indoor, hanging baskets, palms and ferns
	Propagation	Plugs and tubes
	Bedding/ potted colour	Flower seedlings, perennials and cottage plants, and potted colour
	Herbs and vegetables	Vegetable seedlings, and herbs
	Fruit, nuts, vines	Fruit trees, vines
	Other	Other products

Note: Excludes bulbs and seeds, and turf as listed by Newman and Associates (2004).

Source: ACIL Allen; DTER, Nursery Industry Statistics 2023-24 Data Collection Report; adapted from Newman and Associates (2004), A New Model for the Nursery & Garden Industry's 'Nursery Product Levy' to support Industry R&D and Marketing Initiatives into the Future

Figure B.2 presents the diversity of product types sold in the production nursery industry, by value of sales.

Figure B.2 Production nursery sales by product type, 2023-24



Source: Hort Innovation. Production Nursery Data Capture Report/ Survey 2023-24 data

Finding 12 Nursery Products vary by category vary and do not have consistent units

There is considerable variation in units (weight, size etc.) across different Nursery Product categories. A key reason for establishing the pot levy was to overcome the challenge of variable Nursery Products units.

B.3 Value chain and 'points of sale'

*In ACIL Allen's The Australian nursery industry: An environmental scan (ACIL Allen, 2024) a representation of the industry value chain was developed to better understand product pathways within the industry, including points of sale. Two high-level segments were identified including i) Greenlife production and ii) Re-sale (***Figure B.3***) with each having different market channels and end markets.*

Newman & Associates (2004) define an industry 'product' as having **a measurable value at different points in the marketing chain as value is transferred from the producer to the next person in the chain**. *This can be observed in* **Figure B.4** *between production nurseries (value add) who sell to food production, revegetation, and government market segments; and production nurseries (no value add) who sell to landscape, retail and other direct to consumer markets.*

Greenlife production (Value-add pathway)

This pathway involves nurseries growing and developing plant products with a purpose, often for further production, ecological restoration, or public benefit. From here, nursery products are channelled into:

- *a) Food Production: Plants (e.g. fruit trees, vegetable seedlings) are cultivated for food. Leads to:*
  - *i) Food Processing (e.g. packaged food, commercial processing)*
  - *ii) Consumers (fresh produce sold directly)*
- *b) Revegetation: Plants are used for environmental restoration, such as mine site rehabilitation or biodiversity corridors.*
  - *i) End users: Public/private organisations (e.g. conservation groups, miners)*
- *c) Government: Includes procurement for public parks, infrastructure plantings, urban forestry, etc.*
  - *i) End user: Public*

Re-sale (No value-add pathway)

This is a more commercial/retail-focused route where nursery products are sold without further modification or cultivation by the intermediary. These products go to:

- *a) Landscape: Professional landscapers use these products in private gardens, commercial properties, or public spaces.*
  - *i) End users: Public/private*
- *b) Retail: Sold through garden centres, Bunnings, etc., to:*
  - *i) Households (for personal use in home gardens)*
- *c) Other & Direct to Consumer*
  - *i) May include online sales, farmers markets, direct nursery sales, etc.*
  - *ii) End user varies, but is generally individuals or small enterprises.*

Up-chain industries

It's important to note that some up chain industries such as forestry, agriculture and horticulture also pay levies. This includes the forest and wood product sector levies which are collected on logs received for processing. A grower levy of $0.05 per cubic metre is collected from all logs (both sawlog and pulplog).

There are also horticultural levies, such as the vegetable sector levy which is applied to production sold by the producer or used by the producer in the production of other goods. The levy rate on vegetables is 0.5% of the gross sale value of the vegetables at the first point of sale.

Value chain and market channels

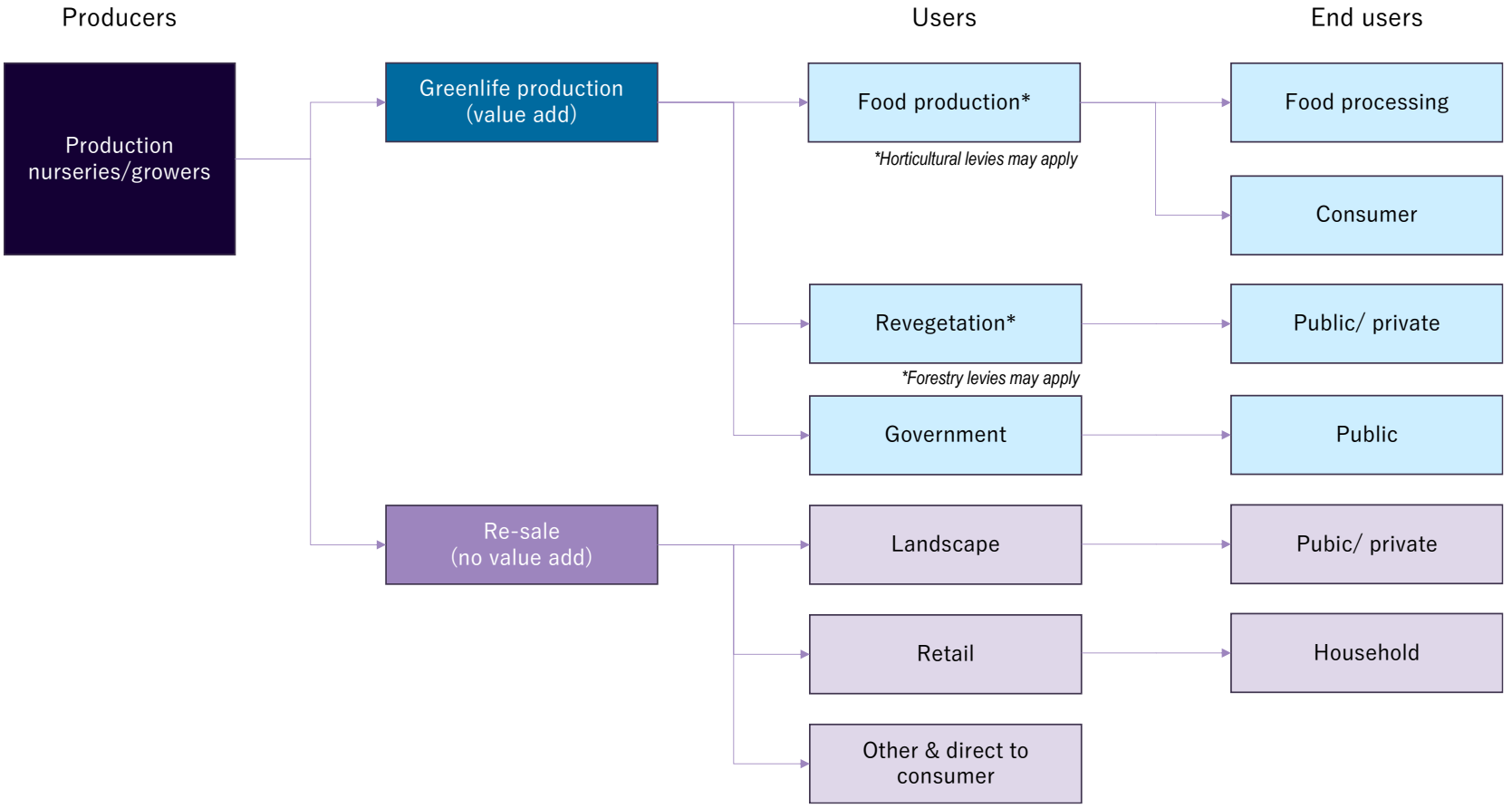
The production nursery industry has multiple market channels across the value chain. Retail typically represents the largest market channel, followed (in order of size) by wholesale nurseries, landscape, builders and developers, and primary industries. Less significant by market share and value include other and direct to consumer, revegetation and government channels. Over 99% of Australian nursery production is consumed domestically. Beyond Greenlife production value add, and re-sale (no value add), it is important to note that some user groups (e.g. food production and revegetation) are subject to additional levies like horticultural and forestry levies.

