Nursery Industry Statistics 2020-21 to 2024-25 (NY21000)

2022-23 Production Nursery Data Capture Report

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Acknowledgements

Executive Summary

Background

The 2022-23 Production Nursery Data Capture Report is the seventh annual statistics survey funded by Hort Innovation and third wave under the NY21000 Project umbrella.

The project provides timely and reliable data, insights and trends to inform decision making, resource prioritisation, advocacy, investment evaluation and strategic planning activities among greenlife businesses and wider industry.

The results also inform the development of a business benchmarking tool produced by ACIL Allen and distributed to all survey participants and on request, other levy payers.

Methodology

The 2022-23 methodology largely follows prior survey waves, with minor alterations implemented to maximise survey participation and minimise potential biases.

This year, 303 completed surveys were received, slightly greater than the target of 300 and up from 266 in 2022. 180 interviews were completed via Computer Assisted Telephone Interviews (CATI), 60 via email and 63 via an online platform.

The margin for error nationally based on 303 interviews is of ±5.1% (where the total sample responds). Consistent with past surveys, assumptions detailed fully in section 1 of this report were made to enable extrapolation of the data to represent the entire production nursery industry.

Survey results

Number and value of plants sold

While production nursery sales remained strong in 2022-23, survey data suggests a slight 3% dip year on year, resulting in an estimated 2.26 billion plants sold at a value of $3.54 billion or between $3.36 billion and $3.72 billion when sampling error is accounted for.

When sales to other wholesale nurseries are excluded to ensure that plants sold are not double counted, it is estimated that $2.78 billion (between $2.6 and $2.9 billion when sampling error is accounted for) worth of plants was sold to retail nurseries, landscapers, builders and developers, primary industry, Government and direct to the public in 2022-23.

Sales by supply chain

Consistent with past years, the retail supply chain remained the largest sales channel in 2022-23 (42% of the total value of production nursery sales).

While sales to this channel dipped slightly in comparison to the prior financial year, survey results suggest that the total value of plants sold to 'big box' retailers continued to trend upwards, whereas the overall value sold to independent retailers dipped slightly.

Survey results suggest that sales to the landscape sector continued an upwards trend evident since 2018-19 and in 2023-23 were now estimated to represent 14% of total production nursery sales.

Other wholesale nurseries (22% of total sales value) and primary industry (11%) represent the 2 other largest sales channels.

Sales by plant category

Sales of perennials, trees and shrubs continue to represent nearly half (45%) of the total value of plants sold. This survey, sales to the category were split into trees and shrubs/groundcovers, with 17% and 19% the total value of plants sold to each respectively. An additional 9% of all sales were unable to be split from the general perennials, trees and shrubs category into the more granular segments.

Sales of indoor and propagation plants represented the next 2 largest categories sold by production nurseries, each representing 12% of the total value of sales in 2022-23.

Sales to 'big box' retailers

In total, 33% of all businesses sold plants to 'big box retailers, equivalent to 53% of those selling to the retail ('big box' and independent retailers) sector - the highest proportion since the survey began monitoring this data in 2017-18.

Similarly, over this period, the total value of plants sold to 'big box' retailers has trended upwards, and in 2022-23 were estimated be worth approximately $845 million (potentially as high as $930 million when margin for error is considered), up from $805 million in 2021-22.

These sales are estimated to represent 30% of the total value of plants sold to supply chains other than wholesale nurseries (so excluding the double counting of plants), equivalent to 24% (up from 22% in 2021-22) of all production nursery sales and 56% (potentially up to 62% when margin for error is considered) of the total value sold to the retail sector.

Current industry sentiment and future operating plans

While favourable demand for plants continues to result in most (80%) respondents positive towards the industry's future and that the proportion *very* positive remains relatively high in real terms, overall positivity has trended downwards since 2020 and the proportion *very positive has* almost halved over the past 2 years (25%, was 48% in 2021).

Over this period, positive sentiment appears to have been influenced by concerns demand will be impacted by a slowing economy and/or drying climate, growing unease with the impact of 'big box' retailers and rising input costs.

Consistent with 12 months ago, 3 in 10 businesses nationally are currently expanding and while this includes nearly 4 in 10 large (those with turnover exceeding $2 million) businesses, it is notable expansion among this segment has dropped significantly from 58% in 2021 to 38% in 2023.

On par with 2022, 4 in 10 respondents expect their business to grow over the next 5 years and while the proportion planning to wind down and exit (12%) has trended upwards since 2021, this intention remains significantly more common among small business than medium and large counterparts.

Business investment

While more than half (54%) of all production nurseries invested in either new infrastructure (45%) or technology (31%) in 2022-23, a downwards trend in this result is now evident over the past 3 years and compared to 12 months ago, significantly fewer respondents made these investments in 2022-23.

Approximately 3 in 10 (31%) businesses invested in education or training last financial year, only slightly lower than in 2021-22 (33%).

Consistent with past years, large businesses remain more likely than those with turnover less than $2 million to invest in each of new infrastructure, new technology and education and training.

Employment and wages

Extrapolated survey data suggests that the nursery production workforce (including owners, seasonal and other staff) between 22,000 and 25,000 people (including owners) at an estimated full time equivalent (FTE) of between 19,000 and 21,000 (both results only slightly lower than in 2022).

Turnover per FTE remains similar to 12 months ago (approximately $175,000 to $180,000), but continues to be significantly greater among large ($200,000) businesses than small ($90,000) operators.

Survey data suggests that in 2022-23 production nurseries paid approximately $1.24 billion (including owners) in wages and on average, these costs continue to represent slightly more than one third (35%) of turnover. However, this varies from 32% among large businesses to a much higher 45% among those with turnover less than $2 million.

Water usage and costs

On average, production nurseries access between 1 and 2 water sources and nationally, 64% of businesses have a water security or management plan.

In total, almost 8 in 10 businesses have access to either dams, bores or tanks (67%), reused water (28%) and/or permanent watercourses such as rivers (16%). While almost half (49%) of all businesses access mains water, less than 1 in 5 rely solely on this source.

On average, respondent businesses used 26 megalitres of water in 2022-23 and spent approximately $24,000 on water costs, including maintenance.

Adoption of automation technology

Currently, almost 9 in 10 nursery production businesses have adopted some form of automation technology, most commonly automated irrigation control (76%), potting machines (46%), climate control (20%) and barcode or QR code tracking systems (19%).

Business risk/impacts

In total, severe weather (68%), biosecurity challenges (66%) and labour shortages (58%) are each having a *minor to major* impact on between 6 and 7 in 10 businesses.

Notably however, compared to 12 months ago, significantly fewer respondents say that severe weather and labour shortages are having a *major* impact.

Conclusions and recommendations:

❖ Survey participation rates in 2023 exceeded the number of interviews originally targeted and emphasises the necessity of a strong communication campaign and importance of having the opportunity to highlight benefits of participation via telephone interviewing.

❖ Despite a slight dip year on year, demand for plants remained strong in 2022-23, resulting in an estimated 2.26 billion plants sold by production nurseries, valued at $3.54 billion or $2.78 billion when sales to other wholesale nurseries are excluded to ensure no double counting.

❖ While confidence in the industry's future, profitability and business expansion remain positive overall, concerns that demand will be impacted by climate and a slowing economy, combined with rising operating costs appear to be negatively impacting sentiment among some respondents and resulting in fewer businesses investing in new infrastructure and technology.

❖ The increased proportion of businesses expected to contract or exit the industry is of some concern, however, this is predominately small businesses and potentially any loss in production will be taken up by larger businesses. Additionally, there remains potential for industry growth due to a higher proportion of businesses, including large operators, planning expansion rather than contraction.

❖ Where survey data is extrapolated to represent the entire industry, this report focuses on providing robust national data, while state estimates (based on these national figures) are provided in the Hort Stats Handbook and Acil Allen Economic Contribution Analysis.

Background

The 2022-23 Production Nursery Data Capture Report is the third annual survey under the NY21000 Project umbrella and seventh nursery statistics survey funded by Hort Innovation.

The survey collects point in time and tracking metrics to provide timely and accurate information to inform industry and business decision making, advocacy, resource prioritisation, investment evaluation and strategic planning activities.

Survey results also inform an interactive benchmarking data tool that allows participants and Hort Innovation levy payers to measure their business performance against amalgamated survey data.

The 2023 survey captures outcomes from the 2022-23 financial year, including the following metrics:

- the value of production nursery sales by supply chain and plant category
- the value of sales to 'big box' retailers
- operational and input costs
- adoption of automation technology
- current and expected business challenges
- water sources, usage and costs
- water security and management Plans
- current and future impact of industry challenges
- current future industry sentiment and operational phase
- employment numbers and wage expenditures
- profitability and investment figures
- indoor and outdoor production area

Data collection methodology

To maximise participation rates and ensure data can be reliably compared to past years, the 2022-23 data collection methodology largely reflected prior Hort Innovation funded nursery statistics surveys:

Stage 1:

- A random sample of greenlife producers were contacted via phone by experienced members of the interview team.
- The appropriate respondent to complete the survey was located in each business, their contact details collected and an appointment made to call back and complete the survey.

Stage 2:

- Respondents expressing interest in participating received a confidentiality statement (Appendix 1), snapshot of the industry (2021-22 financial year) and full copy of the questionnaire (appendix 2). These documents ensure awareness of the data required to be extracted and DTER's management of data and confidentiality.

Stage 3:

- Interviews completed via Computer Assisted Telephone Interviews (CATI) or if preferred, completed surveys returned via email, post or completed online.

The contact database developed in NY16004 and updated by GIA and DTER throughout the NY21000 Project was fed into the CATI program set up by Market Metrics Data Collection (accredited market research call centre used for the project based in Victoria). All interviewers used for the project have considerable experience working on DTER's projects in the agriculture sector and almost all worked on the previous survey. Prior to commencement, interviewers were thoroughly briefed on all aspects of the project by Daniel Watson, a senior consultant at DTER.

