1 November 2023

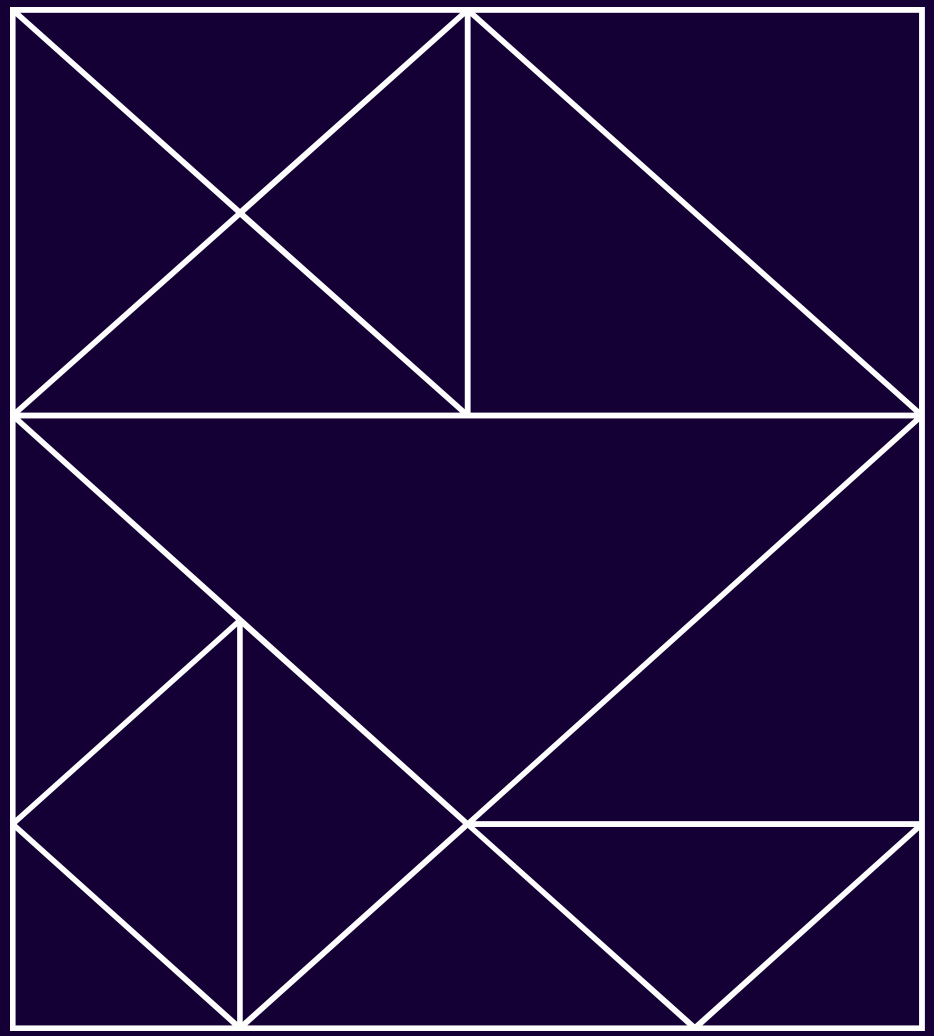
Economic contribution of Australia's nursery industry

FY2022 – FY2030

Hort Innovation NURSERY FUND

ACIL ALLEN

Contents



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Introduction

As part of Hort Innovation's NY21000 Nursery Industry Statistics Project, ACIL Allen were commissioned to deliver an economic contribution study of Australia's wholesale production nursery industry using results from the Centre for International Economics (CIE) *Contribution of Australian horticulture Industry, A General Equilibrium Analysis* (2023).

This report presents the economic contribution of the Australain nursery industry between FY2022 and FY2030. Analysis detailed in this report uses two primary data sources, including:

1. The Centre for International Economics (CIE) – *Contribution of Australian horticulture Industry, A General Equilibrium Analysis Full Report* (2023). CIE data was used to inform national and state/ territory level gross value of production, employment and value added for years FY2022 to FY2030.
2. Down to Earth Research (DTER) Nursery Industry Statistics (NY21000) 2017-18 to 2021-22 *Production Nursery Data Capture Report*. DTER data was used to inform national gross value of production for years FY2018 to FY2021.

CIE Contribution of Australian horticulture Industry, A General Equilibrium Analysis Full Report (2023)

In 2022, the CIE delivered its *Contribution of Australian horticulture Industry, A General Equilibrium Analysis* detailing the regional economic contribution of various commodities in terms of gross value of product (GVP), value added, and employment. Results were presented on a direct, indirect and total basis across 32 regions of Australia (including Australia, and state and territory totals).

CIE's methodology uses a well established modelling framework (a general equilibrium framework) combining three economic models, including:

1. CIE FP model, a computable general equilibrium model of Australian economies with detailed description of food value chains;
2. HI_LINK, a detailed horticulture value chain model identifies 48 horticulture farming and processing commodities; and
3. A Regional Module, to transform the state-level results into 25 regions.

Results from the CIE's study for the nursery industry (under the category of 'Other hort', 'Growing' as defined by CIE) have been included in this analysis at a national and state/ territory level. The CIE make projections for future values under three scenarios including Central, High and Low.

Years in CIE's report refers to financial year ending 30 June of the corresponding year, for example 2030 means financial year 2029-30.

CIE also consulted with stakeholders to seek feedback on the CIE's initial estimates and gain more insights on the horticulture industry and regional specifics.

The CIE developed three scenarios (High, Central and Low) to acknowledge the uncertainties associated with macroeconomic as well as industrial conditions

DTER's Production Nursery Data Capture Report

DTER's *Production Nursery Data Capture Report* contains data based on a statistics survey under the NY21000 Project umbrella funded by Hort Innovation. The 2021-22 Report is the second under the NY21000 Project umbrella and sixth annual nursery statistics survey funded by Hort Innovation.