Finding 13 Nursery Products should be levied close to first point of sale and may be levied twice

Under the levy principles, produce should be levied as close as possible to the first point of sale. For nursery this is currently applied on the sale of pots where they are used to produce nursery products.

A plant will be levied twice if it was produced (using a levied pot) for value adding production of levied horticultural and forestry products. Under the levy principles, levying the same product twice is an equity consideration.

Figure B.3 Nursery industry value chain and market channels



Source: ACIL Allen. 2024. The Australian nursery industry: An environmental scan

B.4 Nursery Products

Nursery Products are sold in a variety of forms, depending on the plant type, stage of growth, customer needs, and intended use. Examples of products and the format of sales are presented in Table B.1.

Table B.1 Production nursery product sale forms (examples)

Product Type		Form	Common for	Advantages
Potted Plants		Plastic or biodegradable pots	Shrubs, ornamentals, indoor plants, vegetables	Ready for sale/planting, root protection, easy handling
Tubestock		Small tubes or narrow pots	Natives, revegetation, forestry, large-scale planting	Cost-effective, strong root systems, ideal for bulk orders
Bare Root		No soil, roots exposed	Fruit trees, roses, deciduous trees	Lightweight, lower cost, easy to ship
Plugs / Cells/ Liners		Multi-cell trays	Bedding plants, vegetables, flowers, herbs	Space-efficient, suitable for commercial growing
Seedlings / Trays		Germinated seeds in trays or cells	Vegetables, herbs, food production	Quick transplant, supports mass planting
Advanced Trees		Large pots or grow bags (20L–100L)	Urban landscaping, commercial developments	Instant landscape impact, mature plants
Hanging Baskets/ decorative plants		Decorative containers or hanging pots	Retail, gift market, indoor/outdoor décor	Ready for display or sale

Source: ACIL Allen analysis

Range of pots/ containers

In the production nursery industry, the range of pots sold is diverse, reflecting different plant types, growing durations, transportation requirements, and end-market uses. Pots can be re-used.

Production nursery pots vary by size, material, and purpose. Tube stock is low-cost and space-efficient, ideal for natives and revegetation. Small to medium pots suit retail plants, balancing growth and presentation. Large pots and grow bags support long-term growth for trees and landscaping plants. Trays and plug cells are used for mass propagation, especially of vegetables and herbs. Bare-rooted plants are sold seasonally without pots, saving on cost and plastic.

Each type serves different stages of plant growth and market needs.

Table B.1 Production nursery products: Sale formats

Pot Type	Common sizes	Typical cost per unit	Typical uses	Notes
Tube Stock / Tubes	40mm – 80mm	Up to $0.20	Seedlings, natives, revegetation, forestry	High volume, low cost, ideal for mass planting
Small Pots	100mm – 140mm	Up to $0.35	Herbs, small ornamentals, starter plants	Comon size for retail plants
Medium Pots	150mm – 200mm	Up to $0.70	Shrubs, perennials, larger retail plants	Used when more growing time is needed
Large Pots	250mm – 400mm+	$1.00 - $4.00	Advanced shrubs and trees, fruit trees	Lower unit sales, higher value per plant
Bags & Containers	25L – 100L+	$1.50 - $8.00	Specimen trees, palms, landscaping plants	Used by specialist and wholesale growers
Trays (cells/plugs)	Multi-cell trays	$0.80 - $2.50 per tray	Vegetable/herb seedlings, cuttings, propagation	Not always counted per pot (many cells per tray)
Bare-rooted	N/A	N/a	Deciduous trees, roses, vines (sold in winter)	No pots; sold dormant
Ellepots / Hiko Cells	30mm – 90mm inserts	$0.10 – $0.25 per unit	Forestry, natives, some perennials	Degradable wrappers or cells, no plastic

Source: ACIL Allen analysis

Finding 14 Nursery Products use a range of pots (containers) with varying costs

The range of pots reflects the diversity of Nursery Products produced. Pots can be reused and are not required for all products.

Current arrangements are pot wholesalers and importers are responsible for collecting levy on pots on behalf of businesses producing Nursery Products.

Under the levy principles imposition, cost and equity on the levy payer and collector need to be considered.

