March 2021

Greenlife market analysis

Market commentary





Executive summary

The Greenlife industry is a multi-billion dollar industry, employing thousands of Australians and contributing to healthy people, homes, urban spaces and the natural environment.

This report is an informative resource targeted for a business and policy audience. This report provides an evidence base of key issues facing the industry and what can be done about it. The findings will inform future strategic planning for Hort Innovation and Greenlife Industry Australia.

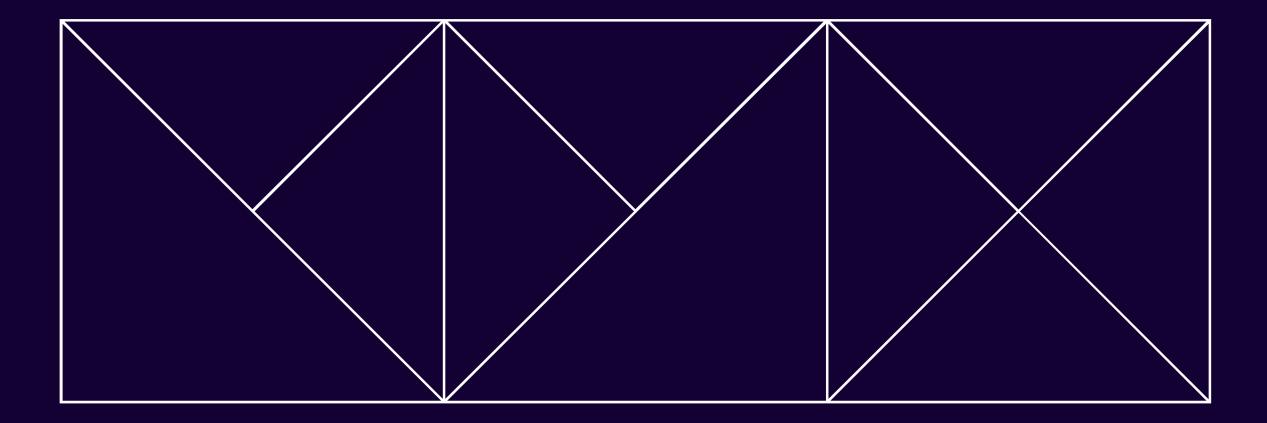
Special thanks to Hort Innovation who funded this report, collaboration partners Greenlife Industry Australia and participants from industry, detailed in the Appendix.



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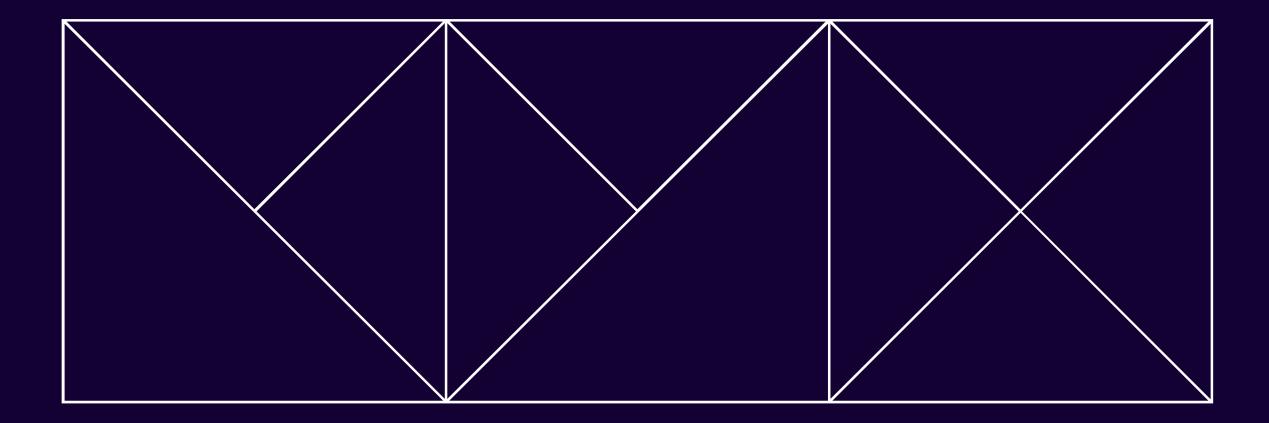
A simple prioritisation tool for business



Nursery production businesses: how important are these issues to you?