In the 2021-22 iteration of DTER's study, 266 interviews were conducted resulting in a margin for error of ±5.5% nationally. Using extrapolated survey data, DTER determine a national level of value of production from nursery sales and results are presented at a national level in this analysis as the margin for error at a state/ territory level is too large.

It's important to note, DTER excludes sales to wholesalers to ensure no double counting of plant sales occurs in relation to the value of wholesale production of nursery businesses.

Key terms and acronyms

The following terms have been used throughout this report:

- Direct contribution refers to the activities within the nursery industry itself, while the indirect contribution refers to additional economic activity induced elsewhere in the economy by the nursery industry itself;
- Gross value of production (GVP) is a measure of the output generated by an economy over a period of time (typically a year). It represents the total dollar value of all finalised goods and services produced over a specific time period and is considered as a measure of the size of the economy;
- Employment measures the number of full time equivalent (FTEs) job years supported as a result of the industry, which includes direct and indirect employment;
- Gross value added (GVA) is measure of the value of goods and services produced in an industry or sector of an economy. GVA is the output of an industry or sector minus intermediate consumption. GVA therefore represents the value of all goods and services produced, minus the cost of all inputs and raw materials used to produce that good or service.

The following acronyms have been used in this report.

Acronym	Meaning
$M / $bn	Million Australian Dollars / Billion Australian Dollars
CIE	The Centre for International Economics
DTER	Down to Earth Research
FTE	Full Time Equivalent
FY	Financial year (i.e. FY2022 = 2021-22)
GVA	Gross value added
GVP	Gross value of production

Summary results

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Economic contribution of the nursery industry

The nursery industry in Australia makes a significant contribution to Australia's economy. In FY2022, the CIE estimated that the industry had a farm gate gross value of production (GVP) of $2.78 billion, directly and indirectly supported 12,506FTEs, and directly and indirectly value added $2.49 billion to Australia's economy.

Economic contribution of the nursery industry to the Australian economy - FY2022

			New South Wales/ ACT	Queensland	Victoria	Western Australia	South Australia	Northern Territory	Tasmania
									
$2.78bn	The Australian nursery industry had an estimated farm gate value of production of $2.78 billion in FY2022. GVP is forecast to grow by 14.1% between FY2022 and FY2030 under CIE's Central Scenario.	GVP	$832.6m	$832.6m	$777.1m	$221.1m	$55.5m	$36.1m	$19.4m
12,506 FTE	The Australian nursery industry was estimated to have directly and indirectly supported 12,506FTEs in FY2022.	Employment	3,610 FTE	3,738 FTE	3,758 FTE	829 FTE	323 FTE	140 FTE	108 FTE
$2.49bn	The Australian nursery industry was estimated to have directly and indirectly value added $2.49 billion in FY2022.	GVA	$753.6m	$705.4m	$758.6m	$154.1m	$66.0m	$29.5m	$19.8m

Source: CIE. 2023. Contribution of Australian horticulture Industry, A General Equilibrium Analysis. Figures included in this summary reflect CIE's Central Scenario.

Economic contribution results

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Horticultural industry comparisons

The gross value of production (GVP) or farm gate value of Australia's horticulture industry was estimated to be $17.2 billion in FY2022, while directly and indirectly supporting 80,744FTEs, and value adding $12.6 billion to the Australian economy. The nursery industry is a significant commodity group within Australia's horticultural industry, contributing around 15% of its total economic contribution in FY2022.