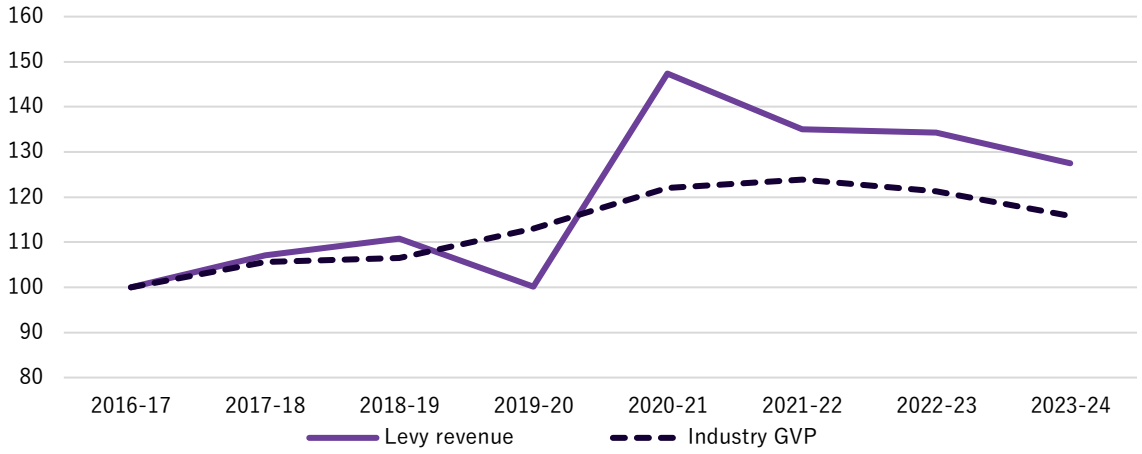
C Additional benchmarking data

This section presents additional benchmarking analysis that should be read in conjunction with Section 3 of this report.

C.1 Levy revenue and GVP

To observe this comparison more closely between levy revenue and industry GVP, indexed growth of nursery industry levy revenue and GVP has been analysed in Figure C.1. This comparison shows a strong relationship, noting some higher variability and growth in levy revenue compared to industry GVP since 2016-17. Indexed against 2016-17, levy revenue currently records an index of 127.4 compared to industry GVP of 115.8.

Figure C.1 Indexed growth of levy revenue and industry GVP (excl. sales to wholesalers) (2016-17 = 100)



Source: ACIL Allen analysis; Hort Innovation; Nursery industry statistics 2020-21 to 2024-25 (NY21000)

Finding 15 Nursery Products levy revenue trends in line with GVP

Since 2016-17 indexed Nursery Products levy revenue growth was 127.4 compared to industry GVP growth of 115.5. Levy revenue did not match the GVP spike in 2020-21 which coincided with COVID-19 induced sales increase and the introduction of the nursery agent rebates.

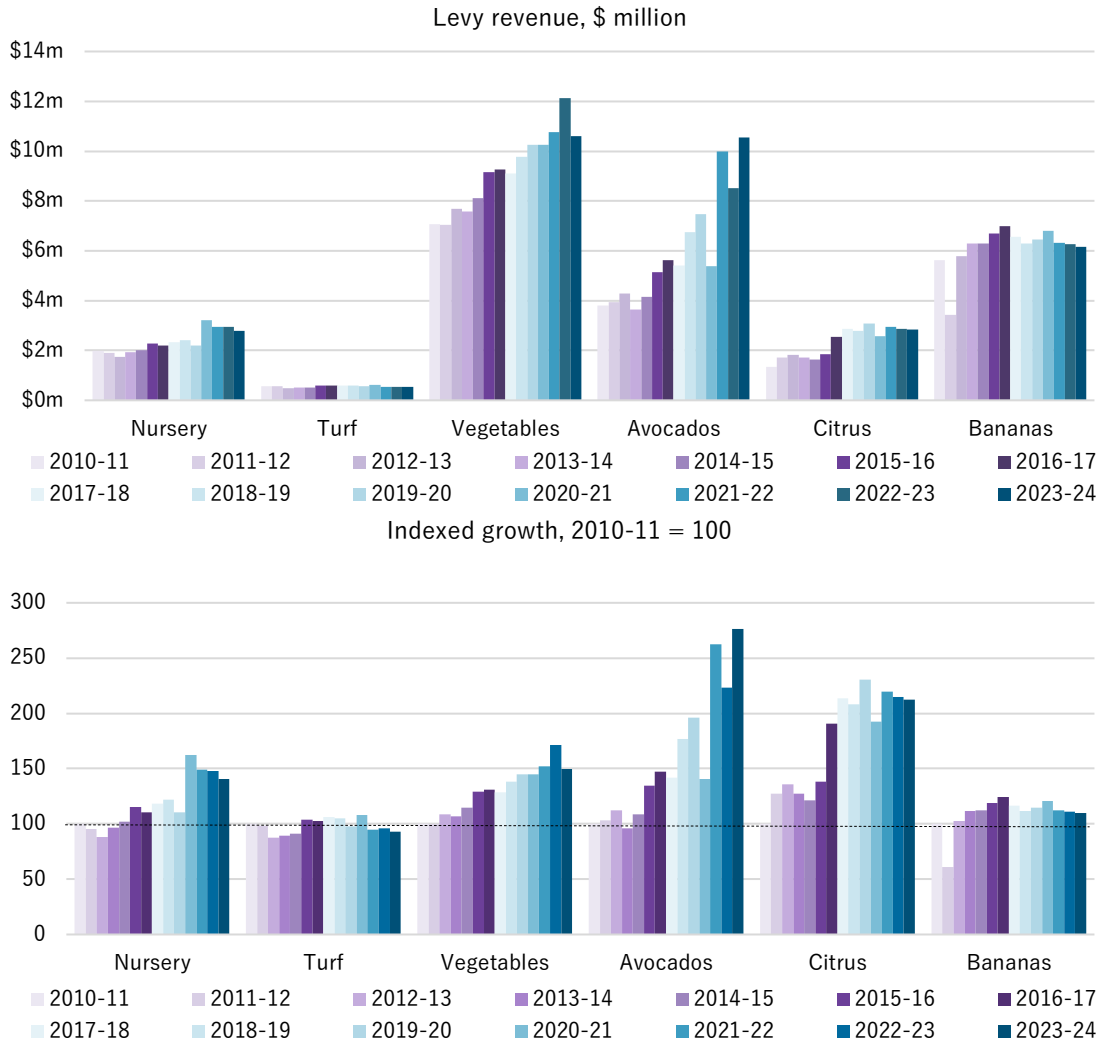
C.2 Benchmarking

Benchmarking nursery levy revenue against comparable products such as turf (production volume-based levy), vegetables (ad valorem levy), and avocados, citrus and bananas (all weight-based levies) – provides useful context for assessing the levy's performance.

In terms of annual revenue size, the nursery products levy generates less revenue than avocados, bananas, and vegetables, but performs comparably to citrus and exceeds revenue raised from turf ().