	Details	Questions to think about			Urgency
Demand trends	Slide	How can I manage this volatile demand?		High	Low
Demand trends	<u>22-23</u>	Where are my opportunities across the demand channels?			
Government supports and programs	<u>Slide</u> 24-26	Am I taking advantage of these supports and programs before they change? Do I know how to do this- how to find out information and support?	High	DO FIRST	PLAN FOR IT
Productive workforce	<u>Slide</u> 27-29	Can I hire and keep the qualified employees I need? Where & how do I source this labour – locally & overseas?	Importance		
Plant biosecurity	<u>Slide</u> <u>30-33</u>	Is my business-as-usual approach sufficient for this risk? Are the approaches my supply-chain partners take sufficient?	-		
Water and climate	<u>Slide</u> <u>34-36</u>	Do I have water security? Am I resilient and adaptable to climate-related risks and extreme events?	Low	WATCH & MONITOR	ELIMINATE
Technology	<u>Slide 37</u>	Can I enable the best use of technology? Is it worth it to invest (how quick will the return on my investment be)? Can I access government funding support?			5

Aspirations for policy

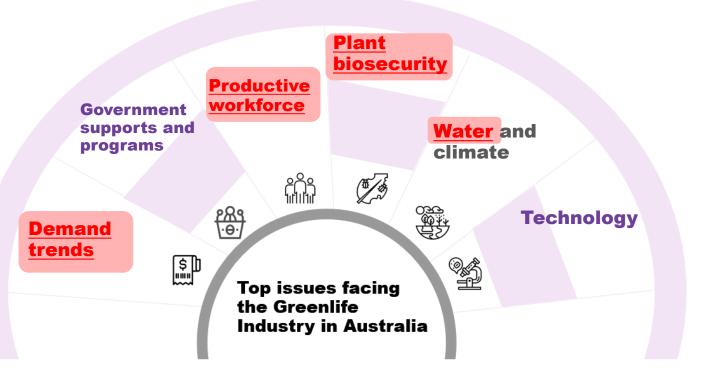


Top-ranked issues

- Recognizing that all these issues are important we wanted to know which issues are at the forefront of successfully growing nurseries production business and the Greenlife Industry as a whole.
- We invited industry participants from across the supply-chain to be involved in the review and development of this report and provided input on which are the major issues.
- The four top-ranked industry issues are:
 - 1. Demand trends: Expectations of future demand
 - 2. Productive workforce
 - 3. Water security
 - 4. Plant biosecurity

These issues are addressed in the next four slides.

Figure 1 Top-ranked issues for industry (click on word to be taken to slide)



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<u>1. Sustain strong demand – Capitalise on and sustain the recent demand surge</u>

Current snapshot

Expected demand in the short-term remains high especially from household, community and green infrastructure consumer segments.

Effective marketing campaigns can help sustain interest in greenlife

A dip in demand – uncertain how large after the 'COVID high' is expected. 1 in 5 nursery business experienced a fall in sales due to COVID related disruption.

Supply-side constraints around skilled labour, water security and technology need to be resolved if demand is to be fully met.