Figure 1: GVP by horticultural commodity, Australia, $M

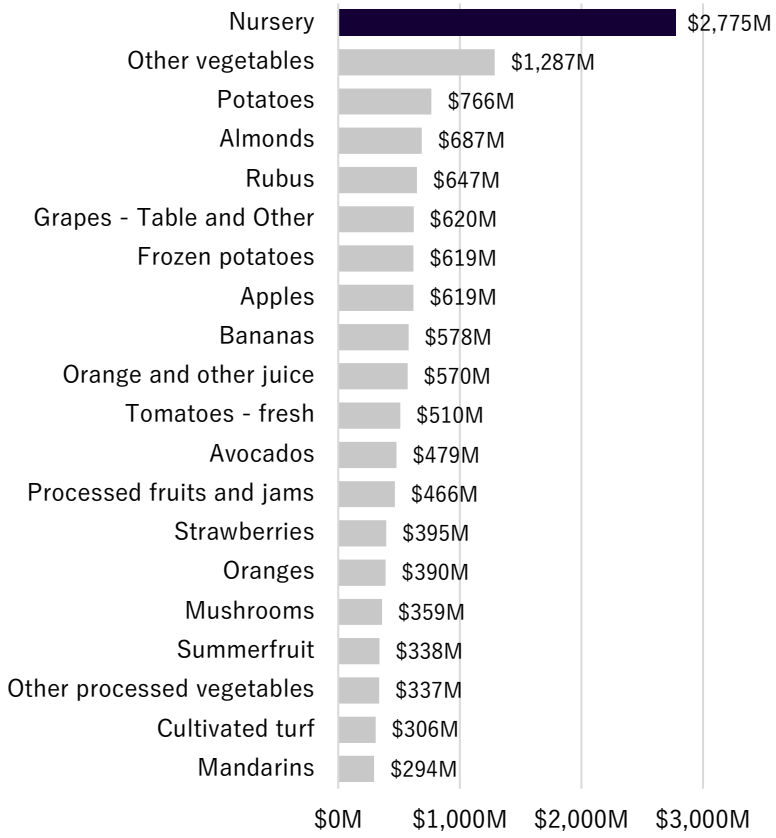


Figure 2: Employment by horticultural commodity, Australia, FTEs

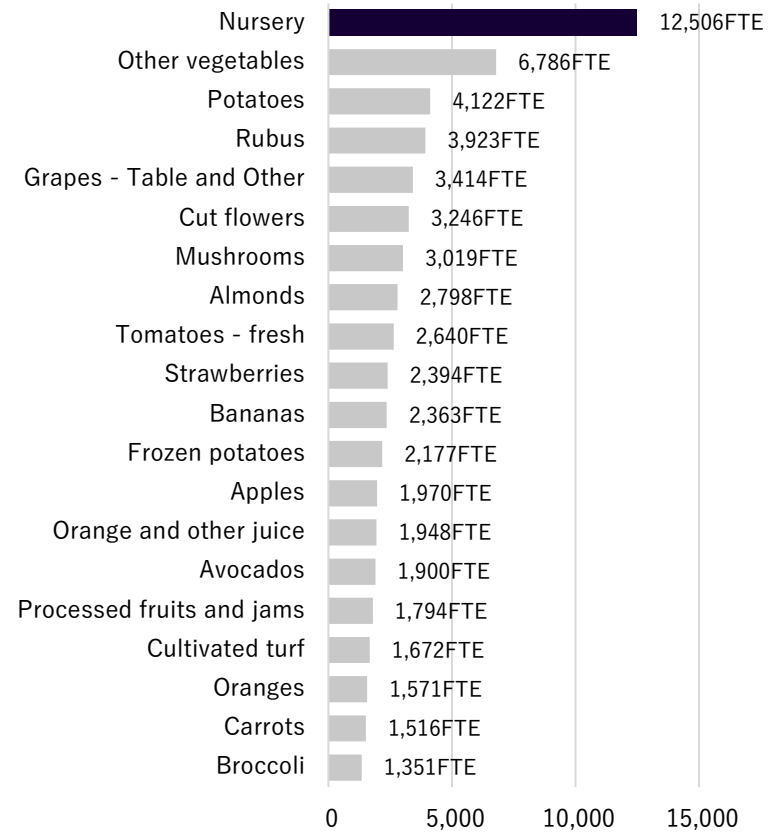
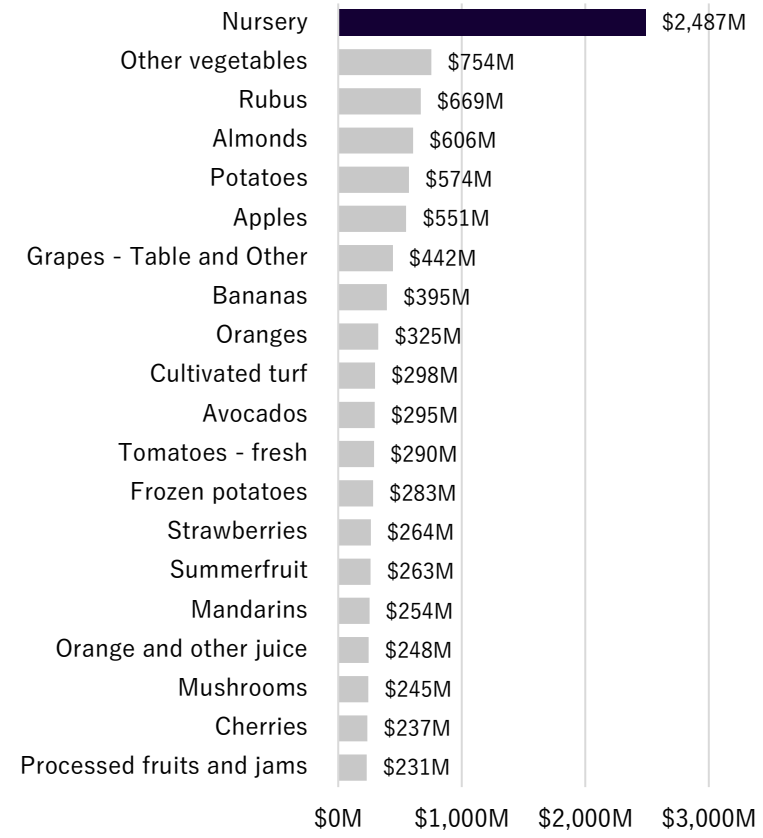