Looking at growth over time, nursery levy revenue has increased by approximately 41% since 2010–11, reaching an index of 140.5 in 2023–24. This growth is lower than that of avocados (index of 276.3), citrus (212.2), and vegetables (149.6), but stronger than bananas (109.7) and turf (93.1).).

Figure C.2 Trends in levy revenue by product type, 2010-11 to 2023-24



Source: ACIL Allen analysis; Hort Innovation

Finding 16 Levy revenue benchmarks

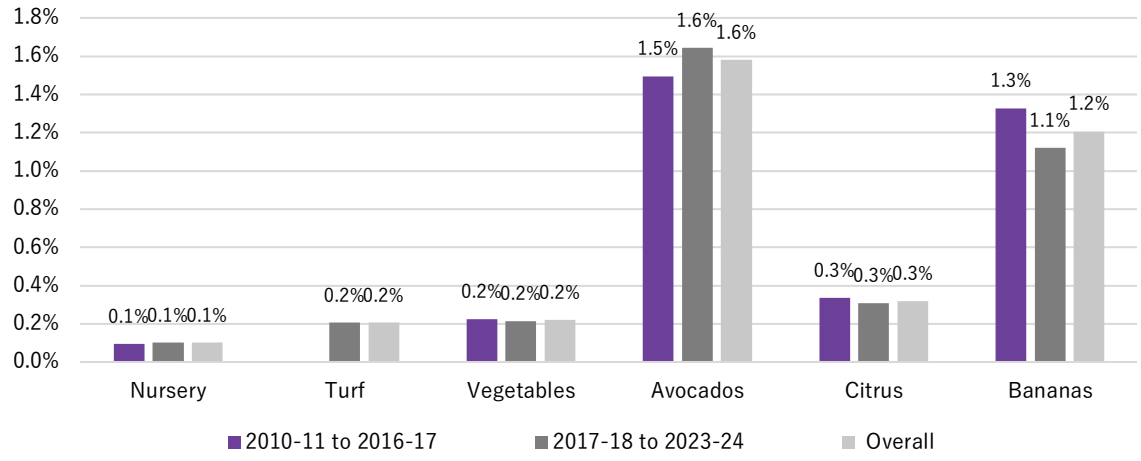
Since 2010-11, growth in nursery levy revenue (+41%) has trailed that of avocados (+176%), citrus (+112%), and vegetables (+50%), but has outpaced growth in revenue from turf (-7%) and bananas (+10%).

Since 2010-11, levy revenue from nursery products has represented approximately 0.1% of industry GVP, excluding sales to wholesalers to avoid double counting. When benchmarked against other products, the average levy revenue-to-GVP ratio is as follows (in order):

- *0.2% for turf, and vegetables*
- *0.3% for citrus*
- *1.2% for bananas*
- *1.6% for avocados*

As it stands, the existing nursery pot-based levy results in the lowest ratio of levy revenue to industry GVP, and is half the ratio of turf and vegetables, and one third of citrus. The ratio for bananas (1.2%) and avocados (1.6%) was found to be the highest across these six product groups.

Figure C.3 Levy revenue as a share of industry GVP by product type, 2010-11 to 2023-24



Note: GVP data was not available for all years across all products. No data points were available for turf between 2010-11 and 2016-17. Nursery GVP excludes sales to wholesalers to avoid double counting.

Source: ACIL Allen analysis; Hort Innovation; Hort Innovation Statistics Handbook

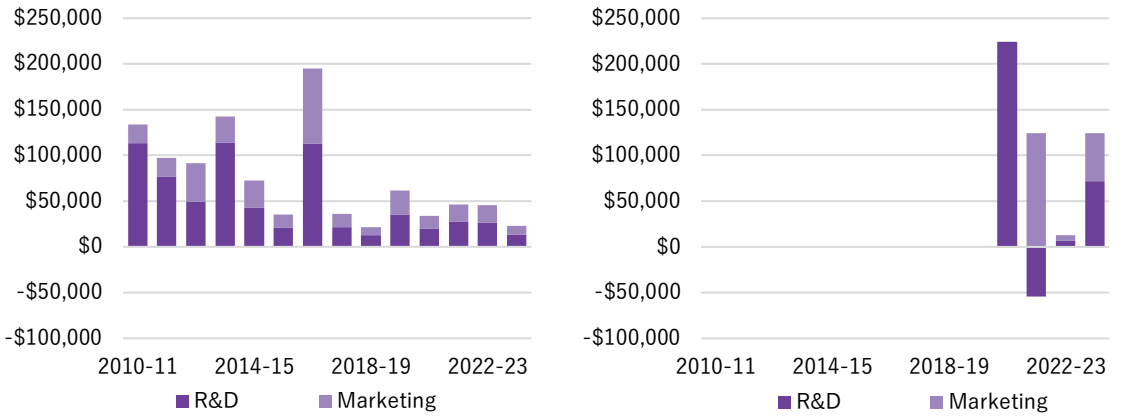
Finding 17 Levy revenue as a share of GVP

Since 2010-11, levy revenue from nursery products has represented 0.1% of industry GVP, or approximately $1 for every $1,000 of GVP. This is significantly lower than for other products such as turf, vegetables, citrus, bananas, and avocados, which generate between $2 and $16 in levy revenue per $1,000 of GVP.

C.3 Levy collection costs

In the process of collecting levy revenue from collection agents (i.e. pot manufacturers/ distributors in nursery), the DAFF incur levy revenue collection costs across R&D and marketing components.