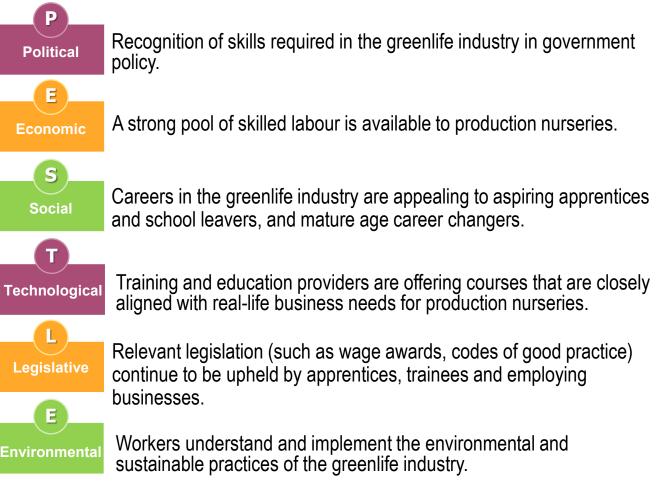


2. Productive workforce – Attracting, developing and retaining

Current snapshot

- Skilled labour is vital to drive business longevity and development.
- Training and education pathways can be more closely aligned with business needs.
- The industry offers diverse & dynamic careers for life this can be strongly promoted
- Currently around a quarter of employees in production nurseries have a tertiary qualification.
- Without a clear career progression agenda and a long-term industry-focused training and education pathway, this issue will remain a threat to the development of businesses and industry.

Aspirational direction



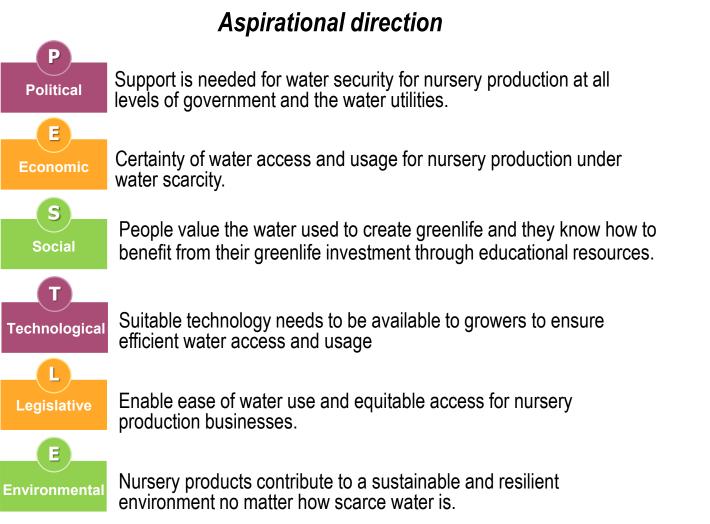
3. Water security– Ensure for business and industry

Current snapshot

Water access and use is a critical input for production nurseries and enables consumers to get the full benefit of greenlife products.

Water security reduces the risk for business and drives growth and development.

Drought, uncertain water restrictions and policy across Australia is a threat and barrier to the growth and development of the industry.



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4. Plant biosecurity – Maintain and continue high standards

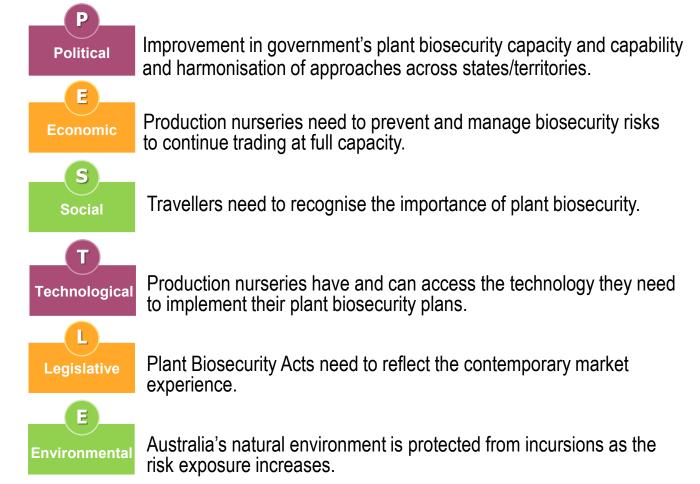
Current snapshot

Continuous high standards of prevention and management measures during normal and crisis periods mean the industry thrives and provides additional benefits for Australia with improved food security and a protected environment.