Figure 3: Value added by horticultural commodity, Australia, $M

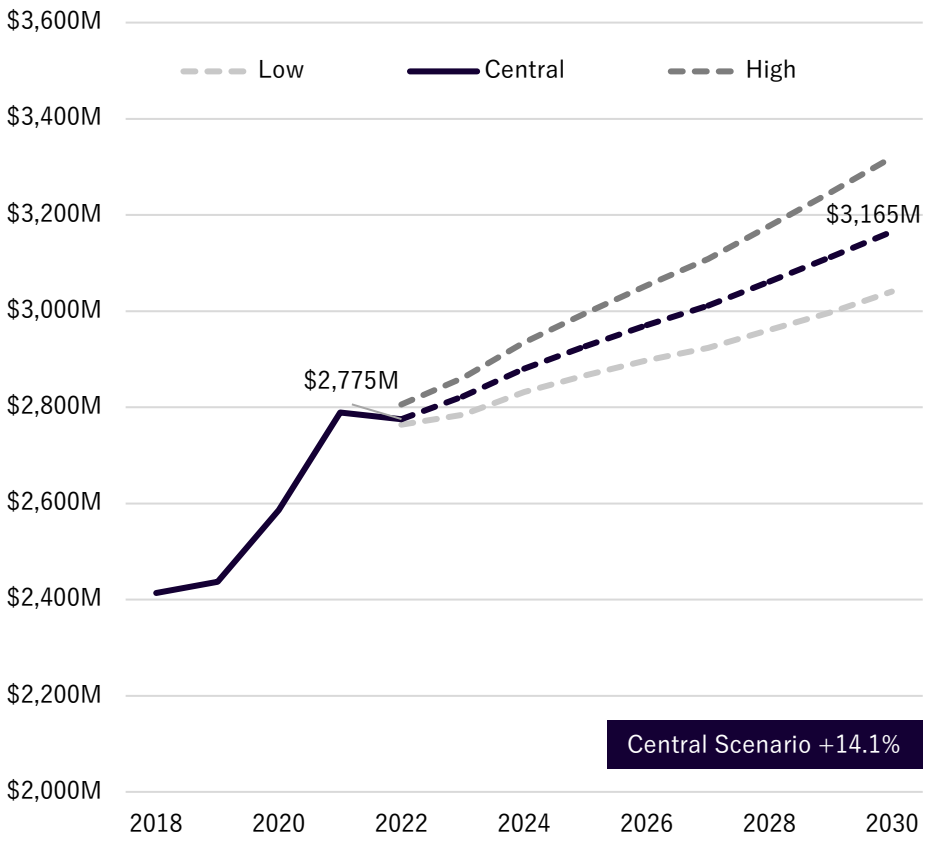


Source: CIE. 2023. Contribution of Australian horticulture Industry, A General Equilibrium Analysis. Figures included in this summary reflect CIE's Central Scenario.

Gross Value of Production (GVP)

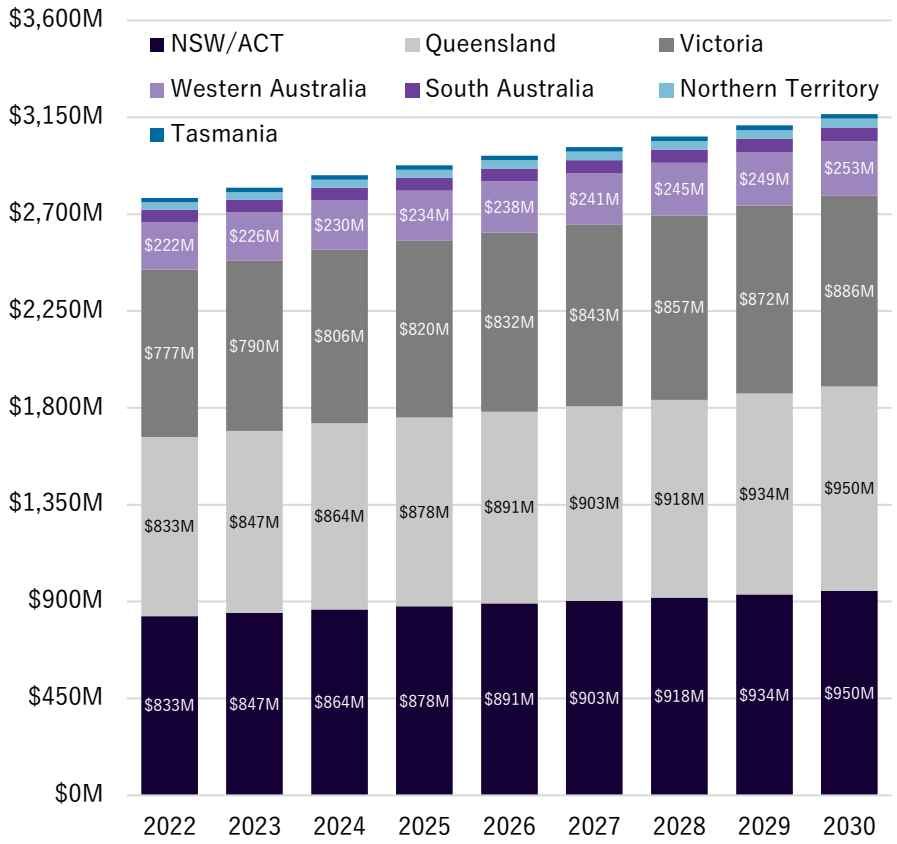
In FY2022, the CIE estimate that the nursery industry had a farm gate GVP of $2.8 billion, accounting for around 16.1% of total GVP across Australia's horticultural industry under the Central Case.

Figure 4: Nursery industry GVP, $ million



Source: CIE; DTER FY2018 – FY2021

Figure 5: GVP by state and territory, $ million



Source: CIE, Central Scenario

Gross value of production (GVP) refers to the total value of products produced by the nursery industry or the farm gate value of production.

In FY2022, the CIE estimate that the nursery industry had a GVP of $2.8 billion under the Central Case.

The total GVP of the nursery industry in FY2022 accounted for around 16.1% of total GVP of the horticultural industry in Australia.

By FY2030, the CIE estimate that the nursery industry will have a GVP of $3.2 billion under the Central Case.