Initial contact, appointment setting and interviewing commenced on 9th October 2023 and concluded on Thursday 30th of November 2023.

In total, 303 interviews were completed, slightly greater than the 300 aimed to be completed and a larger sample than in 2022 (266) and 2021 (269). The sampling margin for error (at the 95% confidence level, where 50% of respondents concur) is ±5.1% on national results.

In total, 180 interviews were completed via telephone, 60 received via email and 63 entered via the online platform.

Data weighting and number of greenlife businesses

Due to the comprehensive number of calls made for the project, it was possible to make assumptions on the number of businesses in each state and subsequently determine weighting figures that could be applied to the interviews achieved so that statistics provided represent the entire greenlife production industry, not only the sub-set of organisations participating in the study.

It is important to note that the survey sample and contact database includes not only those 'engaged' businesses such as members of GIA, but also non-members of GIA to not only to ensure a representative sample, but to assist in defining the industry.

It is important to note that the extrapolation of data makes the assumption that the sample for the project represents 'the universe' of greenlife production organisations.

Where survey data is extrapolated to represent the entire industry, this report focuses on providing robust national data, while state estimates are provided in the Hort Stats Handbook and Acil Allen's Economic Contribution Analysis.

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	national	nsw/act	vic	qld	sa	wa	tas	nt
Number of greenlife businesses estimated	1,620	506	426	408	97	125	48	10
Number of interviews conducted	303	84	97	70	16	28	6	2

Confidence limits

sample base	margin for error (where 50% of respondents concur)
303	±5.1%
200	±6.5%
100	±9.5%
50	±13.6%
30	±17.7%

Handling of 'empty cells'/missing data

The data set includes a number of 'empty cells' or missing data. Typically, this is due to respondents being unaware of the number of plants sold or being unable to extract data according to requested categories and supply chain options and only provide a total value and/or number of plants sold.

To reliably weight and extrapolate data to represent the entire industry means these 'empty cells' need to be accounted for and the technique (detailed below) utilised in the Hort Innovation Projects NY16004 and NY17008 and the first wave of NY21000 is used again this year. Additionally, extrapolated results are informed through DTER's comprehensive database of de-identified past survey data.

NY16004 identified a considerable range in business sizes and a large variation in business data (for example selling $1 plants through to $1,500) therefore it was deemed inappropriate to apply an overall average to each empty cell. Consequently, where respondents were able to provide the number of plants sold or the value of plants

sold, the missing category was applied data based on information available (plant sales value to category, employee numbers, FTE, total turnover etc). For example, an organisation with 20 employees provided the total value of 'perennial, trees & shrubs' and 'bedding and potted colour' sold to retailers and landscapers but could not provide data on the number of plants sold in each category. In this scenario, averages for similar organisations (similar value sold to the category, size of organisation, same clients and products) was used to populate empty cells.

While it is acknowledged that a margin for error exists in the data provided in this report due to sampling, assumptions made and data provided by respondents, the report authors are reasonably confident it provides useful insights into the size of the greenlife production industry as well as attitudinal data. DTER acknowledges this method may be a contributing factor in discrepancies between data collected for this project and historical data collection efforts.

2. Definitions and report notes

Due to very small sample sizes in South Australia, Western Australia, Tasmania, Northern Territory and Australian Capital Territory, as well as the industry's diversity, extrapolated data is presented nationally and by business size rather than by State and Territory.

While the Australian Bureau of Statistics (ABS) splits greenlife production businesses into 3 classes ($200,000 turnover or less; $200,001 to $2 million and more than $2 million), DTER believes a 'micro' business is more appropriately defined as having turnover of $500,000 or

less. Consequently, business sizes included in this report vary from those presented by ABS in the past.

The majority of data collected for the project is based on the 2022-23 financial year, comparisons made to 2022 data, will be based on the 2021-22 financial year for most variables.

Throughout this report, reference is made to various segments, defined in the table below:

Enterprise phase	Steady, happy	Those whose business is in status due to being at an acceptable stage
	Steady, unable	Those whose business is in status due to being unable to expand
	Expansion	Those whose business is in an expansion phase
	Winding down	Those contracting size of enterprise
business size (turnover)	Small	Turnover less than $500,000
	Medium	Turnover between $500,000 and $2,000,000
	Large	Turnover greater than $2,000,000
	Don't know (don't know t/o)	Unable to provide turnover value
Perception of industry	Positive	Those feeling very or fairly positive about the future of the nursery industry
	Negative	Those feeling very or fairly negative about the future of the nursery industry
	Neutral	Those feeling neutral or unsure about the future of the nursery industry
*	Small sample size	Sample less than n=30, caution required interpreting data

3. Number and value of plants sold
3.1 Value of plants sold by supply chain

Questions asked: Q7. In the 2022-23 financial year what was the total value (including resale) excluding GST of plants sold to …

total greenlife sales ($'000,000) (base: able to answer)

- incl. sales to wholesalers: $2,886, $3,096, $3,144, $3,329, $3,605, $3,637, $3,542
- excl. sales to wholesalers (excluding double counting): $2,287, $2,414, $2,437, $2,586, $2,789, $2,833, $2,775

Years: 2015-16, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23

% market share x supply chain

- retail nurseries, 42%
- wholesale nurseries, 22%
- landscape, 14%
- primary industry, 11%
- revegetation, 3%
- Govt depts, 3%
- direct to consumer, 3%
- other, 3%

value of plant sales by supply chain ($'000,000)

Supply chain	2022-23	2021-22	2020-21	2019-20	2018-19
retail	**$1,499**	$1,519	$1,461	$1,366	$1,237
wholesale	**$766**	$804	$816	$743	$707
landscape	**$492**	$473	$455	$455	$441
primary ind	**$386**	$419	$388	$306	$291
other*	**$115**	$144	$207	$203	$222
revegetation	**$100**	$98	$97	$97	$89
government	**$91**	$87	$88	$83	$87
direct to consumer	**$92**	$93	$93	$75	$71

Key findings

- Extrapolated survey data suggests that the total value of production nursery sales year on year dipped slightly to approximately 3.54 billion in 2022-23 (down from 3.64 billion in 2021-22).

- When sales to other production businesses are excluded (ensuring figures are not double counted), the total value of production is estimated to be approximately $2.78 billion, down slightly from $2.83 billion in 2021-22.

- The retail sector continues to represent the largest sales channel and in 2022-23 represented 42% of the total value of production industry sales.

- While sales to this category are estimated to have decreased by approximately 1% compared to the previous financial year, survey results suggest the value sold to 'big box' retailers has continued to trend upwards, whereas sales to independent retailers have dipped.

- Wholesale nurseries (22% of all sales) and landscape, builders and developers (14%) remain the second and third largest sales categories respectively and it is notable the value sold to the latter has continued an upwards trend evident since 2017-18.

- Readers should note 'other' mentions include totals for those people unable to provide breakdowns by category.

Implications

Despite a slight year on year dip, overall production nursery sales remained strong in 2022-23 and were estimated to be valued at between $3.36 and $3.72 billion dollars or approximately 2.78 billion excluding double counting.

supply chain category for plants sold (estimated)	2022 survey (2021–2022 year)	2023 survey (2022–2023 year)
Production nurseries:		
% selling to sector	59%	55%
Total value of plants	$804,012,183	$766,249,743
Retail nurseries:		
% selling to sector	68%	62%
Total value of plants	$1,518,553,285	$1,499,384,880
Revegetation, including forestry:		
% selling to sector	19%	19%
Total value of plants	$98,446,271	$100,449,799
Local, State and Federal Government Departments:		
% selling to sector	35%	30%
Total value of plants	$87,457,445	$91,493,937
Landscapers, developers and builders:		
% selling to sector	53%	51%
Total value of plants	$472,993,423	$491,538,597
Primary industry:		
% selling to sector	22%	21%
Total value of plants	$418,584,514	$385,890,465
Direct to consumer:		
% selling to sector	34%	33%
Total value of plants	$93,172,663	$92,185,538
Other (includes those unable to breakdown by category) :[+]		
% selling to sector	8%	5%
Total value of plants	$143,840,470	$114,529,366
Total value of plants sold (including those sold to wholesalers):	$3,637,060,255	$3,541,722,325
Total value of plants sold (excluding double counting):	$2,833,048,072	$2,775,472,582

Due to small sample sizes by category, only national data is provided

NOTE: Data is for the 2022-23 year and not necessarily representative of sales in *every* year.

[+]Significance testing not conducted, small sample size

3.2 Value of plants sold by plant category

Questions asked: Q8. During the 2022-23 financial year, how many plants did you sell in the following categories?
Q9. And what was the total value of (from Q8) plants sold?

% market share x plant category

- indoor, 12%
- propagation, 12%
- other, 6%
- bedding/potted colour, 9%
- herbs & veg, 9%
- fruit nuts vines, 8%
- other perennials trees shrubs, 9%
- trees, 17%
- shrubs/groundcover, 19%

value of plant sales by category ($'000,000)

Category	2022-23	2021-22	2020-21	2019-20	2018-19
perennials trees shrubs	$1,582	$1,584	$1,507	$1,392	$1,317
indoor	$411	$454	$451	$420	$384
propagation	$419	$446	$433	$429	$443
bedding/ potted colour*	$327	$359	$373	$332	$300
herbs & veg*	$305	$310	$290	$223	$175
fruit nuts vines	$269	$288	$267	$223	$229
other*	$228	$196	$284	$309	$295

Key findings

- In line with previous years, the perennial, tree and shrub category represented close to half (45%) of all production nursery sales in 2022-23.

- This year's survey asked respondents to split sales of perennial, trees and shrubs into trees and shrubs/groundcovers.

- Overall, sales of trees represented 17% of all production nursery sales, shrubs/groundcovers 19% and difficulty splitting sales of perennials, trees and shrubs into the more granular categories accounted for an additional 9%.

- Allocating sales to plant categories and providing an accurate number of plants sold (due to selling trays etc.) continues to be a challenge for many businesses and the number of plants units sold is indicative and should be viewed with caution.