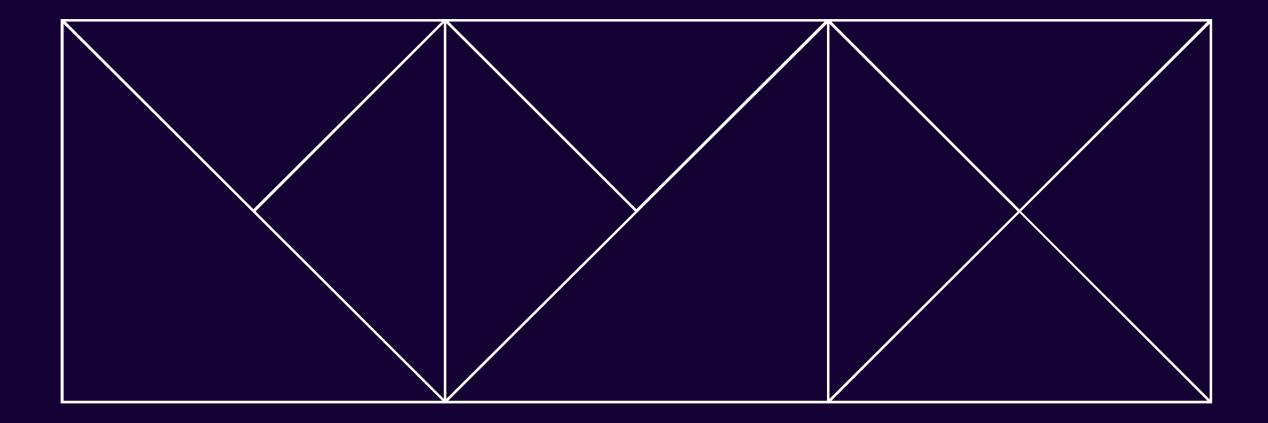
Incursions cause significant, sudden but lasting damage to the industry.

Detection, eradication and management is a continuous and costly effort – shown by recent cases of citrus canker, brown marmorated stink bugs, fall armyworm and serpentine leafminer.

Aspirational direction



Industry strategies and data gaps



Industry strategies

Imperative

Activities

The main outcomes and strategies of Greenlife Industry Australia (GIA) and Hort Innovation for the greenlife industry are below. Throughout this report, we will be comparing how these programs assist with the major issues currently impacting the industry's development (excluding the funding imperative from GIA as this is an internal objective).

Greenlife Industry Australia 2020 - 2023

Measure

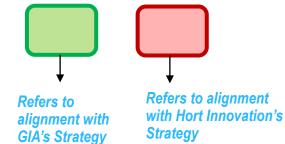
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Hort Innovation Nursery 2017 - 2021