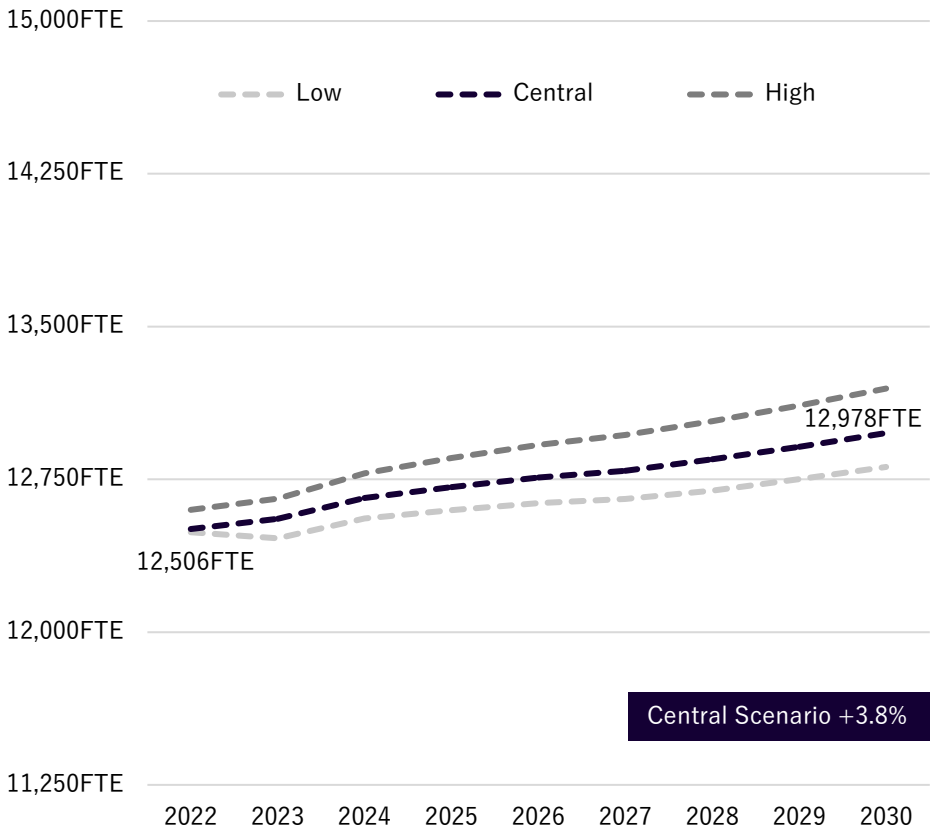
Total GVP in FY2030 from the nursery industry is estimated to account for around 14.5% of total GVP from the horticultural industry in Australia.

Between FY2022 and FY2030, nursery industry GVP is forecast to increase by 14.1% under the Central Case.

Employment

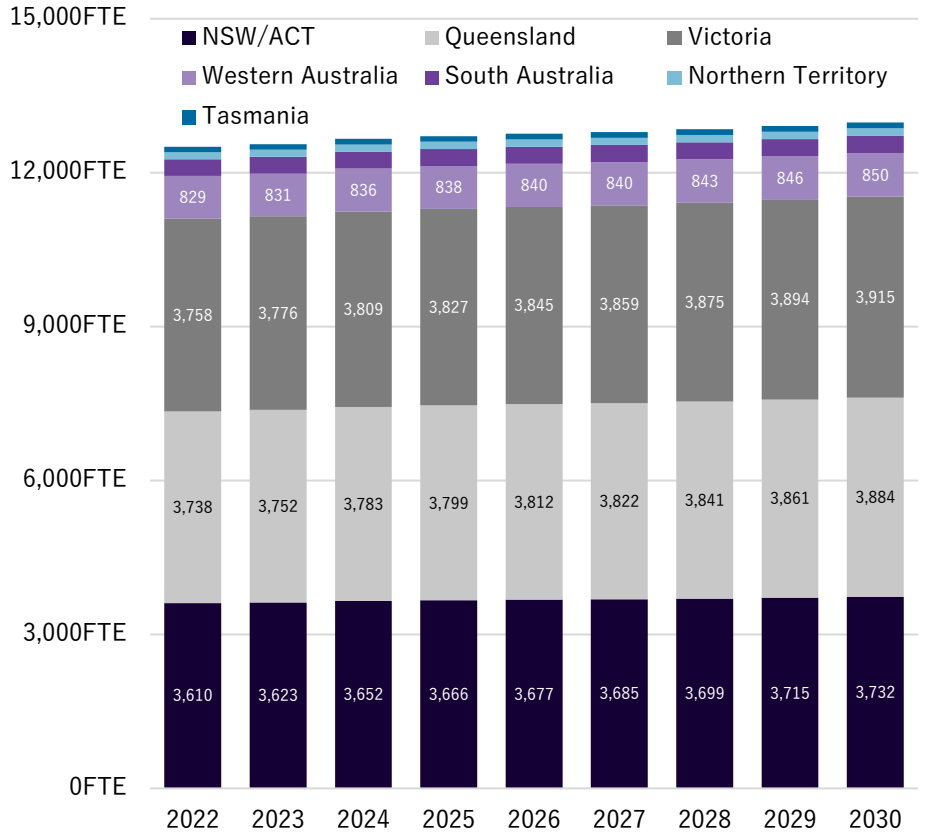
In FY2022, the CIE estimate that the nursery industry directly and indirectly supported 12,506FTEs, accounting for 15.5% of total employment supported by the horticultural industry in Australia under the Central Case.

Figure 6: Nursery industry employment, Australia, FTEs



Source: CIE, Central Scenario labelled

Figure 7: Employment by state and territory, FTEs



Source: CIE, Central Scenario

Employment is a measure of the number of full-time equivalent (FTE) number of employees supported by the nursery industry.

In FY2022, the CIE estimate that the nursery industry directly and indirectly supported 12,506FTEs under the Central Case, including:

- Direct employment of 9,769FTEs
- Indirect employment of 2,737FTEs.

Total employment in FY2022 accounted for 15.5% of total employment supported across the horticultural industry in Australia.