Figure C.4 Nursery Products Levy collection costs (LHS) and collection agent rebates (RHS)



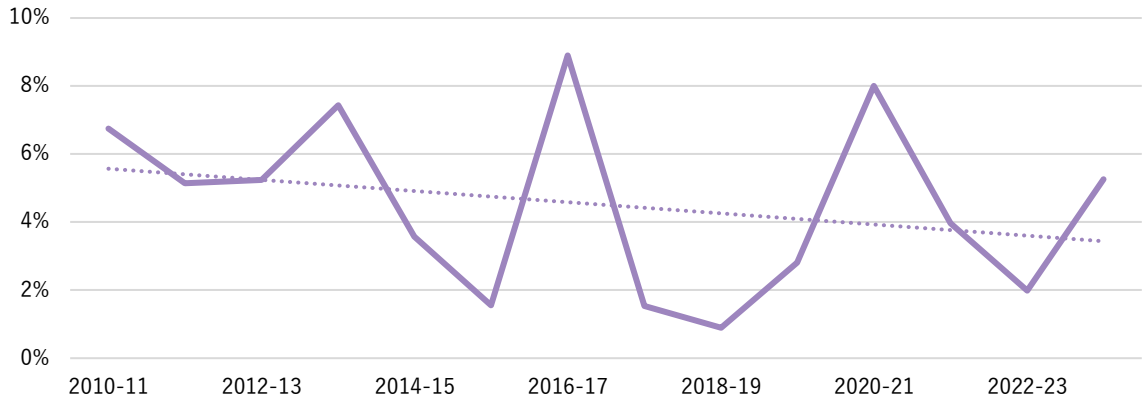
Source: Hort Innovation

In the process of collecting nursery levy revenue from collection agents (i.e. pot manufacturers/ distributors in nursery), DAFF incur levy revenue collection costs. Over time, the collection costs associated with administering the nursery levy has trended downwards, averaging $38,000 between 2017-18 and 2023-24 compared to $110,000 per annum between 2010-11 and 2016-17.

In 2021-21, the rebate to assist agents with collection costs was renewed. Since 2020-21, nursery agent rebates have been reported separately and averaged $107,885 annually across R&D and marketing components of the levy.

*Figure C.**5** presents the trend total costs to administer the nursery products levy (agent rebate costs plus DAFF collection costs) as a share of total levy revenue over time – highlighting a declining trend in this ratio. In 2023-24, the ratio of total collection costs ($0.15 million) to total levy revenue ($2.8 million) was 5.3%, continuing a cyclical trend in these costs since 2010-11.*

Figure C.5 Total collection costs as a share of Nursery Products Levy revenue, 2010-11 to 2023-24

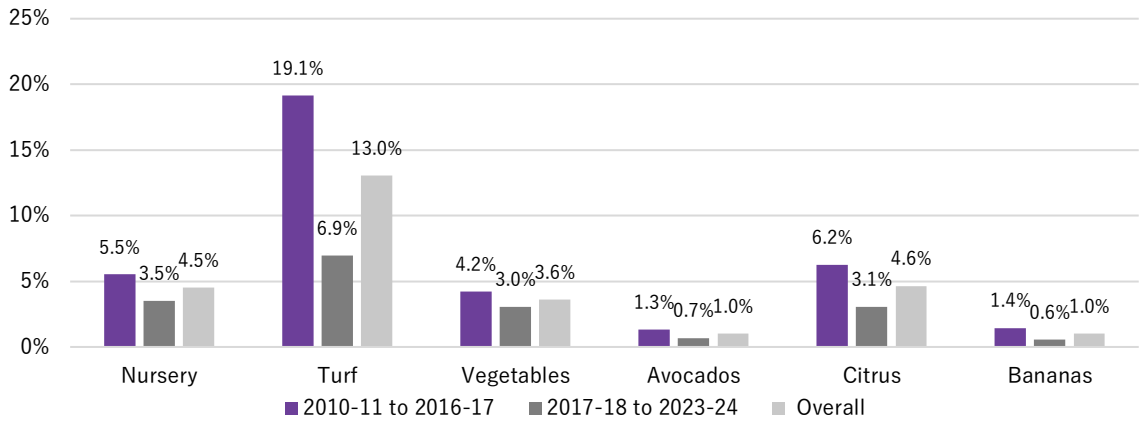


Note: Includes levy collection costs and collection agent rebates.

Source: ACIL Allen analysis; Hort Innovation

Figure C.6 *shows that, when comparing the ratio of R&D and marketing levy collection costs to levy revenue generated, the nursery levy is competitive and has improved over time in terms of the collection efficiency. Between 2010-11 and 2016-17, the average ratio of collection costs to levy revenue raised from nursery products was 5.5% compared to 1.5% between 2017-18 and 2023-24.*

Figure C.6 Average collection costs as a share of levy revenue by product type, 2010-11 to 2023-24



Source: Hort Innovation

In comparison to other products, the collection efficiency of the nursery products levy is similar to vegetables at approximately 3.5%, however, it is less efficient in comparison to avocados (1.0%) and bananas (1.0%). Turf (13.0%) and citrus (4.6%) are less efficient in terms of collection efficiency.

While the collection efficiency of nursery levies has improved in the 2017-18 to 2023-24 period (averaging 1.5%), similar improvements in levy collection efficiency can be observed across all other products.

Finding 18 Collection efficiency

In comparison to other products, the collection efficiency of the nursery products levy is relatively high and comparable to vegetables at approximately 3.5%, however, it is less efficient in comparison to avocados (1.0%) and bananas (1.0%) which have highly efficient levy collection mechanisms in place. Turf (13.0%) and citrus (4.6%) have lower levels of collection efficiency.

D Alternative levy arrangements

Levies on horticultural and nursery producers are an established mechanism in several countries for funding industry-wide research and development (R&D), marketing, and biosecurity activities. These levies serve as vital instruments for enhancing innovation, sustainability, and competitiveness within the sector. The following review explores levy systems in Australia and overseas, along with insights into alternative collection mechanisms, tax incentives, and public-private partnerships supporting R&D in the horticulture and nursery industries.

D.1 Australia

Australia's approach to funding R&D in horticulture and nurseries is grounded in statutory levies managed through Hort Innovation. The nursery products levy is applied at 5% of the sale price or landed cost of containers used for growing plants. These funds are allocated as follows: 2.75% to R&D, 2% to marketing, and 0.25% to biosecurity via Plant Health Australia (Greenlife Industry Australia; DAFF).

The levy is typically collected at the point of purchase of containers, with manufacturers and importers acting as collection agents. This model is considered effective due to the use of "narrow points" in the supply chain, reducing administrative complexity (DAFF). However, collection costs remain higher than general tax collection systems—about $0.92 per $100 collected compared to $0.57 by the Australian Tax Office (Productivity Commission).

There is growing interest in integrating levy collection into broader taxation frameworks or consolidating levies across sub-sectors to improve administrative efficiency (DAFF). Voluntary levies have also been proposed, although they carry risks of lower uptake.

D.2 International systems

Producer levies remain central to R&D funding in horticulture and nursery sectors, particularly in Australia and New Zealand. However, the effectiveness of these systems is shaped by governance, collection mechanisms, and the presence of complementary funding such as tax incentives or public-private partnerships. The international experience suggests a trend towards more diversified and collaborative funding models that combine industry leadership with public research capacity.