- Readers should note 'other' mentions include totals for those people unable to provide breakdowns by category.

Implications

Survey results suggest that the number of plant units sold in 2022-23 dipped year on year by approximately 3%. However, some caution is required interpreting this data due to difficulties among some respondents providing accurate plant number sold.

client category for plants sold (estimated)**	2022 survey (2021–2022 year)	2023 survey (2022–2023 year)
Propagation plants:		
% selling propagation plants	29%	27%
Total number of plants	615,174,544	556,036,854
Total value of plants	445,746,686	$419,180,618
Herbs and vegetables: [+]		
% selling herbs and vegetables	13%	13%
Total number of plants	1,049,437,569	998,585,344
Total value of plants	$309,684,949	$304,958,173
Fruit trees, nut trees, vines:		
% selling fruit trees, nut trees, vines	24%	23%
Total number of plants	29,854,809	29,491,242
Total value of plants	$288,332,362.31	$269,311,874.2
Bedding and potted colour: [+]		
% selling bedding, potted colour	15%	18%
Total number of plants	182,244,983	165,312,655
Total value of plants	$358,910,005	$327,219,382.37
Indoor plants:		
% selling indoor plants	24%	27%
Total number of plants	92,248,004	79,836,276
Total value of plants	$454,209,714.92	$410,670,762
Total: Perennials, trees and shrubs:		
% selling perennials, trees, shrubs	68%	66%
Total number of plants	335,533,017	328,432,164
Total value of plants	1,583,955,555	$1,582,239,888
Trees:	na	
% selling trees	na	47%
Total number of plants	na	95,793,717
Total value of plants	na	$588,761,159
Shrubs and groundcovers:		
% selling shrubs and groundcovers	na	52%
Total number of plants	na	167,860,069
Total value of plants	na	$660,126,041
Other perennials, trees and shrubs (those unable to split trees and groundcovers/shrubs)		
% selling other trees, shrubs and groundcovers	na	8%
Total number of plants	na	$64,778,377
Total value of plants	na	$333,352,688
Other (includes those unable to breakdown by category): [+]		
% selling other	6%	9%
Total number of plants	29,286,352	106,071,366
Total value of plants	$196,220,983	$228,141,627
Total plants sold (including those sold to wholesalers):		
Total number of plants	2,333,779,278	2,263,765,900
Total value of plants	$3,637,060,255	$3,541,722,325

Due to small sample sizes by category, only national data is provided [+]Significance testing not conducted, small sample size
NOTE: Data is for the 2022–23 year and not necessarily representative of sales in *every* year
**significance testing not conducted on the number of plants sold due estimated figures provided by some respondents
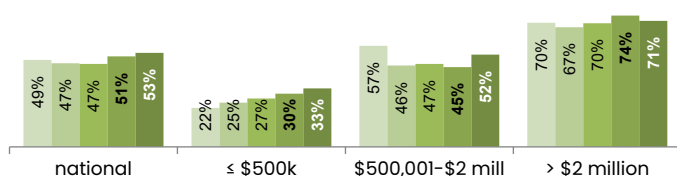
3.3 Sales to 'big box' retailers

Questions asked: Q13. In 2022-23, did you sell plants to 'big box' retailers such as Bunnings, Mitre 10, Big W or other large retailers?
Q14. What percentage of your sales to retail nurseries went to these 'big box' retailers?

% of businesses selling to 'big box' retailers
(base: respondents selling to retail)

2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22 ■ 2022-23

% of all businesses selling to 'big box' retailers
(base: all respondents)
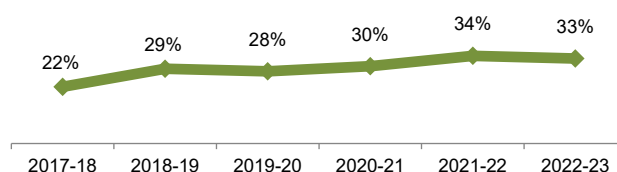
% of all retail sales to 'big box' retailers
(base: respondents selling to retail)

2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22 ■ 2022-23
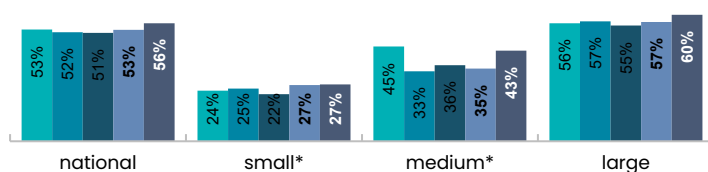
value of plants sold to 'big box' x business size
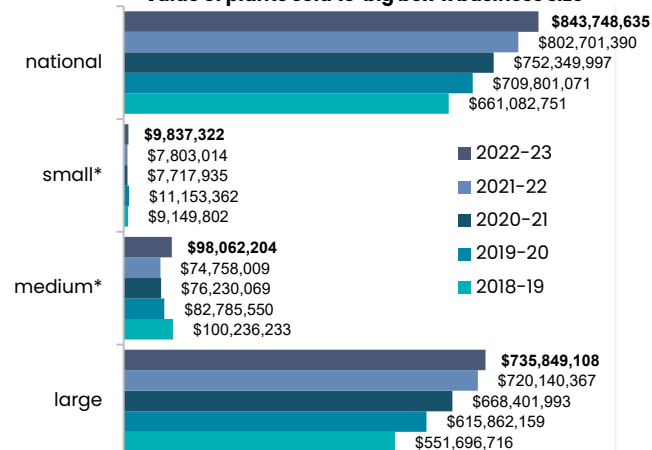
Key findings

- In total, one third (33%) of all production nurseries sold plants to big box retailers in 2022-23, equivalent to 53% of those selling to the retail channel (highest result since the survey first captured data in 2017-18).

- Consistent with past years, large businesses (71% selling to the retail channel) are significantly more likely than medium (52%) and small (33%) counterparts to sell plants to 'big box' retailers.

- In total, it is estimated that approximately $844 million (potentially up to $930 million when margin for error is accounted for) worth of plants was sold to 'big box' retailers in 2022-23 (up from $803 million in 2021-22).

- Notably, sales to 'big box' retailers have trended upwards since the survey began measuring data in 2017-18.

- As a result, these sales now represent 56% (potentially as high as 62% when the survey's margin for error is considered) of all sales to the retail sector.

- In line with past years, large businesses continue to sell a growing value of plants to 'big box' retailers (estimated to be approximately $735 million, up from $720 in 2021-22). Additionally, large businesses continue to represent the bulk of sales to the 'big box' segment (87%, down slightly from 90% in 2021-22).

Implications

The total value of plants sold to 'big box' retailers continues to trend upwards and in 2022-23 represented nearly one quarter of total production nursery sales, equivalent to 30% of the overall value sold to supply chains other than wholesale nurseries (so excluding double counting).

plants sold to 'big box' retailers 2022-23 (estimated)	% mentioning (base: all respondents selling to retail/able to answer)				
			turnover		
	national	≤ $500k*	$500k to $2 mil*	> $2 million	don't know t/o*
% selling to 'big box' retailers (n=300)	53%	33%	52%	71%	–
% of retail sales to 'big box' retailers (n=88)	56%	27%	43%	60%	–
Total value of plants sold (n=88)	$843,748,635	$9,837,322	$98,062,204	$735,849,108	–

NOTE: Data is for the 2022-23 year and not necessarily representative of sales in *every* year *Caution, sub sample smaller than n=30

4. Operating and input costs
4.1 Water sources
Questions asked: Q18. During 2022-23 financial year, did you source water from any of the following?

water source accessed (base: all respondents)   ■ 2021-22 ■ 2022-23

| dam/bore/ tanks | town/mains water | storm/waste/ reused water | rivers creeks etc. | irrigation |
| 74% 67% | 46% 49% | 29% 28% | 18% 16% | 5% 7% |
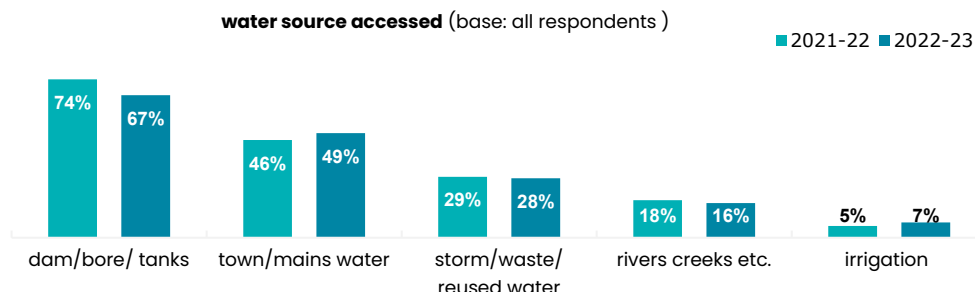
Key findings

- On par with 12 months ago, respondent businesses access water from between 1 and 2 sources (average of 1.7).

- In total, almost 4 in 5 (79%) businesses have access to either dams/bores/tanks (67%), stormwater/reused water (28%) or permanent watercourses such as rivers (16%).

- Notably, access to dams, bores or tanks varies by business size (from 78% of large and 68% of medium to 55% of small counterparts).

- Similarly, large businesses (41%) are significantly more likely to reuse water/use stormwater than medium (26%) and small (18%) enterprises.

- Approximately half (49%) of businesses access town/main water, with almost 1 in 5 (18%) relying solely on this source. However, this varies from only 8% of large businesses to 27% of small.

Implications

Most production nurseries have access to water sources other than mains or town water.

While water is reused on a reasonable proportion of large businesses, if it is a focus for industry, it may be worthwhile exploring water recycling in greater detail in future surveys.

| water sources | % mentioning (base: respondents able to provide data) | | | | |
| | | turnover | | | |
	national (n=303	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Dam/bore/tanks	67%	55%	68%	78%	60%
Town/mains water	49%	52%	43%	50%	66%
Stormwater/wastewater/other reused water	28%	18%	26%	41%	14%
Permanent watercourse rivers creeks etc.	16%	15%	14%	21%	10%
Irrigation channels/pipelines	7%	6%	8%	9%	0%

*Caution, sub sample smaller than n=30

4.2 Water usage and costs

Questions asked: Q19. And what was the total amount of water used by your business in 2022-23 …
Q20. What was the total amount spent on water costs? In the 2022-23 financial year?
Q21. Is that amount more, less or the same as the prior financial year?