By FY2030, the CIE estimate that the nursery industry will directly and indirectly support 12,987FTEs under the Central Case, including:

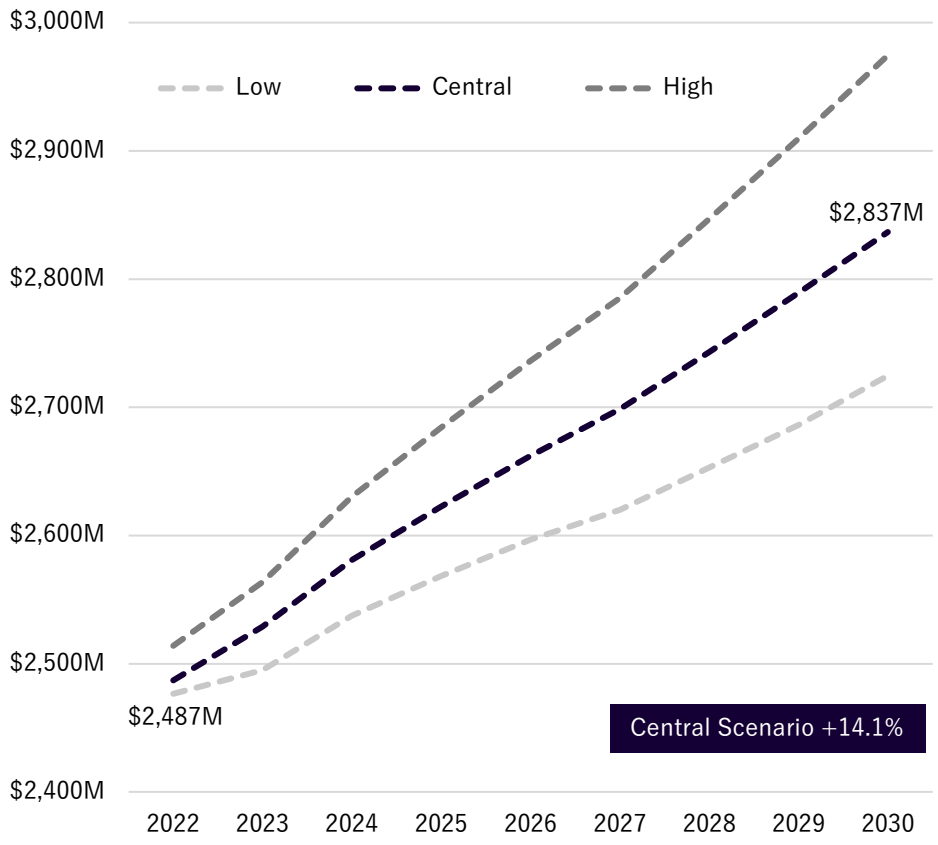
- Direct employment of 9,981FTEs
- Indirect employment of 2,997FTEs.

Total employment supported by the nursery industry in FY2030 is estimated to account for 13.8% of total employment supported across the horticultural industry in Australia under the Central Case.

Gross value added

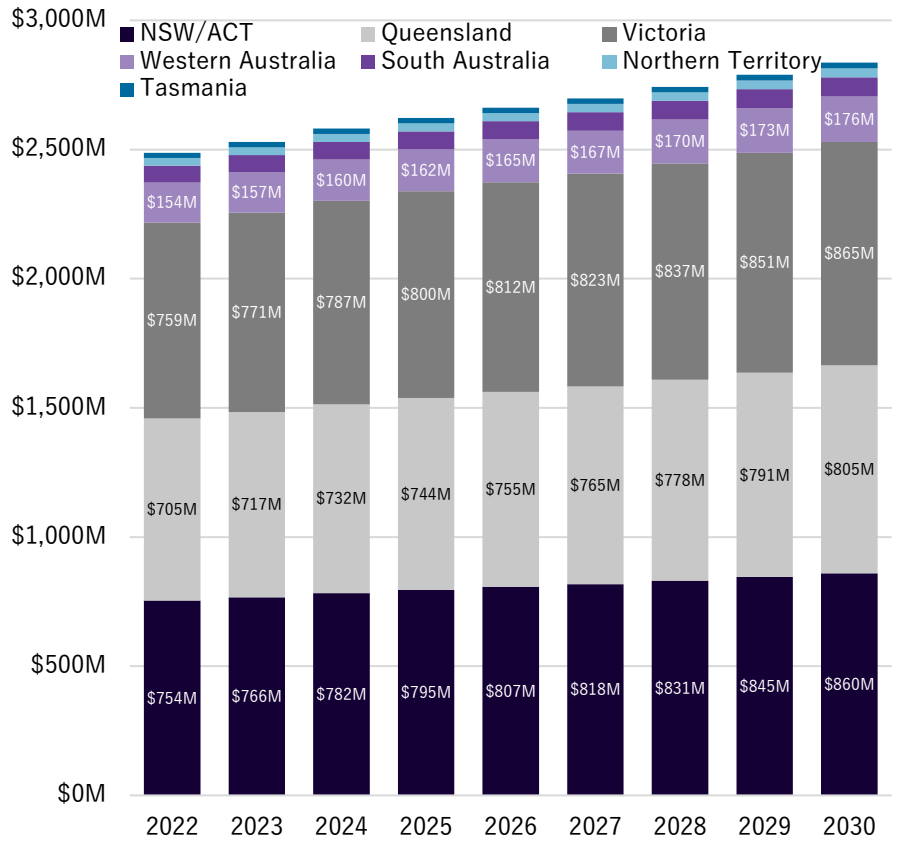
In FY2022, the CIE estimate that the nursery industry directly and indirectly value added $2.49 billion to the Australian economy, accounting for 19.8% of the horticultural industry total value added under the Central Case.

Figure 8: Nursery industry value added, Australia, $ million



Source: CIE, Central Scenario labelled

Figure 9: Value added by state and territory, $ million



Source: CIE, Central Scenario

Value added refers to payments to labour, capital and land used to produce products in the nursery industry.

In FY2022, the CIE estimate that the nursery industry directly and indirectly value added $2.49 billion under the Central Case, including:

- Direct value add of $1.80 billion
- Indirect value add of $0.69 billion.