New Zealand

New Zealand employs commodity levies governed by the Commodity Levies Act 1990. Horticulture New Zealand (HortNZ) represents over 4,200 commercial growers and uses a levy of 15 cents per $100 of sales to fund R&D, marketing, biosecurity, and education initiatives (Horticulture NZ). Subsector-specific levies are also in place; for instance, Tomatoes New Zealand applies a levy of 0.35% of sales (Tomatoes NZ).

Projects such as the Sustainable Vegetable Systems (SVS) project exemplify how levy funds are used to support innovation in nutrient management (Vegetables NZ Inc).

United States

The U.S. uses a "checkoff" system whereby national and state-level producer levies raised approximately $1 billion as of 2014, with 18% (around $180 million) directed to agricultural research (Economic Research Service, 2014). These funds are often administered by associations in collaboration with state universities.

United Kingdom

The UK implemented mandatory producer levies in the 1980s and 1990s, but public agricultural research funded by commodity boards has since declined, with most levies now supporting extension rather than research (Economic Research Service, 2014).

Netherlands

The Netherlands discontinued its system of commodity boards (Productschappen) in 2014 due to criticisms over inefficiency. R&D is now funded through public-private partnerships, with significant contributions from institutions like Wageningen University & Research (OECD, 2015).

These funding structures reflects the Dutch "golden triangle" approach, promoting collaboration between government, industry, and academia to foster innovation in sectors where the Netherlands holds a competitive advantage, such as horticulture.

Box D.1 The Dutch approach

The Dutch "golden triangle" approach—also known as the triple helix model—is a strategic framework for innovation that brings together three core sectors:

- Government (policy and funding),
- Industry (practical application and investment), and
- Knowledge institutions (R&D, including universities and applied research bodies).

This collaborative model is widely credited with underpinning the Netherlands' global leadership in sectors such as agriculture and horticulture, water management, and high-tech systems.

Key Features of the Golden Triangle

- Co-Creation and Joint Agenda Setting: All three actors work together from the earliest stages of project development to define research priorities, allocate resources, and ensure relevance to real-world needs.
- Shared Investment: Public and private stakeholders jointly fund research programs and innovation infrastructure (e.g. research labs, demonstration sites).
- Practice-Oriented Innovation: Projects focus on solving industry challenges through applied research and scalable technologies.
- Regional Clusters: The model often plays out through innovation hubs or clusters—like the Greenport regions for horticulture, Food Valley for agrifood, and Brainport Eindhoven for tech—where triple helix actors are co-located and connected.

Outcomes and Impacts

- The Netherlands has become one of the world's top exporters of horticultural products, despite its small land area.
- Dutch agriculture is known for its efficiency, sustainability, and productivity, partly due to this coordinated innovation system.
- It enables rapid deployment of research findings into commercial practice, closing the loop between knowledge and application.

Source: ACIL Allen

Finding 19 International trends is towards diversified and collaborative models.

The international experience suggests a trend towards more diversified and collaborative funding models that combine industry leadership with public research capacity rather than maintaining arrangements for a specific commodity.

D.3 Alternative and complementary systems

In addition to levy systems, countries like Australia, the U.S., and Canada offer tax incentives to encourage R&D investment in agriculture. Australia's R&D Tax Incentive offers tax offsets for eligible activities (KPT Tax), while the U.S. and Canada provide similar credits through the R&E Tax Credit and SR&ED program respectively (McGuire Sponsel; Wikipedia).

Public-private partnerships (PPPs) are increasingly important in horticulture and nursery R&D. Hort Innovation's "Hort Frontiers" initiative in Australia fosters collaborative R&D investment in biosecurity, environmental sustainability, and advanced production systems (Hort Innovation).

Internationally, notable PPPs include:

- *Floriculture and Nursery Research Initiative (FNRI) – U.S. partnership between USDA and industry bodies like American Floral Endowment.*
- *Floriculture Research Alliance – Supported by companies like Syngenta and PanAmerican Seed*
- *Embrapa's breeding programs in Brazil – Attracted over $6 million in private investment in 2009*
- *Digital Greenport Holland – 'A Smarter Greenport' - focuses on digital information management within the horticultural sector. (Refer Box 5.2).*

Finding 20 Levies can be combined with other incentives and initiatives to increase impact

The tax system works alongside levies to provide incentives to invest in R&D. Public private partnerships are becoming increasingly important in horticulture and nursery R&D.

E Financial analysis of options

This section presents the results of financial analysis of the options discussed in Section 5.

E.1 Introduction

This section compares the current Nursery Products Levy with two options, as shown in Table E.1.

Table E.1 Options subject to assessment

Option	Description
Option 1: Status Quo ('Business as usual')	The 'Status Quo' reflects the existing Nursery Products Levy, which is set at 5% of the amount paid for nursery pots. The levy is collected by the seller of the containers operating in Australia (the collection agent).
Option 2: Improved levy collection	Under this option, levy collection processes are strengthened to reduce revenue leakage. The uplift in levy revenue (10%) reflects a realistic improvement in levy revenue generation, however, collection costs are expected to rise as a result of the increased effort to reduce leakage.
Option 3: Ad-valorem	Under this option, the levy is converted to an ad-valorem structure, linking levy revenue to the industry's value of production (rather than the value of nursery pot purchases – an industry input). This approach equalises the levy burden across production nurseries, who become the new collection agents, applying a percentage-based levy on all industry sales including those to wholesalers. To support smaller operators, businesses with an annual turnover of less than $500,000 are exempt from paying the levy under this option, and there an allowance is made for levy leakage. DAFF collection costs are expected to rise as a result of the increase in the number of collection agents to administer. No collection agent rebate is assumed under this option.

Source: ACIL Allen

To evaluate the options, two scenarios have been devised:

3. **Scenario 1***: A 'business as usual' scenario, where the levy rate (measured by the ratio of levy revenue to GVP) is held constant across each option, and*
4. **Scenario 2***: A 'levy increase' scenario, where the levy rate increases resulting in the ratio of levy revenue to GVP to increase, making the Nursery Products Levy comparable to industries such as vegetables and citrus.*

In evaluating the Status Quo and Option 2, a 'pot decline factor' for future estimates considers the risk of fewer pots being bought for industry use. Under the ad-valorem structure, the risk of pot decline is negated.