ML of water used in past 12 months (base: all respondents)

■ 2021-22 ■ 2022-23

	national	small	medium	large
2021-22	29	5	15	50
2022-23	26	6	16	54
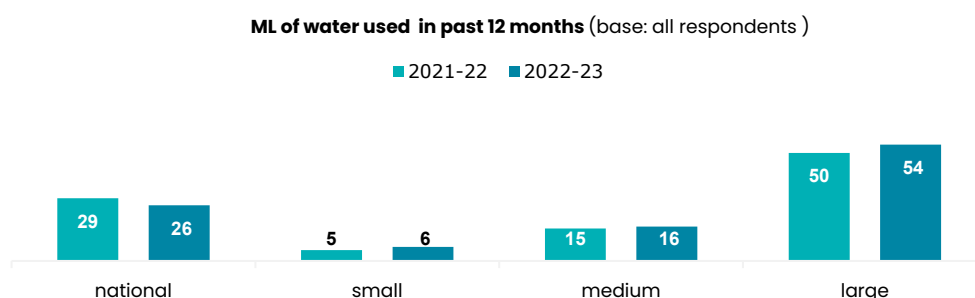
Key findings

- On average, respondent businesses used 26 megalitres of water in 2022-23, down slightly from 29 ML in 2021-22.

- This amount, however, varies significantly by business size, from 54 ML among large businesses to 6 ML among small.

- Over the past 12 months, the proportion of respondents saying that water costs were higher than the previous financial year has increased significantly (28%, up from 20%).

- As a result, the average estimated water cost (including town water and maintenance etc.) in 2022-23 was slightly (not statistically significantly) higher than in 2021-22 (approximately $24,000, up from $22,000).

- As expected, water costs varied by business size ($57,000 among large businesses to approximately $5,000 among those with turnover less than $500,000).

Implications

While only representing a small proportion of overall turnover, production nurseries paid a larger amount for water in 2022-23 than in the prior financial year.

water metrics	% mentioning (base: respondents able to provide data)				
			turnover		
	national	≤ $500k	$500,001 to $2 million	> $2 million	don't know t/o*
Average amount of water used by respondents in 2022-23 (megalitres)	26	6	16	54	–
Average cost spent on water by respondents in 2022-23	$24,121	$4,715	$12,056	$56,912	$14,298
Average % of total costs spent on water in 2022-23	2%	4%	1%	1%	–
2022-23 water costs **greater** than in 2020-21	↑ 28%	21%	↑ 30%	31%	35%
2022-23 water costs **same** as 2020-21	52%	61%	↓ 46%	50%	48%
2022-23 water costs **less** than in 2020-21	20%	17%	24%	19%	17%

↑ significant increase since 2021-22; ↓ significant decrease since 2021-22   *Caution, sub sample smaller than n=30

4.3 Water security or management Plans (new in 2023)

Question asked: Q22. Do you have a water security or management Plan to ensure you have sufficient water in drier years or seasons?

% with water security/management Plan (base: all respondents able to answer)

	national	small	medium	large	dk t/o
	64%	54%	67%	74%	56%
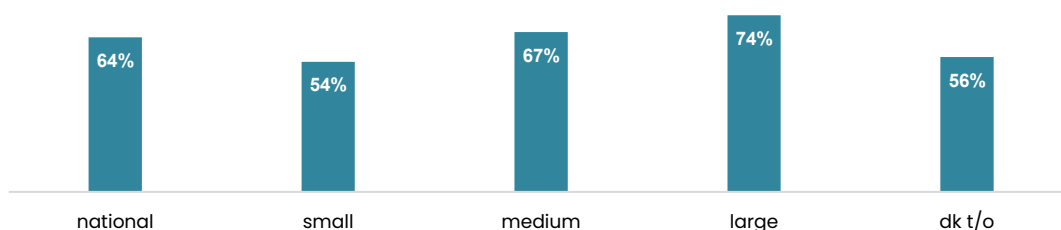
% with water security/management Plan x state (base: respondents able to answer)

	nsw	vic	qld	wa*	sa*	tas*	nt*
	63%	68%	69%	61%	63%	50%	0%
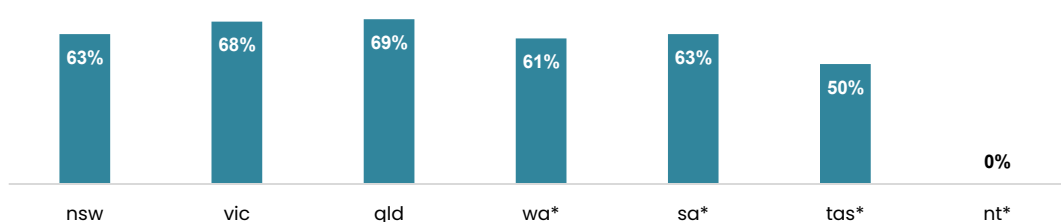
Key findings

- Nationally, almost two thirds (64%) of businesses have a water security or management Plan for drier years or seasons.

- However, this varies significantly from 74% of those with turnover exceeding $2 million to a much lower 54% with turnover less than $500,000.

Implications

Currently, a reasonable proportion of production businesses have a water security/management Plan, but there remains scope to encourage more businesses to implement these Plans.

water security/management Plan	national (n=289)	% mentioning (base: all respondents able to answer)			
		turnover			
		≤ $500k (n=94)	$500,001 to $2 million (n=100)	> $2 million (n=88)	don't know t/o* (n=7)
% with Plan	64%	54%	67%	74%	56%

⬆ significant increase since 2021-22; ⬇ significant decrease since 2021-22   *Caution sub sample smaller than n=30.

5. Turnover per hectare and overall production area

Question asked: Q6. What is the total area of the business used for nursery production – and I would like you to give me outdoor area first and then undercover including greenhouses, cold frames, cloth houses and lath houses?

turnover per hectare $000' (base: respondents able to answer)

Legend: 2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23

	national	small	medium	large
2017-18	$392	$164	$273	$580
2018-19	$408	$153	$320	$514
2019-20	$441	$181	$381	$533
2020-21	$472	$146	$417	$562
2021-22	$454	$125	$378	$550
2022-23	$456	$136	$319	$583
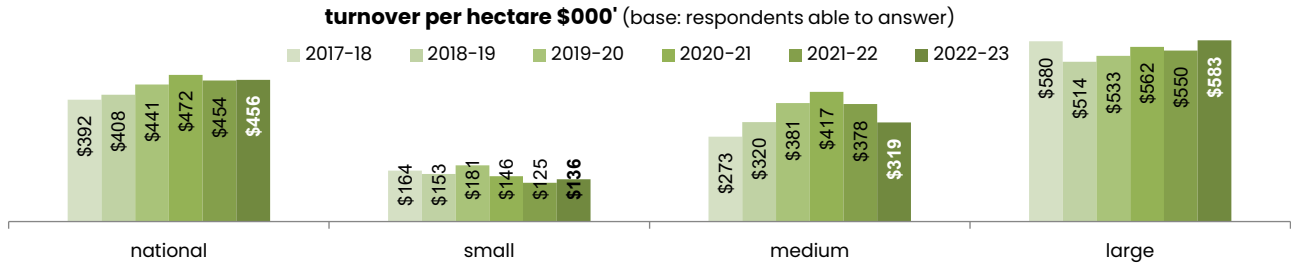
Key findings

- In line with 2021-22, it is estimated that production nurseries operate across almost 8,000 hectares nationally.

- While most businesses (83%) have undercover production area, this represents only 16% of the total operating area, with outdoor production representing 84%.

- On average, respondent businesses generate $456,000 of turnover per hectare - no real change from 2021-22.

- However, this varies significantly by business size, from approximately $580,000 among large businesses to $136,000 among those with turnover less than $500,000.

Implications

Nationally, nursery production is estimated to occur across approximately 7,500 to 8,000 hectares, with businesses generating an average of approximately $450,000 of turnover per hectare.

production area (hectares) (estimated)	% mentioning (base: respondents able to provide data)				
			turnover		
	national	≤ $500k	$500,001 to $2 million	> $2 million	don't know t/o*
Estimated turnover per hectare (outdoor + indoor)	$455,880	$136,372	$318,751	$583,392	-
Outdoor area (approximate)					
Average ha per farm	4.0	1.6	⬆ 2.8	8.1	1.7
Median ha per farm	1.2	0.6	1.2	4.0	0.4
Estimated total outdoor area (ha)	6,487	762	⬆ 1,650	3,999	77
Indoor area (approximate)					
% of farms with indoor area	83%	82%	82%	86%	71%
Average ha per farm with indoor area	0.8	0.3	0.7	1.5	0.3
Median ha per farm with indoor area	0.4	0.1	0.4	1.0	0.4
Estimated total indoor area (ha)	1,282	⬇ 149	363	760	10

⬆ significant increase since 2022; ⬇ significant decrease since 2022 *Caution sub sample smaller than n=30

confidence in industry's future
(base: all respondents)

Legend: very negative, fairly negative, neutral/unsure, fairly positive, very positive

	2017	2018	2019	2020	2021	2022	2023
fairly positive	52%	52%	48%	47%	40%	53%	55%
very positive	24%	29%	28%	43%	48%	30%	25%

confidence in industry's future x state
(base: all respondents)

Legend: very negative, fairly negative, neutral/unsure, fairly positive, very positive

	nsw	vic	qld	wa*	sa*	tas*	nt*
fairly positive	49%	51%	61%	57%	44%	100%	50%
very positive	29%	27%	19%	29%	38%		50%

confidence in industry's future (base: all respondents)

Legend: very negative, fairly negative, neutral/unsure, fairly positive, very positive

	small 2021	small 2022	small 2023	medium 2021	medium 2022	medium 2023	large 2021	large 2022	large 2023
neutral/unsure	11%	16%	11%	13%	8%	11%	3%	9%	6%
fairly positive	36%	49%	49%	35%	56%	51%	46%	55%	66%
very positive	50%	26%	26%	46%	32%	27%	49%	33%	23%

% mentioning demand and decreased demand
(base: all respondents)

	2017	2018	2019	2020	2021	2022	2023
demand	56%	66%	50%	75%	66%	56%	61%
decreased demand	16%	14%	21%	8%	5%	13%	11%

Key findings

- While positivity towards the industry's future remains widespread (80%), the downwards trend since 2020 is notable (84% in 2022, 88% in 2021 and 90% in 2020).