Imperative	Acuviues	KPIS	measure				
Advocacy	Advocate to governments and influencers to obtain positive outcomes for the greenlife industry Collect and analyse the data required to formulate industry strategy and policy positions Form alliances with other industry groups	 National industry policies established on key issues Alliances formed with 5 national bodies Annual reports published by GIA detailing outcomes for the industry 	 Board approved policies developed Alliances established Board approved reports published 	Outcomes Increased demand and sales of green life	 Strategies Develop an annual marketing program Identify and monitor effectiveness of marketing program and allocation of spend between business to business, and 	Outcomes	Strategies Monitor overseas innovation and trends Identify and fill R&D production gaps where research would provide a collective benefit to the industry Review and update the industry
Promotion	Promote the size, importance and benefits of the greenlife industry Engage and interact with Association members to develop a national communications matrix Facilitate the use of a common language between growers and all other parts of the value chain	rate National communication strategy Common language/ messages, developed 	 Industry statistics survey Board approved strategy developed Common language agreed by GIA and Association Member Boards 	products by four per cent per annum plus CPI	 business to consumer Continue to support the 202020 Vision program Enhance the 202020 Vision brand beyond 2020 Identify and promote the benefits of green-life products and services Obtain a better understanding of 	Improved productivity, profitability and professionalism through the creation and adoption of	 best management practice (BMP) modules to promote and expand these programs, including accreditation Develop and conduct extension activities to drive adoption of BMP practices Promote, survey and monitor
Sustainability	Develop an industry sustainability framework Set ambitious waste reduction and emissions targets Transition to the Australian Plant Production Standard (APPS) incorporating environment, plant protection and biosecurity and best management practices	 Industry sustainability framework established and adopted Australian Plant Production Standard covers 80% of volume of production Industry support the development of a grower register 	 Board approved framework developed and rolled out APPS certified businesses' production as a % of total production Grower register established 	Increased marketing effectiveness and efficiency and better decision making based on increased Industry knowledge	 the customer, their requirements and reasons for buying or not buying green-life products and/or services Obtain better industry intelligence, including value of industry, and people employed Disseminate industry information and insights to growers and key stakeholders 	innovation and industry BMPs	 growers' uptake of BMP and levy funded outcomes Create and maintain a library of projects that is open, easily accessible and catalogued for grower access Develop and implement an effective communication program Monitor the effectiveness of communication activities
Careers	 Develop tools and materials that help Association members to promote greenlife careers Work with the Federal programs and higher education sectors to ensure qualifications meet industry needs Offer professional development programs to industry participants 	 90% (78% currently) of greenlife businesses employ qualified horticulturists Career path strategy for the greenlife industry developed Highly regarded education and training programs 	 Industry statistics survey Board approved strategy Programs in place 	Improved industry protection from exotic, emerging and	 Maintain and test surveillance systems and emergency disease management preparedness Increase the awareness of the requirement of biosecurity to industry and stakeholders Review importation requirements and barriers to adoption of new genetics 	Better career development	 Promote the industry as a professional career choice Identify future skill sets needed in the industry Collaborate with institutions about industry training and development needs Implement a young leader and development program
Funding	 Provide excellent service, value and benefits to members Recruit to GIA or develop strong alliances with other greenlife bodies Seek additional revenue 	 GIA remains financially viable Membership and sponsorship revenue increase annually All Associations are members 	 Profit and loss statement Board approved member engagement and partnership strategy Association membership 	endemic pests and diseases	 Work with state governments to develop a more workable system for plant movements between states Maintain access to chemicals through Minor Use Permits 		Use future innovators/young leaders to promote and adopt R&D and marketing outcomes within the industry

Industry strategies and issues

Shaded boxes indicate that the industry strategy addresses this issue in some way through their activities



- The key issues impacting the industry's growth and development are mapped against the main outcomes and strategies of GIA and Hort Innovation.
- All the issues are addressed in some way through the GIA and Hort's activities.
- Within each issue are various barriers and drivers, known and emerging in which industry participants across the supply chain, GIA and Hort all have a role to play.

Figure 2 Key issues against industry strategies

Demand trends

GIA addresses this issue through advocacy and promotion work to government and with other industry bodies and investment in career development for the industry. Hort targets increased demand and sales as a strategic outcome, more effective marketing and promotion, and collaboration activities to improve career development in the industry.



Government supports and programs

GIA addresses this issue through advocacy and championing the industry to government and investment in career development for the industry. Hort invests in promotion and collaboration activities with training institutions to improve career and leadership development in the industry.