E.2 Modelling inputs and assumptions

Inputs and assumptions in Table E.2 were used in the financial analysis for Scenario 1.

Table E.2 Modelling inputs and assumptions: Scenario 1 ('business as usual' scenario)

Input/ assumption	Status Quo	Option 1: Improved levy collection	Option 2: Ad-valorem
Levy basis	5% of pot value purchases		% of GVP[11]
Forecast growth in GVP	1.6%	1.6%	1.6%
Uplift in levy revenue collection		10.0%	
Levy revenue to GVP ratio	0.101%	0.111%	0.101%
Escalation of collection costs to DAFF		100.0%	600.0%[1]
Escalation in collection agent rebates		0.0%	-100.0%
Ongoing DAFF collection costs (share of levy revenue)	1.5%	3.0%	9.0%
Collection agent rebates (share of levy revenue)	2.5%	2.5%	0.0%
Total collection costs (share of levy revenue)	4.0%	5.5%	9.0%
Exemptions			30%[2]
Pot use decline	1.0% p.a.	1.0% p.a.	

Note: Critical assumption; [1] DAFF collection costs have been increased six-fold from 1.5% under the Status Quo to 9.0% of levy revenue to reflect the increase in number of collection agents to administer. [2] Exemption applied to account for small businesses exclusions and levy leakage.

Source: ACIL Allen; CIE; HIA; Historic levy collection costs and collection agent rebates; Stakeholder consultation.

Inputs and assumptions in Table E.3 were used in the financial analysis for Scenario 2.

Table E.3 Modelling inputs and assumptions: Scenario 2 ('levy increase' scenario)

Input/ assumption	Status Quo	Option 1: Improved levy collection	Option 2: Ad-valorem
Levy basis	10% of pot value purchases		% of GVP[12]
Forecast growth in GVP	1.6%	1.6%	1.6%
Uplift in levy revenue collection	100.0%	110.0%	200.0%
Levy revenue to GVP ratio	0.202%	0.222%	0.303%[1]
Escalation of collection costs to DAFF		100.0%	600.0%[2]
Escalation in collection agent rebates		+0.0%	-100.0%
Ongoing DAFF collection costs (share of levy revenue)	Costs (in dollar terms) are held constant with Scenario 1.		
Collection agent rebates (share of levy revenue)			
Total collection costs (share of levy revenue)			
Exemptions			30.0%[2]
Pot use decline	1.0% p.a.	1.0% p.a.	

Note: Critical assumption; [1] This rate reflects the ratio of gross levy revenue-to-GVP ratio achieved in citrus, representing a median figure across several comparable products. [2] DAFF collection costs been held constant in value terms as Scenario 1, reflecting a change in levy settings rather than administrative requirements. [2] Exemption applied to account for small businesses exclusions and levy leakage.

Source: ACIL Allen; CIE; HIA; Historic levy collection costs and collection agent rebates; Stakeholder consultation.

[11] *Includes industry sales to wholesalers.*
[12] *Includes industry sales to wholesalers.*

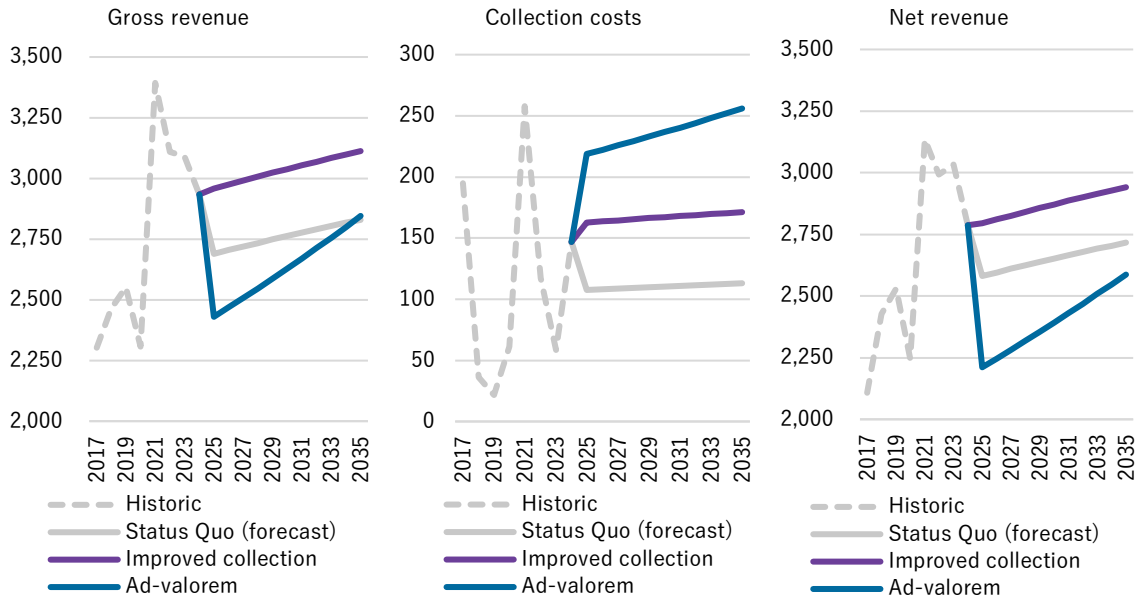
E.3 Modelling results

Modelling results for each option are presented in this section for gross revenue, collection costs (DAFF costs plus collection agent rebates) and net revenue. Results are reflective of the modelling inputs and assumptions presented in Table E.2.