- While this trend is evident across each business size, the vast majority of large businesses (89%) remain positive, but the proportion *very positive* (23%) has decreased significantly over the past 2 years (33% in 2022 and 49% in 2021).

- Demand for greenlife products remains the most commonly mentioned driver of positivity (mentioned by 61% of all respondents).

- conversely, concerns that demand will decrease due to a slowing economy or dry weather conditions is the key driver of negativity, mentioned by 1 in 10 (11%) respondents.

- Additionally, negativity due to rising input costs and the impact that 'big box' retailers are having on the retail channel has grown slightly more widespread over the past 12 months.

- Confidence towards the industry's future varies significantly by profitability (85% of those profitable in 2022-23 to 64% of those not profitable).

Implications

Favourable profitability and demand for greenlife products continues to result in widespread industry confidence, however, concerns with rising input costs and concerns associated with 'big box' retailers are impacting sentiment more widely than previously.

confidence	% mentioning (base: all respondents)				
		turnover			
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Very positive	25%	26%	27%	23%	24%
Fairly positive	55%	49%	51%	66%	35%
Neutral	9%	11%	11%	6%	0%
Fairly negative	9%	11%	9%	5%	27%
Very negative	1%	2%	1%	0%	13%
Can't say	1%	1%	1%	0%	0%
Total: positive	80%	75%	79%	89%	60%
Total: negative	⬆ 10%	13%	9%	5%	40%

reasons for level of confidence (main mentions)	% mentioning (base: all respondents)				
		turnover			
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Positive mentions:					
Total: Demand for product	61%	64%	54%	70%	26%
Product demand (general)	38%	⬆ 42%	36%	38%	13%
Environmental aspects creating demand – carbon sequestration, urban greening, heat mitigation etc.	14%	20%	⬇ 6%	15%	13%
strong sales/customer positive about industry	11%	8%	11%	14%	0%
Opportunities through selling niche/innovative products	⬇ 3%	⬇ 4%	⬇ 3%	⬇ 1%	0%
Optimistic outlook/enjoyment of being in the industry	⬇ 3%	3%	4%	⬇ 1%	0%
Negative mentions:					
Total: Decreased demand for product	11%	7%	13%	10%	14%
Economic downturn/slowing economy impact on sales	6%	5%	5%	7%	14%
Effect of climate on demand	5%	3%	6%	4%	0%
Input cost concerns	6%	3%	8%	6%	0%
Bunnings impacting margins/poor retail sales	5%	⬆ 8%	4%	5%	0%
Price received for plants	4%	3%	3%	6%	0%

⬆ significant increase since 2022; ⬇ significant decrease since 2022   *Caution sub sample smaller than n=30.

7. Current business phase and future intentions

Questions asked: Q24. Which of the following best describes your nursery business over the past few years?
Q25. At this point in time, what is the intention for the business over the next 5 years?

current enterprise phase (base: all respondents)

current enterprise phase (base: all respondents)

business intentions (base: all respondents)
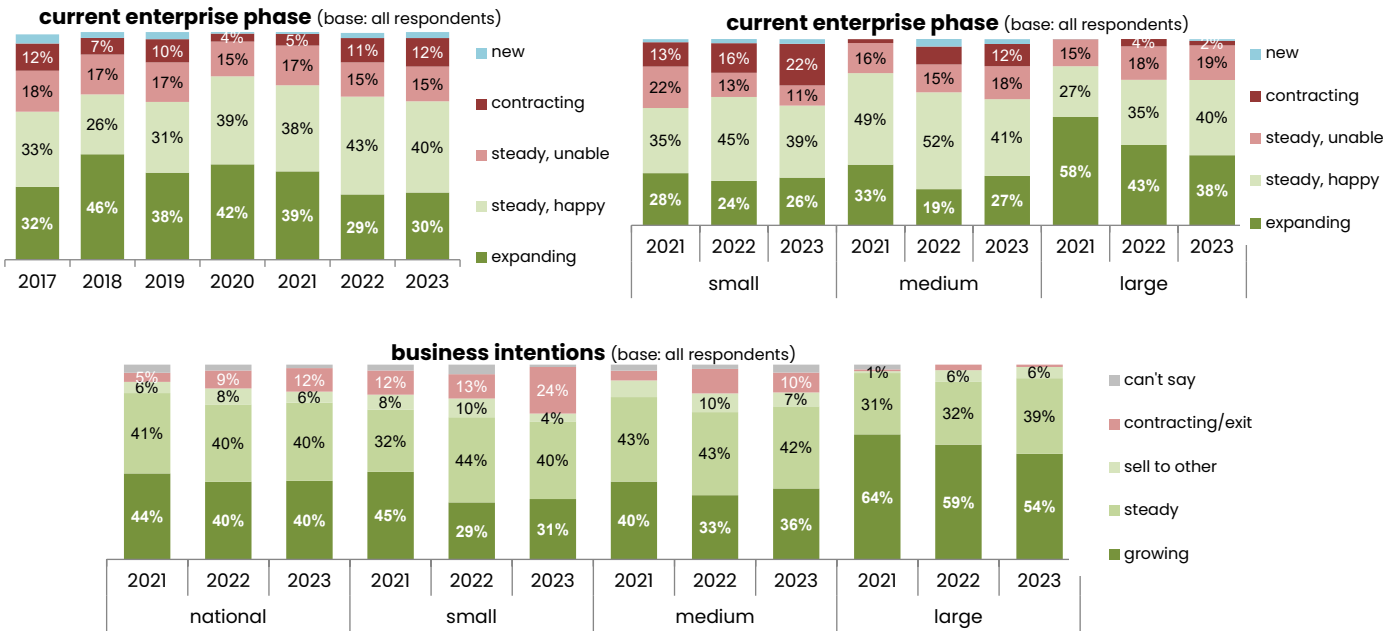
Key findings

- In line with 12 months ago, 3 in 10 businesses are currently expanding their enterprise.

- Compared to small (26%) and medium (27%) operators, large businesses remain more likely to be expanding (38%), but it is notable that this proportion is now significantly lower than in 2021 (58%).

- Over this period, large businesses have become more likely to be operating in a steady phase (40%, up from 27% in 2021).

- While the proportion of all businesses contracting (now 12%) has trended upwards since 2020, this remains

significantly more common among small (22%) operators than medium (12%) or large (2%).

- On par with 2022, 4 in 10 respondents plan to grow their business over the next 5 years, with expansion expected to be more common among large (54%) operators than small (31%) and medium (36%).

- The proportion of businesses expected to contract or exit the industry has increased from 5% in 2021 to 12% in 2023. However, this intention remains more common among small businesses (24%) than medium (10%) or large (1%) counterparts.

Implications

While a large proportion of businesses with turnover exceeding $2 million continue to expand and expect to do so over the next 5 years, both metrics are now trending downwards and should be monitored in future surveys.

A growing proportion of businesses may contract or exit the industry over the next 5 years, but it appears likely that small enterprises will represent the bulk of this group.

current business stage	% mentioning (base: all respondents)				
		turnover			
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Expanding	30%	26%	27%	38%	26%
Steady, where want it to be	40%	39%	41%	40%	37%
Steady, unable to expand	15%	11%	18%	19%	0%
Contracting/winding down	12%	22%	12%	2%	13%
New business	3%	3%	3%	1%	24%

future intentions for business	% mentioning (base: all respondents)				
		turnover			
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Growing business	40%	31%	36%	54%	50%
Remaining steady	40%	40%	42%	39%	37%
Contracting/winding down	4%	8%	2%	1%	0%
Sell as business to other person/company	6%	4%	7%	6%	0%
Sell land to developer	1%	1%	1%	0%	0%
Close business	8%	15%	7%	0%	13%
Can't say	2%	1%	4%	0%	0%

*Caution sub sample smaller than n=30.

8. Business investment

% investing in own business infrastructure or new technology (base: all)

■ 2017-18 ■ 2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22 ■ 2022-23

	national	small	medium	large
2017-18	59%	41%	67%	88%
2018-19	63%	50%	63%	89%
2019-20	67%	50%	67%	88%
2020-21	63%	47%	63%	85%
2021-22	59%	45%	53%	80%
2022-23	54%	38%	48%	80%

investment type (base: all)

■ 2017-18 ■ 2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22 ■ 2022-23

	infrastructure	new technology	education/training
2017-18	54%	33%	36%
2018-19	59%	34%	34%
2019-20	60%	37%	27%
2020-21	56%	33%	33%
2021-22	54%	30%	33%
2022-23	45%	31%	31%

Key findings

- While more than half (54%) of all businesses made new infrastructure or technology investments in 2022-23, this proportion has trended downwards since 2019-20.

- This result is mostly due to a downwards trend in the proportion of businesses investing in infrastructure (45% in 2022-23, was 67% in 2019-20), but there has also been a slight dip since in new technology investment (31%, down from 37% in 2019-20).

- While these results are reflected across each business size segment, large businesses remain significantly more likely to have invested in both infrastructure and new technology in 2022-23 than small and medium counterparts.

- Similarly, while 31% of businesses nationally invested in education and training, this is significantly more widespread among large businesses (45%, was 46% in 2021-22) than small (24%) and medium (26%) sized operators.