Productive workforce

GIA addresses this issue through investment in career development for the industry by working with other organisations like Skills Impact, the educational sector and offering development programs. Hort invests in promotion and collaboration activities with training institutions to improve career and leadership development in the industry and updates the industry's best management practices to improve productivity, profitability and professionalism



Plant biosecurity

GIA addresses this issue through offering the BioSecure HACCP accreditation and resources. Hort invests in management preparedness R&D and raising awareness of the importance of biosecurity with stakeholders and working with state governments on their systems of moving plants across states.



Water and climate

GIA addresses this issue through development of an industry sustainability framework. Hort updates the industry's best management practices to improve productivity, profitability and professionalism and invests in extension activities to drive adoption of these practices.



Technology

GIA addresses this issue through advocacy activities to government to support technology innovation and adoption in the industry. Hort invests in early stage and up to commercialisation-ready technology research, development, extension and adoption programs.



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Summary: data / information gaps

- Across the six issues we have identified at least 35 data / information gaps.
- We have a fair visibility in some areas like Hort's Nursery Fund, the supply chain and government supports and programs and filling in these gaps will help to create a more complete picture.
- In the other areas there are a lot of unknowns and the potential for information to be out of date quickly.
- Greater data and information can facilitate better co-operation and co-ordination across the supply chain (e.g. better cost and risk sharing arrangements)
- Data delivers benefits where there is uncertainty and also allows the relative merit of different actions to be measured.

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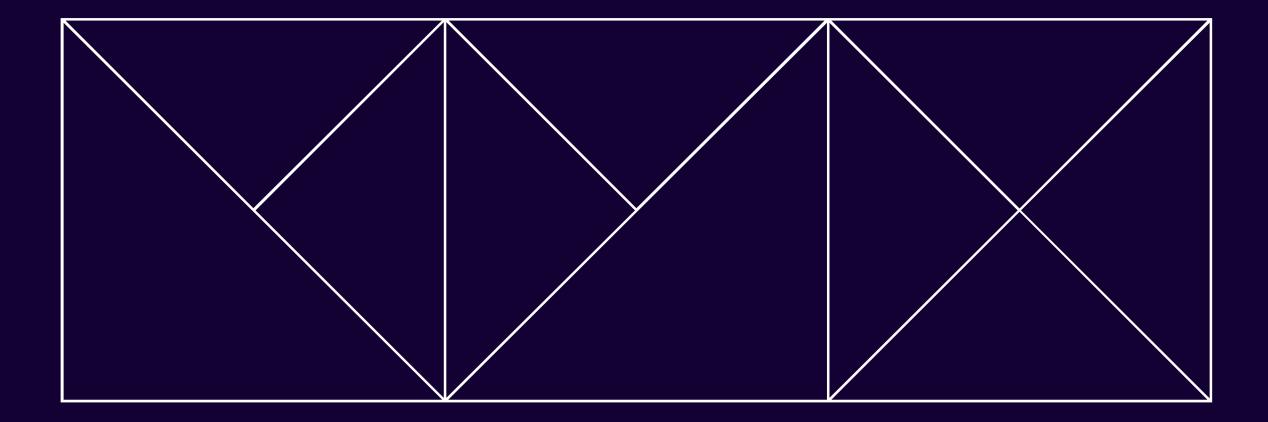
Table 1 Data / information gaps