Value added by the nursery industry in FY2022 accounted for 19.8% of total value added from the horticultural industry in Australia.

By FY2030, the CIE estimate that the nursery industry will directly and indirectly value add $2.84 billion under the Central Case, including:

- Direct value added of $2.05 billion
- Indirect value added of $0.79 billion.

Total value added from the nursery industry in FY2030 is estimated to account for 17.9% of total value added from the horticultural industry in Australia.

Other industry contributions

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Other industry contributions

In addition to making a strong economic contribution to Australia's economy, the nursery industry makes a contribution to Australian communities across a number of other areas. These contributions have not been quantified in this study, however, may include the enhancement of community wellbeing, sustainable development and environmental stewardship, mental and physical well-being, urban regeneration, and biodiversity conservation.

Figure 10: Other industry contributions

Environmental benefits

Plant production in nurseries promotes green spaces and contributes to urban and suburban beautification. Trees and plants help improve air quality, reduce urban heat island effects, and mitigate soil erosion.

Urban regeneration

Nurseries contribute to urban regeneration efforts by providing plants and greenery for public spaces, parks, and urban renewal projects.

Food production support

Some nurseries also produce edible plants such as fruits, vegetables, and herbs. This contributes to food security, especially in regions where local produce is encouraged and promoted.

Biodiversity conservation

Nurseries play a role in conserving and propagating rare, endangered, and native plant species, contributing to biodiversity preservation and ecological balance.

Research & Development (R&D)

Nurseries can serve as hubs for plant research and development, leading to innovations in agricultural and horticultural practices, disease resistance, and improved plant varieties.

Carbon sequestration

Nurseries can play a significant role in carbon sequestration including its support of tree production, urban greening and reforestation. Trees and other greenlife capture and store carbon throughout their lifespan.

Mental and physical health

Nurseries can significantly contribute to the well-being of people in various ways, fostering physical, mental, and emotional health.

Source: ACIL Allen

Appendix - Data tables

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Data table – Gross value of production (GVP)

Table 1: Nursery industry GVP, Australia, FY2022 - FY2030, $ million

	Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030
NSW/ACT	Low	829.1	835.3	849.4	859.8	869.3	877.1	888.1	899.2	912.1
Queensland		829.1	835.3	849.4	859.8	869.3	877.1	888.1	899.2	912.1
Victoria		773.9	779.7	792.9	802.6	811.5	818.7	829.0	839.4	851.4
Western Australia		221.1	222.8	226.6	229.3	231.9	233.9	236.9	239.9	243.3
South Australia		55.3	55.7	56.6	57.3	58.0	58.5	59.2	60.0	60.8
Northern Territory		36.0	36.2	36.8	37.3	37.7	38.0	38.5	39.0	39.6
Tasmania		19.3	19.5	19.8	20.0	20.3	20.4	20.7	21.0	21.3
Australia		**2,763.8**	**2,784.4**	**2,831.6**	**2,866.2**	**2,897.9**	**2,923.8**	**2,960.6**	**2,997.6**	**3,040.4**
NSW/ACT	Central	832.6	846.6	864.0	878.0	891.2	903.4	918.3	933.7	949.6
Queensland		832.6	846.6	864.0	878.0	891.2	903.4	918.3	933.7	949.6
Victoria		777.1	790.3	806.5	819.5	831.9	843.2	857.2	871.6	886.4
Western Australia		222.1	225.8	230.5	234.2	237.7	241.0	244.9	249.1	253.3
South Australia		55.5	56.5	57.6	58.5	59.4	60.2	61.2	62.3	63.3
Northern Territory		36.1	36.7	37.5	38.1	38.7	39.2	39.8	40.5	41.2
Tasmania		19.4	19.7	20.1	20.5	20.8	21.1	21.4	21.8	22.1
Australia		**2,775.3**	**2,822.3**	**2,880.1**	**2,926.7**	**2,970.9**	**3,011.4**	**3,061.2**	**3,112.6**	**3,165.5**
NSW/ACT	High	841.6	858.2	880.5	898.6	916.0	932.4	953.0	974.0	995.8
Queensland		841.6	858.2	880.5	898.6	916.0	932.4	953.0	974.0	995.8
Victoria		785.6	801.1	821.9	838.7	855.0	870.4	889.6	909.2	929.5
Western Australia		224.5	228.9	234.9	239.7	244.3	248.7	254.2	259.8	265.6
South Australia		56.1	57.2	58.7	59.9	61.1	62.2	63.6	64.9	66.4
Northern Territory		36.5	37.2	38.2	39.0	39.7	40.4	41.3	42.3	43.2
Tasmania		19.6	20.0	20.5	20.9	21.3	21.7	22.2	22.7	23.2
Australia		**2,805.5**	**2,860.9**	**2,935.1**	**2,995.4**	**3,053.5**	**3,108.3**	**3,176.9**	**3,246.9**	**3,319.4**

Source: CIE. 2023. Contribution of Australian horticulture Industry, A General Equilibrium Analysis.