- Among those positive towards the industry's future, 58% invested in new infrastructure and/or technology and 34% in education and training, both results much lower among those negative towards the industry's future (28% investing in new technology/infrastructure and 13% in education/training).

Implications

Investment in new infrastructure and technology remains widespread among large businesses, but has dipped nationally likely due in part, to slightly lower levels of industry confidence and rising operational costs.

business investment	national	% mentioning (base: all respondents able to answer)			
		turnover			
		≤ $500k*	$500,001–$2 mil	> $2 million	don't know t/o*
% making business investment in infrastructure or new technology	54%	38%	48%	80%	26%
% investing in infrastructure	↓ 45%	↓ 31%	42%	66%	13%
Average amount invested in infrastructure (base: those investing)	$177,260	$37,942	↑ $114,268	$291,851	$250,000
Total invested in infrastructure (extrapolated)	$133,059,170	$5,379,767	↑ $26,601,235	$99,621,025	$1,457,143
% investing in new technology	31%	15%	21%	61%	26%
Average amount invested in new technology (base: those investing)	$80,232	$9,149	$47,957	$112,259	$30,393
Total invested in new technology (extrapolated)	$36,704,342	$562,125	$5,476,887	$30,303,920	$361,411
% investing in education and training	31%	24%	26%	45%	39%

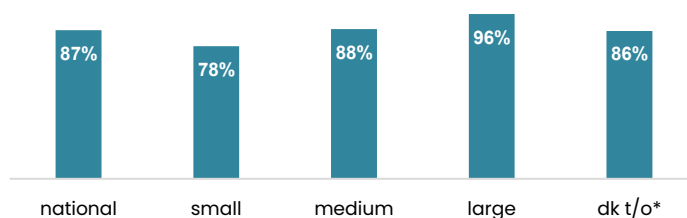↑ significant increase since 2021-22; ↓ significant decrease since 2021-22   *Caution sub sample smaller than n=30.
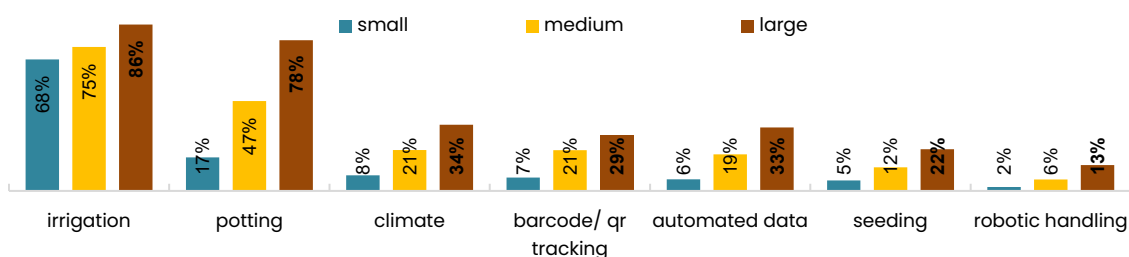
9. Adoption of automation technology (new in 2023)

Question asked: Q34. Does your business have any of the following automation technology to improve efficiencies?

% with automation technology (base: all respondents)

% with automation type (base: able to answer)

Key findings

- Almost 9 in 10 businesses (87%) have adopted automation technology, but this varies by business size, from 96% of large enterprises to 78% of small.

- On average, 1 type of automation technology has been installed, but this increases to 2 among operators with turnover between $2 and $4 million and 3 among businesses with turnover exceeding $4 million.

- Automated irrigation control (76%) and potting machines (46%) are the 2 most commonly installed types of automation technology.

- Additionally, approximately 1 in 5 businesses have installed either climate control (20%), barcode or QR code tracking systems (19%) and/or automated data collection systems (18%).

- Notably, each of these are installed on a higher proportion of large businesses than small and medium counterparts.

- Excluding irrigation control, 64% of businesses have another form of automation, varying from 94% of those turning over in excess of $2 million to 32% with turnover less than $500,000.

Implications

Survey results suggest that most businesses, including across all business sizes, have adopted at least 1 type of automation technology, most commonly irrigation control and potting machines.

automation technology	national (n=303)	% mentioning (base: all respondents) turnover			
		≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Total: have automation technology	87%	78%	88%	96%	86%
Automated irrigation control	76%	68%	75%	86%	86%
Potting machines	46%	17%	47%	78%	36%
Automated climate control	20%	8%	21%	34%	0%
Barcode or QR code tracking system	19%	7%	21%	29%	13%
Automated data collection to assist decision making (e.g. dashboard)	18%	6%	19%	33%	0%
Automated seeding machine	12%	5%	12%	22%	0%
Robotic plant handling	7%	2%	6%	13%	10%
Other	3%	1%	2%	8%	0%

impact of risk factors (base: all respondents)

Legend: ■ major impact ■ minor impact ■ no impact, expect in future ■ no impact, not expected ■ unsure

Category	Year	major impact	minor impact	no impact, expect in future	no impact, not expected	unsure
labour	2023	22%	35%	7%	33%	2%
labour	2022	31%	32%	10%	25%	2%
weather	2023	19%	48%	14%	13%	5%
weather	2022	32%	47%	8%	10%	3%
insurance	2023	18%	25%	8%	44%	5%
insurance	2022	14%	26%	14%	39%	6%
biosecurity	2023	14%	53%	9%	22%	3%
biosecurity	2022	17%	54%	5%	21%	3%
h20 avail	2023	8%	18%	23%	47%	4%
h20 avail	2022	2%	15%	26%	53%	4%

Key findings

- In total, the 3 factors most common factors currently having a *major* or *minor* impact on production businesses are severe weather (68%), biosecurity (66%) and labour shortages (58%).

- Compared to 12 months ago however, labour challenges and severe weather are having a *major* impact on a significantly lower proportion of businesses. Conversely, water availability is impacting significantly more operators.

- Labour shortages continue to impact a greater proportion of large businesses than small to medium counterparts – 77% of large businesses saying they are having a *minor* or *major* impact (down slightly from 83% in 2022).

- Notably, Queensland businesses are significantly more likely to be *majorly* impacted by biosecurity and water availability than their counterparts.

Implications

Despite significantly fewer respondent businesses being majorly impacted by labour shortages and severe weather than 12 months ago, these, alongside biosecurity, are the 3 factors (among those tested) most commonly impacting production nurseries.

risk factor	current and future impact (% mentioning – base: all respondents; n = 303)				
	major impact	minor impact	no impact, but expect in future	no impact, not expect in future	unsure/can't say
Labour shortages	↓ 22%	35%	7%	↑ 33%	2%
Severe weather - such as storms, hail, wind, rain & flood	↓ 19%	48%	14%	13%	5%
Insurance - securing policies, exclusion of events and cost	18%	25%	8%	44%	5%
Biosecurity – controlling/ preventing pests & diseases	14%	53%	9%	22%	3%
Water availability	↑ 8%	18%	23%	47%	4%

↑ significant increase since 2022; ↓ significant decrease since 2022   *Caution sub sample smaller than n=30.

Questions asked: *Q3.   How many people including yourself are employed in the business in each of the States it operates in?*
Q4.   And what would be the full time equivalent for each of the following in the States you operate in?

estimated total industry employment numbers (base: able to answer)

share of national workforce x business size

- large, 63%
- medium, 28%
- small, 9%
- dk t/o, 1%
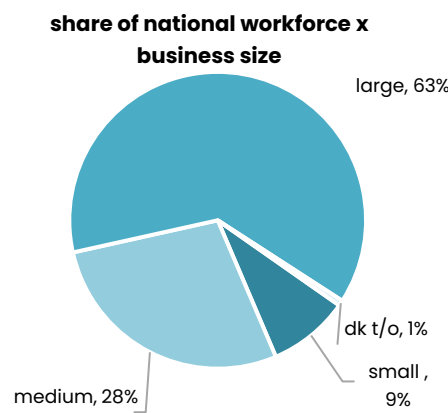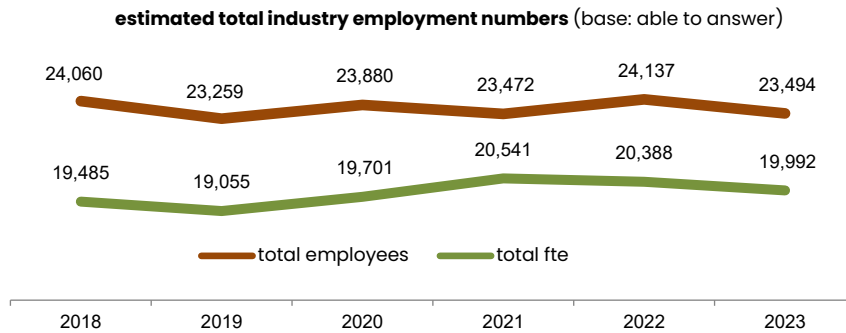
Key findings

- Extrapolated survey data suggests that there are between 22,000 and 25,000 people working in production nurseries (including owners).

- In total, this represents an estimated full time equivalent (FTE) of approximately 20,000, down slightly from approximately 20,500 in 2022.

- Turnover per FTE however, has remained similar over the past 2 financial years (approximately $177,000 in 2022-23, was $178,000 in 2021-22).