Greenlife supply chain

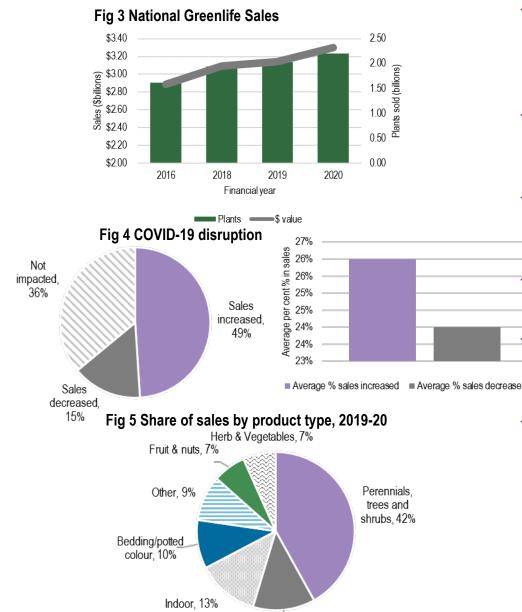
Quantitative data on Exports, Consumers of Landscape and Retail The diversity of stores within the Retail market Fresh food market trade volumes Detailed data on value-add activities Variation in supply-chains depending on product type Baseline unit costs of production Complementary supply-chains into the Greenlife supply-chain Demand trends Quantitative data on government and commercial Greenlife spending trends Quantitative data on food production Government supports and programs Wage and job impact on the Greenlife industry specifically Relative impacts compared to other similar industries Interest and opportunity for industry to take advantage of these programs and programs like these Productive workforce Features of and access to the current labour pool How much more is the Industry willing to pay for labour? The number and type of labour positions the Greenlife Industry requires to kee supplying at current volumes and what increase is needed to meet expected fu demand The 'preferred providers' of courses well aligned with the Greenlife Industry's r Collaboration between the Greenlife Industry and Training and Education prov creating fit-for-purpose courses Trade-offs and pay-offs on labour vs business investment

	Plant biosecurity
	Value of biosecurity (\$ terms) across the supply chain
	Itemised business cost metrics to allow for a comparison of the value of biosecurity practices
	Trends in biosecurity measures on production sites
	Supply-chain traceability and grower monitoring register
	Water and climate
	The costs and benefits of different levels of water restrictions to production nursery businesses
	Consistency of water restriction implementation across agencies in different states and territories
	Projected impact / risk metrics for nursery sites across Australia for negative climate events
	Detailed data on the Greenlife industry's potential role in climate change intervention and response efforts (greening, cooling, carbon sinks)
	Industry participant figures on level of preparedness and management in case of natural disasters
	Industry involvement with other agents on bushfire recovery and preparedness opportunities
	Technology
	Trends in uptake of new technologies across supply chain participants in industry
	Enabling best use of technology in the Industry
ер	The alignment / gaps with emerging technology and tech the industry wants
uture	Data on 'transformative' vs 'incremental' technology
needs	Activities of large technology providers like Powerplants and Transplant Systems e alignment / gaps with emerging technology and tech the industry wants
/iders	Hort Innovation Nursery Fund
	What's next for the Nursery Fund?
	Build strong, clear pathways between R&D and policy formation

Greenlife market overview



Greenlife industry statistics overview



Propagation, 13%

- Since 2015-16, the greenlife industry has broken through the \$3 billion value and \$2 billion product volume in sales (including re-sales to other production nurseries)
- Retail is the largest market segment with over \$1.3 billion in sales, with growth at around 4 per cent per year.
- Primary industry is the highest growing customer group, averaging 30 per cent per
 year and a little over \$300 million in sales.
 - Both government and landscape sales have fallen since 2015-16.

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- Sales into retail, wholesale and landscape make up over three-quarters of the buying market.
- Over 40 per cent of greenlife products sold fall into the perennials, trees and shrubs category, followed by propagation, indoor and bedding/potted colour, each with between 10 - 13 per cent market share in 2019-20.