Data table – Employment

Table 2: Nursery industry direct and industry employment, Australia, FY2022 - FY2030, FTEs

	Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030
NSW/ACT	Low	3,606.1	3,595.6	3,623.3	3,633.8	3,643.0	3,646.6	3,659.0	3,675.5	3,692.5
Queensland		3,733.2	3,723.2	3,752.5	3,764.3	3,774.6	3,779.5	3,794.3	3,813.5	3,833.4
Victoria		3,753.0	3,747.7	3,778.2	3,792.6	3,805.4	3,815.0	3,824.2	3,839.3	3,855.9
Western Australia		828.7	825.2	830.5	831.8	833.1	832.9	835.2	838.5	841.9
South Australia		322.8	322.2	325.0	326.4	327.6	328.7	329.8	331.6	333.4
Northern Territory		140.2	139.6	140.7	140.9	141.2	141.1	141.6	142.2	142.8
Tasmania		107.4	107.2	108.3	109.0	109.2	109.9	110.0	110.4	110.9
Australia		**12,491.4**	**12,460.7**	**12,558.4**	**12,598.9**	**12,634.1**	**12,653.7**	**12,694.1**	**12,751.1**	**12,810.8**
NSW/ACT	Central	3,610.0	3,623.1	3,651.6	3,665.6	3,677.3	3,685.0	3,699.4	3,715.2	3,732.1
Queensland		3,737.6	3,752.3	3,782.9	3,798.7	3,812.3	3,821.6	3,840.6	3,861.4	3,883.9
Victoria		3,757.8	3,776.3	3,808.7	3,826.9	3,844.6	3,858.6	3,875.0	3,893.8	3,914.8
Western Australia		829.3	830.9	836.3	838.2	839.7	840.3	843.0	846.3	850.1
South Australia		323.4	325.2	328.2	330.2	332.0	333.6	335.6	337.8	340.1
Northern Territory		140.3	140.6	141.6	142.0	142.3	142.3	142.8	143.4	144.1
Tasmania		107.6	108.2	109.2	109.8	110.5	111.0	111.6	112.2	112.9
Australia		**12,505.9**	**12,556.7**	**12,658.5**	**12,711.4**	**12,758.6**	**12,792.5**	**12,848.0**	**12,910.2**	**12,978.0**
NSW/ACT	High	3,637.2	3,650.5	3,684.1	3,702.9	3,717.1	3,726.0	3,739.3	3,753.8	3,769.4
Queensland		3,766.5	3,782.2	3,819.6	3,842.4	3,861.3	3,875.9	3,898.9	3,924.4	3,952.0
Victoria		3,786.2	3,807.0	3,847.5	3,873.8	3,898.6	3,919.3	3,942.7	3,969.7	4,000.1
Western Australia		835.5	837.0	843.4	846.6	849.0	850.6	854.2	858.7	864.0
South Australia		326.1	328.2	332.2	335.0	337.6	339.9	342.6	345.5	348.7
Northern Territory		141.3	141.7	142.8	143.4	143.8	143.9	144.6	145.3	146.1
Tasmania		108.4	109.1	110.4	111.3	112.2	112.9	113.8	114.7	115.7
Australia		**12,601.1**	**12,655.8**	**12,780.0**	**12,855.3**	**12,919.6**	**12,968.6**	**13,036.0**	**13,112.0**	**13,195.9**

Source: CIE. 2023. Contribution of Australian horticulture Industry, A General Equilibrium Analysis.

Data table – Value added

Table 3: Nursery industry direct and indirect GVA, FY2022 - FY2030, $ million

	Scenario	2022	2023	2024	2025	2026	2027	2028	2029	2030
NSW/ACT	Low	750.5	756.1	768.9	778.3	786.9	793.9	803.9	814.0	825.6
Queensland		702.5	707.7	719.8	728.5	736.6	743.2	752.5	761.9	772.8
Victoria		755.4	761.0	773.9	783.4	792.0	799.1	809.2	819.3	831.0
Western Australia		153.4	154.6	157.2	159.1	160.9	162.3	164.4	166.4	168.8
South Australia		65.7	66.2	67.3	68.1	68.9	69.5	70.4	71.3	72.3
Northern Territory		29.4	29.6	30.1	30.5	30.8	31.1	31.5	31.9	32.3
Tasmania		19.8	19.9	20.2	20.5	20.7	20.9	21.2	21.4	21.7
Australia		**2,476.7**	**2,495.1**	**2,537.5**	**2,568.4**	**2,596.9**	**2,620.1**	**2,653.0**	**2,686.2**	**2,724.6**
NSW/ACT	Central	753.6	766.4	782.1	794.7	806.7	817.7	831.2	845.2	859.6
Queensland		705.4	717.4	732.1	743.9	755.2	765.5	778.1	791.2	804.6
Victoria		758.6	771.4	787.2	799.9	812.0	823.1	836.7	850.7	865.2
Western Australia		154.1	156.7	159.9	162.5	164.9	167.2	170.0	172.8	175.7
South Australia		66.0	67.1	68.5	69.6	70.6	71.6	72.8	74.0	75.3
Northern Territory		29.5	30.0	30.6	31.1	31.6	32.0	32.6	33.1	33.7
Tasmania		19.8	20.2	20.6	20.9	21.2	21.5	21.9	22.2	22.6
Australia		**2,487.0**	**2,529.1**	**2,580.9**	**2,622.7**	**2,662.3**	**2,698.6**	**2,743.2**	**2,789.3**	**2,836.6**
NSW/ACT	High	761.8	776.8	797.0	813.4	829.1	844.0	862.7	881.7	901.3
Queensland		713.1	727.2	746.0	761.4	776.1	790.1	807.5	825.3	843.7
Victoria		766.8	781.9	802.2	818.7	834.6	849.6	868.3	887.4	907.2
Western Australia		155.8	158.8	162.9	166.3	169.5	172.6	176.4	180.3	184.3
South Australia		66.7	68.0	69.8	71.2	72.6	73.9	75.5	77.2	78.9
Northern Territory		29.8	30.4	31.2	31.9	32.5	33.1	33.8	34.5	35.3
Tasmania		20.0	20.4	21.0	21.4	21.8	22.2	22.7	23.2	23.7
Australia		**2,514.1**	**2,563.7**	**2,630.2**	**2,684.2**	**2,736.3**	**2,785.4**	**2,846.9**	**2,909.6**	**2,974.6**

Source: CIE. 2023. Contribution of Australian horticulture Industry, A General Equilibrium Analysis.

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