Implications

Nursery production businesses are estimated to employ between 22,000 and 25,000 people (including owners) at an estimated FTE of between 19,000 and 21,000. Each of these metrics may have dipped slightly (not statistically significantly) over the past year.

total people employed by production greenlife nurseries (estimated)	% mentioning (base: all respondents able to answer)				
		turnover			
	national	≤ $500k	$500,001 to $2 mil	> $2 million	don't know t/o*
Total people employed	23,494	2,083	6,562	14,710	138
Full time equivalent	19,992	↓ 1,336	4,669	13,688	300
Turnover per FTE	$177,153	⬆ $92,974	$137,399	$202,809	$-

⬆ significant increase since 2022; ↓ significant decrease since 2022   *Caution, sub sample smaller than n=30

% turnover spent on wages (average)
(base: respondents able to provide details)

■ 2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22 ■ 2022-23

national	small	medium	large
35% 34% 33% 35% **35%**	45% 46% 49% 54% **45%**	40% 36% 37% 43% **45%**	34% 32% 32% 31% **32%**

estimated total industry wage costs
($000,000) (base: able to answer)

$1,188M	$1,114M	$1,127M	$1,202M	$1,276M	$1,244M
2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
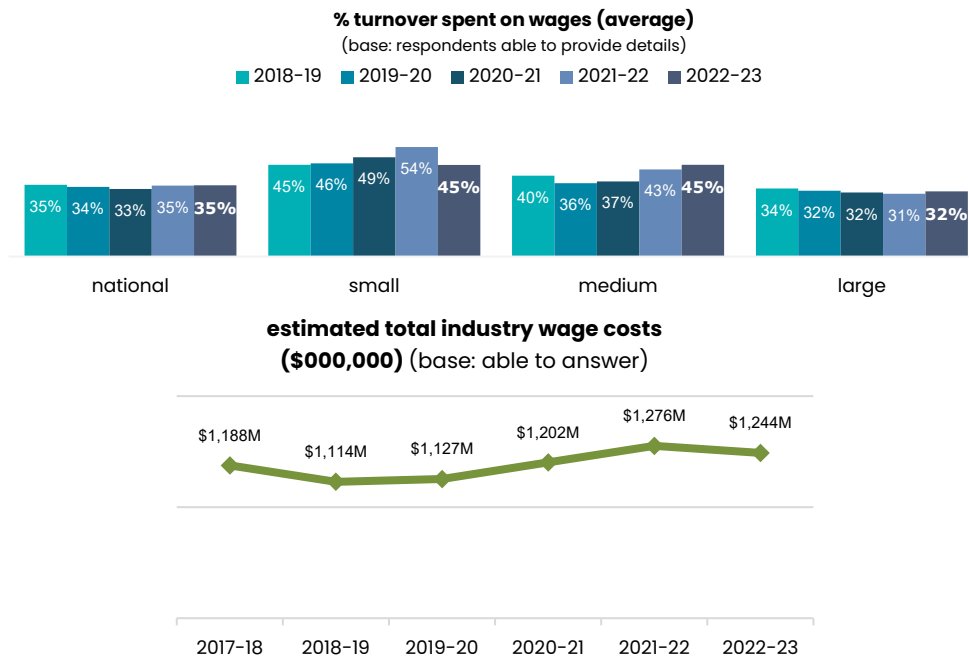
Key findings

- In 2022-23, production nurseries paid an estimated $1.24 billion dollars in wages (including business owners), down slightly from 1.28 billion in the prior financial year.

- On par with 2021-22, wage costs represented 35% of business turnover nationally, but this figure remains higher among small (45%) and medium (45%) operators than large (32%).

- The average wage paid (including owners) based on FTE is approximately $63,000, up slightly from 12 months ago and up from $59,000 in 2020-21.

- It should be noted the figures represented in this section include wages paid to business owners and variation in profitability is likely to result in the fluctuation seen in businesses turning over less than $2 million.

Implications

Despite rising average wages, survey results suggest that some businesses reduced their total wage expenditure in 2022-23 compared to the prior financial year.

In total, production nurseries are estimated to have contributed almost $1.25 billion to the national workforce in 2022-23.

cost of wages in 2022-23 (estimated)	% mentioning (base: all respondents able to answer)				
		turnover			
	national	≤ $500k	$500,001–$2 mill	> $2 million	don't know t/o*
Approximate total cost of wages	$1,244,029,005	$56,139,130	$290,197,497	$892,795,560	$4,896,818
Average wage based on FTE (including owners)	$62,225	$42,031	$62,151	$65,226	$16,329
% of turnover spent on wages (average, including owners)	35%	45%	45%	32%	–

⬆ significant increase since 2021-22; ⬇ significant decrease since 2021-22   *Caution, sub sample smaller than n=30.

12. Benchmarking tool usage

% of all businesses using benchmarking tool
(base: all respondents)

national	≤ $500k	$500,001–$2 mill	> $2 million
17%	7%	16%	31%

influence on decision making
(base: respondents using tool/able to answer)

Key findings

- National, almost 1 in 5 (17%) respondents or someone within their business has used the benchmarking data tool.

- Notably, this varies from 7% of small operators to a significantly higher 31% of large businesses.

- Readers of this report should note that longitudinal data is not included due to changes in question structure (previously, only those completing a survey in the year prior were asked whether they use the data tool).

- Among those using the tool, most (65%) say it has influenced decision making either a lot (9%) or a little (56%).

- Compared to 2021 (year this metric was last measured), a significantly higher proportion of respondents believe using the tool has had some influence on decision making.

Implications

Results suggest that continued education and enhancement to the benchmarking data tool is resulting in a greater proportion of users utilising it to assist decision making.

While use of the tool is unlikely to be universal, positively, a large proportion of businesses with turnover exceeding $2 million dollars are already using the tool.

| benchmarking tool usage | % mentioning (base: all respondents) | | | | |
| | | turnover | | | |
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Used benchmarking tool	17%	7%	16%	31%	0%
Have not used tool	73%	83%	74%	59%	100%
Have not received the data tool	4%	5%	5%	3%	0%
Unsure if received/used	5%	4%	5%	7%	0%

*Caution sub sample smaller than n=30.

| impact of benchmarking tool usage | % mentioning (base: respondents using tool/able to answer) | | | | |
| | | turnover | | | |
	national (n=47)	≤ $500k (n=6)*	$500,001–$2 mill (n=16)*	> $2 million (n=25)*	don't know t/o (n=0)*
Total: tool influenced decision making	⬆ 65%	83%	68%	59%	
A lot of influence	9%	36%	0%	8%	
A little influence	56%	47%	68%	51%	
No influence	⬇ 35%	17%	32%	41%	

⬆ significant increase since 2020-21; ⬇ significant decrease since 2020-21   *Caution sub sample smaller than n=30.

13. Organisation size (based on survey sample)

business size
(base: respondents able to provide details)

■ 2018-19 ■ 2019-20 ■ 2020-21 ■ 2021-22

	small	medium	large
2018-19	41%	36%	23%
2019-20	37%	32%	31%
2020-21	35%	34%	31%
2021-22	35%	36%	28%
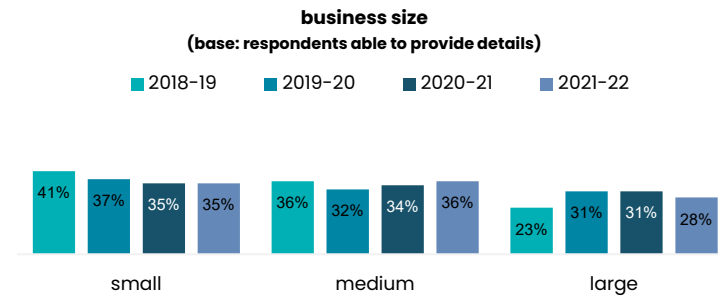
Key findings

- Consistent with past survey waves, the survey sample provides a spread of businesses sizes.

- There is no significant year on year variation evident, however the proportion of small businesses continues to trend downwards.

Implications

The sample size is likely to continue being representative of the wider production nursery industry and this includes a decrease in the proportion of small businesses due to either exiting the industry or increasing their turnover.

business turnover	% mentioning (base: respondents able to provide data)	
	2022 survey (2021-2022 year)	2023 survey (2022-2023 year)
Less than $500,000	35%	33%
$500,001 to $1,000,000	18%	18%
$1,000,001 to $1,500,000	13%	12%
$1,500,001 to $2,000,000	6%	8%
$2,000,001 to $2,500,000	4%	6%
$2,500,001 to $3,000,000	5%	4%
$3,000,001 to $3,500,000	2%	1%
$3,500,001 to $4,000,000	2%	3%
$4,000,001 to $4,500,000	2%	2%
$4,500,001 to $5,000,000	2%	1%
$5,000,000 to $10,000,000	4%	6%
$10 million+	6%	5%

14. Sample demographics

| demographic metric | % of sample (base: all respondents) | | | | |
| | | | Turnover | | |
	national (n=303)	≤ $500k (n=97)	$500,001 to $2 million (n=106)	> $2 million (n=92)	don't know t/o* (n=8)
Age:					
18 to 39 years	12%	9%	12%	16%	21%
40 to 59 years	48%	37%	51%	54%	52%
60 and older	40%	54%	37%	30%	27%
Average age	55	59	54	52	52
Average years business operated	32	25	30	43	12
Gender:					
Male	74%	67%	72%	85%	79%
Female	26%	33%	28%	15%	21%
Respondent role:					
Owner or joint owner of the business	70%	75%	69%	67%	53%
Manager	28%	23%	28%	32%	37%
Admin/Accounts	2%	2%	3%	2%	10%

⬆ significant increase since 2022; ⬇ significant decrease since 2022   *Caution, sub sample smaller than n=30.

Appendix 1: Confidentiality statement

9 October 2023

Nursery and Garden Industry Data & Statistics Collection

Confidentiality Statement

Thank you for your interest in providing data for the Hort Innovation project NY21000 – Nursery Industry Research and Statistics.

This project is a strategic levy investment that is part of the Hort Innovation Nursery Fund and aims to capture information to deliver accurate and timely industry statistics to support strategy development, decision making, advocacy and investment decisions.

Data for the project will be collected and stored securely by Market Metrics Data Collection, an independent, fully accredited data collection company based in Frankston, Victoria. Their web address is http://www.marketmetrics.com.au should you wish to read about their services. Data and information collected will only be used for the purposes of this specific project.

In accordance with Australia's strict Privacy Principles, full confidentiality is assured and once information processing has been completed, any identifying data such as your name, company and contact details (including address and postcode) will be removed from your responses to the survey. While interviewing is taking place, data held by Market Metrics will remain identifiable in case there is an anomaly in the data that requires a call back and clarification. Once Market Metrics has completed this process, de-identification will occur.