Scenario 1

Figure E. and **Table E.4** *presents the results for gross levy revenue, collection costs, and net revenue.*

Figure E.1 Modelling results: Scenario 1, $ thousands



Source: ACIL Allen

Table E.4 Summary of results: Scenario 1, $ thousand

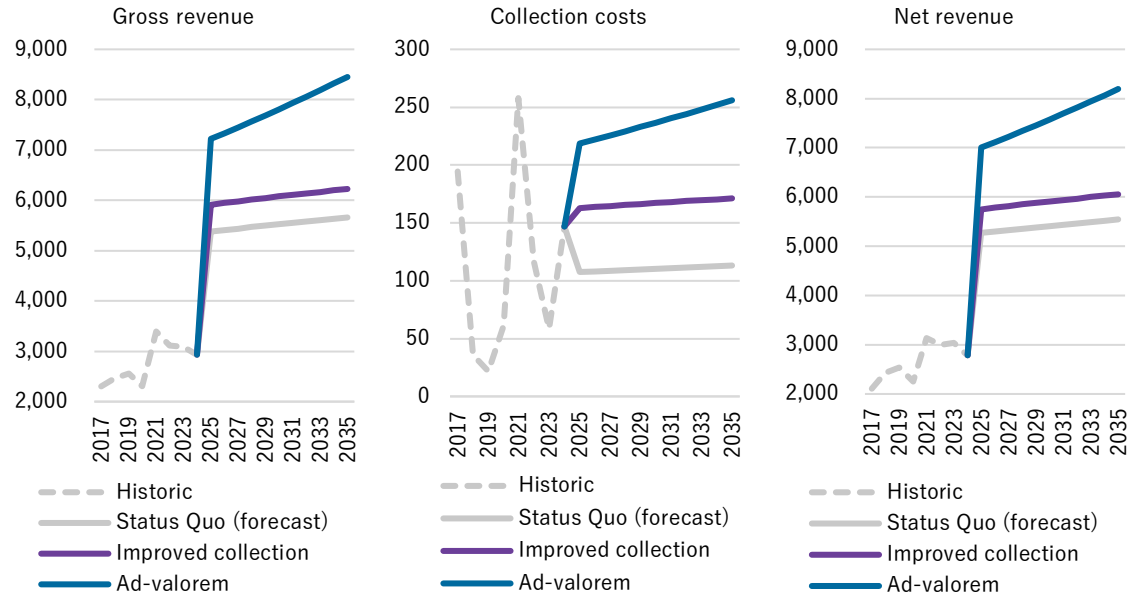
	Option 1: Status Quo	Option 2: Improved collection	Option 3: Ad-valorem
Gross revenue, year 1	2,689.0	2,957.9	2,429.8
Cost, year 1	107.6	162.7	218.7
Gross revenue : cost	25.0	18.2	11.1
		NPV 2025 to 2035, discounted at 4.0%	
Gross revenue	25,105.6	27,616.2	23,833.1
Collection costs	1,004.2	1,518.9	2,145.0
Net revenue	26,109.8	29,135.1	25,978.1
Gross revenue : cost	25.0	18.2	11.1
Gross revenue : GVP	0.149%	0.164%	0.210%

Source: ACIL Allen

Scenario 2

Figure E.2 *and* **Table E.5** *presents the results for gross levy revenue, collection costs, and net revenue.*

Figure E.2 Modelling results: Scenario 2, $ thousands



Source: ACIL Allen

Table E.5 Summary of results: Scenario 2, $ thousand

	Option 1: Status Quo	Option 2: Improved collection	Option 3: Ad-valorem
Gross revenue, year 1	5,377.9	5,915.7	7,219.3
Cost, year 1	107.6	162.7	218.7
Gross revenue : cost	50.0	36.4	33.0
		NPV 2025 to 2035, discounted at 4.0%	
Gross revenue	50,211.2	55,232.3	70,812.2
Collection costs	1,004.2	1,518.9	2,145.0
Net revenue	51,215.4	56,751.2	72,957.2
Gross revenue : cost	50.0	36.4	33.0
Gross revenue : GVP	0.074%	0.082%	0.071%

Source: ACIL Allen

Finding 21 Scenario 1 results

Under Scenario 1, improvements to levy collection effectiveness under Option 2 generate higher gross and net revenue compared to the Status Quo. In year one, gross revenue increases from $2.7 million to $3.0 million. Over the period 2025 to 2035 (discounted at 4.0%), net revenue under Option 2 rises to $29.1 million – approximately $3 million more than under the Status Quo ($26.1 million). However, this improvement comes at a cost with collection costs increasing significantly (from $1.0 million to $1.5 million), leading to a decline in levy collection efficiency, with the gross revenue-to-cost ratio falling from 25.0 to 18.2, however, the gross revenue-to-GVP increases to 0.08%.

In contrast, the ad-valorem structure results in the lowest gross and net revenue of the three options ($23.8 million and $26.0 million, respectively) and incurs the highest collection costs at $2.15 million. This reduces levy collection efficiency to just 11.1, while the gross revenue-to-GVP ratio sits at 0.07%. The modelled 1% annual decline in pot use does not result in net revenue for Status Quo or Option 2 to fall below ad-valorem. As a result, the ad-valorem structure does not outperform the existing system in terms of total or net revenue under modelled assumptions.

These findings suggest that while enhancing collection practices under the current system (Option 2) can result in stronger net revenue, doing so incurs a drop in efficiency, however, the ratio of gross levy revenue as a share of GVP improves slightly. Shifting to an ad-valorem model offers the lowest return for the highest cost under modelled assumptions, and the lowest ratio of gross revenue-to-GVP.

Finding 22 Scenario 2 results

Under Scenario 2, it is estimated that a higher levy on pot purchases – equivalent to 10% of pot value would generate between $5.4 million and $5.9 million in gross levy revenue in the first year, under the Status Quo (Option 1) and Improved Collection (Option 2), respectively. While Option 2 leads to a higher gross revenue outcome, it also incurs substantially higher collection costs in year one ($162.7k vs $107.6k), representing an increase of over 50%. As a result, levy collection efficiency, measured by the gross revenue-to-cost ratio, declines from 50.0 under the Status Quo to 36.4 under Improved Collection, however, the ratio of gross levy revenue-to-GVP ratio improves to 0.16%.

An ad-valorem levy structure (Option 3), based on 0.3% of all sales, is estimated to raise the highest gross revenue in year one ($7.2 million), but also the highest year one costs at $218.7k. Despite this, the higher revenue yield means Option 3 delivers the largest net revenue over the forecast period (2025-35), with a NPV of $73.0 million, compared to $56.8 million for Option 2 and $51.2 million for Option 1. While the ad-valorem structure results in the highest gross revenue-to-GVP ratio (0.21%), its gross revenue-to-cost ratio of 33.0 remains the lowest of the three options.

Overall, the results suggest that while a shift to an ad-valorem structure (Option 3) maximises long-term revenue and gross revenue as a share of GVP, it does so with a trade-off in collection efficiency. Improved collection processes under Option 2 can also generate higher returns than the Status Quo, though at a cost to efficiency. The strength of these options depends on whether revenue maximisation or administrative efficiency is prioritised.

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