On completion of all interviewing, Down To Earth Research (DTER) and Acil Allen Consulting (responsible for producing the benchmarking data tool) will be provided with a de-identified data set so data can be aggregated and analysed. DTER will then provide an overall industry report to Hort Innovation. No one from the nursery and garden industry, Hort Innovation, industry organisations and associations, government departments, etc. will know who participated in the study nor the information and data they provided. DTER's privacy principles can be found at https://www.dter.com.au/privacy-statement.

Should you have any concerns whatsoever, please contact Daniel Watson from DTER (daniel@dter.com.au or 0409 775 553) or Lucy Noble from Hort Innovation (Lucy.Noble@horticulture.com.au or 02 8295 2313).

Thank you again for your assistance. The data collected for the study will assist Hort Innovation and Greenlife Industry Australia to have more meaningful discussions with government organisations in the future. Additionally, survey data is used to provide a tool that your company will be able to use for benchmarking purposes and to better understand the size and nature of the industry.

Kind regards

Dan Watson
Research Director
Down To Earth Research

Appendix 2: Survey instrument

Q1.　Firstly, I need to clarify how many sites your nursery business operates from?

Q2.　Which states and territories are the sites located in?

Q3.　How many people including yourself are employed in the business in each of the States it operates? *Please exclude volunteers, but include all seasonal, casual, part time and full time workers.*

Q4.　And what would be the total total full time equivalent (so 38 hours per week, including business owners) for each of the States you operate in? *read out*

Q5.　(By State if operate in more than one State), what was the total cost of wages (inclusive of superannuation) for the business in the 2022-23 year, including your own?

If only 1 site OR more than 1 site, but in the same State, ask:
Q6.　What is the total area of the business used for nursery production – and I would like you to give me outdoor area first and then undercover including greenhouses, cold frames, cloth houses and lath houses?

If more than 1 site in different States, ask:
Q6.　What is the total business area in each State used for nursery production – and I would like you to give me outdoor area first and then undercover including greenhouses, cold frames, cloth houses and lath houses?

Q7.　(By State if operate in more than one State) In the 2022-23 financial year, what was the total value (including resale) excluding GST of plants sold to …

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Wholesale nurseries:								
Retail nurseries:								
Revegetation, including forestry:								
Local, State & Federal government departments including water corporations, RTA, schools, etc:								
Landscapers, developers and builders:								
Primary industry:								
Direct to consumers/public:								
Other (specify): *DP note: allow for more than 1 other*								
Only able to provide total sold/total :								
TOTAL (computer calculate and confirm with respondent):								

Q8.　During the 2022-23 financial year, how many plants did you sell in the following categories (including resale)?

Q9.　And what was the total value of (from Q8) plants sold (including resale)?

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT
Propagation plants (eg, plugs, tubestock, cuttings, tissue culture):								
Number of plants								
Value								
Herbs and vegetables (excluding seeds and bulbs):								
Number of plants								
Value								
Fruit trees, nut trees and vines (excluding seeds and bulbs):								
Number of plants								
Value								
Bedding and potted colour (eg. annuals):								
Number of plants								
Value								
Indoor plants (including patio, but excluding seeds, bulbs):								
Number of plants								
Value								
Trees:								
Number of plants								
Value								
Shrubs, groundcovers etc.								
Number of plants								
Value								
Other (including seeds, bulbs, water plants, shot seed, etc.): (please specify) DP note: allow for more than 1 other								
Number of plants								
Value								
TOTAL (computer calculate and confirm with respondent):								
Number of plants								
Value								

Q10. Over the past 2 years, has the unit price of the plants you sell?
    Increased --- 1   Continue
    Decreased --- 2   Go to Q13
    Stayed the same --- 3   Go to Q13

Q11. What was the average % increase? _____ %

Q12. Which, if any, factors influenced your decision to increase the prices of the plants you sell
    Increased production costs -- 1
    Increased demand for plants --- 2
    Inflation --- 3
    Supply chain challenges --- 4
    Other (specify) --- 5
    None -- 6

If sell to retail (Q7 retail does not equal 0), ask Q13. Others go to Q15
Q13. In 2022-23 did you sell plants to 'big box' retailers such as Bunnings, Mitre 10, Big W or other large retailers?
    Yes --- 1   continue
    No -- 2   go to Q15

Q14. In total, what percentage of your sales to retail nurseries went to these 'big box' retailers? _____ %

Q15. Do you know what your business's total operating costs or expenses were for the 2022-23 financial year, so this includes input costs, wages, cost of goods sold, transport costs/freight, rent etc?
    Yes, can provide an accurate figure --------------------------------------- 1   continue
    Yes, but only a guesstimate --- 2   continue
    No -- 3   go to Q17

Q16. And what were your total operating costs or expenses (including input costs, wages, cost of goods sold, transport costs, rent) *(or estimated total operating costs if Q15 = 2)* for the 2022-23 year? _____ $

DP note: If respondent says no in Q15, ask Q17. Others go to Q18
Q17. Approximately what proportion of your business turnover was taken up by operating costs or expenses for the 2022-23 financial year? _____ %

Q18. During 2022-2023 financial year, did you source water from any of the following (yes/no/unsure grid):
    Town/mains water -- 1
    Irrigation channels/pipelines --- 2
    Dam/bore/tanks -- 3
    Stormwater/wastewater/other reused water ---------------------------------- 4
    Permanent watercourse rivers creeks etc. ---------------------------------- 5
    Other (please specify) -- 6
    Unsure -- 7

Q19. What was the total volume of water used by your business in 2022-23 (DP note: allow KL and ML).

Q20. What was the total amount spent on water costs (including town water, maintenance costs etc. but excluding irrigation equipment/capital investments) in the 2022-23 financial year? $_____

Q21. Is that amount more, less or the same as the prior financial year (2021-22)?
    More -- 1
    Less -- 2
    Same -- 3
    Unsure -- 4

Q22. Do you have a water security or management plan to ensure you have sufficient water in drier years or seasons:

Q23. For the issues listed below, how much impact are they currently having on your business?

		No impact and not expected to be in future	**No impact**, but expected to impact in future	Having a **minor impact**	Having a **major impact**	Unsure/ can't say
Q23a	**Biosecurity** – controlling/ preventing pests & diseases	1	2	3	4	5
Q23b	**Severe weather** - such as storms, hail, wind, rain & flood	1	2	3	4	5
Q23c	**Water availability**	1	2	3	4	5
Q23d	**Labour shortages**	1	2	3	4	5
Q23e	**Insurance** - securing policies, exclusion of events and cost	1	2	3	4	5

Q24. Which of the following best describes your nursery business currently. Is it …
In an expansion phase --- 1
In a steady phase because it was difficult to expand --------------------- 2
In a steady phase because it is where it needed to be ------------------ 3
In a contracting or winding down phase --------------------------------- 4
A new business just starting up --- 5

Q25. At this point in time, what is the intention for the business over the next 5 years? Is the intention …
To grow the business --- 1
Keep the business in a steady phase ------------------------------------ 2
Contract or wind down the business ------------------------------------- 3
Sell it as a business to another person or company --------------------- 4
Sell the land to a developer -- 5
Wind down and close -- 6
Do not read out/avoid Can't say --- 7

Q26. Overall, how do you feel about the future of the greenlife industry? Would you say you feel … *(read out)*
Very positive --- 1
Fairly positive -- 2
Fairly negative --- 3
Very negative --- 4
Do not read Neutral -- 5
Do not read Unsure -- 6

Q27. Why do you say that?

Q28. In the 2022-23 financial year, did your nursery business make an operating profit?
Yes --- 1
No -- 2
Don't know -- 3
Refused --- 4

Q29. And do you expect to make an operating profit in the 2023-24 financial year?
Yes --- 1
No -- 2
Don't know -- 3
Refused --- 4

Q30. Compared to the average of the past 5 years, do you expect profit levels for the 2023-24 financial year to be
Considerably higher -- 1
Slightly higher --- 2
About the same -- 3
Slightly lower -- 4
Considerably lower --- 5
Avoid Don't know yet --- 6

Q31. During the 2022-23 financial year did you invest in either infrastructure, new technology or training and education for the business?
Yes, new infrastructure -- 1
Yes, new technology --- 2
Yes, training and education -- 3
No --- 4   go to Q34

If Q31 = code 1, ask:
Q32. Approximately how much did you invest in new infrastructure during 2022-23? _____

If Q31 = code 2, ask:
Q33. Approximately how much did you invest in new technology for the business during 2022-23?

Q34. Does your business have any of the following automation technology to improve efficiencies?
Automated irrigation control --- 1
Automated climate control --- 2
Potting machines --- 3
Robotic plant handling --- 4
Barcode or QR code tracking system ----------------------------------- 5
Automated data collection to assist decision making (e.g. dashboard) -- 6
Automated seeding machine -- 7
Other (specify) --- 98
None -- 99

Ask all:
Q35. Have you or someone within your business used the benchmarking data tool that is sent to those completing a nursery statistics survey or is available on request through Hort Innovation or Greenlife Industry Australia?
Yes --- 1
No -- 2

```
        Haven't received  ---------------------------------------------------------- 3
        Can't say/unsure  --------------------------------------------------------- 4

If Q35 = code 1, ask:
Q36.   Has using the benchmarking tool influenced your business management decisions in any way at all?
        Yes, a lot -------------------------------------------------------------- 1
        Yes, a little ----------------------------------------------------------- 2
        No ---------------------------------------------------------------------- 3
        Can't say/unsure  ------------------------------------------------------- 4

Q37.   May I ask your age please?                                        _____

Q38.   And how many years has your nursery business operated for?        _____
Q39.   Are you the …
        Owner or joint owner of the business ------------------------------------ 1
        Manager  --------------------------------------------------------------- 2
        Other role (specify)  -------------------------------------------------- 3
Q40.   Record gender
```