\$3.3 billion

sales value*

>23,000 employees

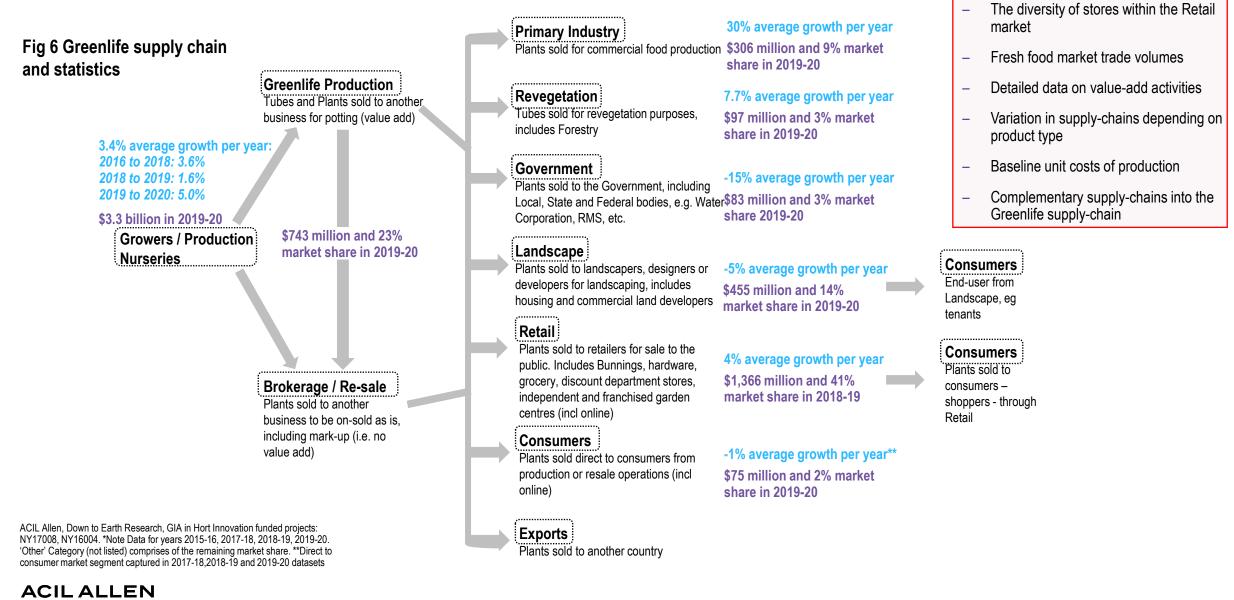
∼26% increase in sales

On average for 4 out of 5 businesses due to COVID-19 related disruption

*sales value includes re-sales to other production businesses. With this excluded the sales value is \$2.6 billion. ACIL Allen, Down to Earth Research, GIA in Hort Innovation funded projects: NY17008, NY16004



Greenlife supply chain



Data / Information gaps

Exports, Consumers of Landscape and Retail

Hort Innovation Nursery Fund (1 of 2)

Hort Innovation has invested over \$13 million in research, development and marketing in the greenlife industry since 2016 across nearly 50 projects. A visualisation of their investments in the PESTLE* framework are shown overleaf.

- The majority of projects concern the social factors within the greenlife industry, with consumer-focused programs and marketing, building the indoor plant and well-being campaign, urban greening in urban planning, management plans for businesses and career and leadership programs.
- Projects fitting under the economic and technological theme are the next most common, including costs and benefits projects, data and decision support projects, biosecurity / pest and disease, indoor plants and research and gap analysis about technology in the industry.
- As expected, growers are the most common target audience/beneficiary, followed by government and retail groups.
- The framework also shows areas where the fund has not been targeted:
 - Issues around Legislation have received less attention.
 - Environmental issues outside of the R&D and grower audience haven't been explored as much.
 - In terms of target audience/beneficiary, further downstream supply chain participants including processing/value-add entities and consumers are less targeted.
 - Growers are targeted but there are few long-term extension/adoption programs.
- These gaps do not necessarily mean investment is warranted in these areas. The Strategic Investment Plan details Hort Innovation's decision on the best use of the funds in the interests of levy payers. The investments in the Fund promoted demand for greenlife – such as the 202020 Vision/Greener Spaces Better Places campaign and Plant Life Balance Campaign – and in protection - biosecurity / pest and disease research, gap analysis, technologies and management and risk preparedness and planning.

Data / Information gaps

- What's next for the Nursery Fund?
- Strong, clear pathways between R&D and policy formation

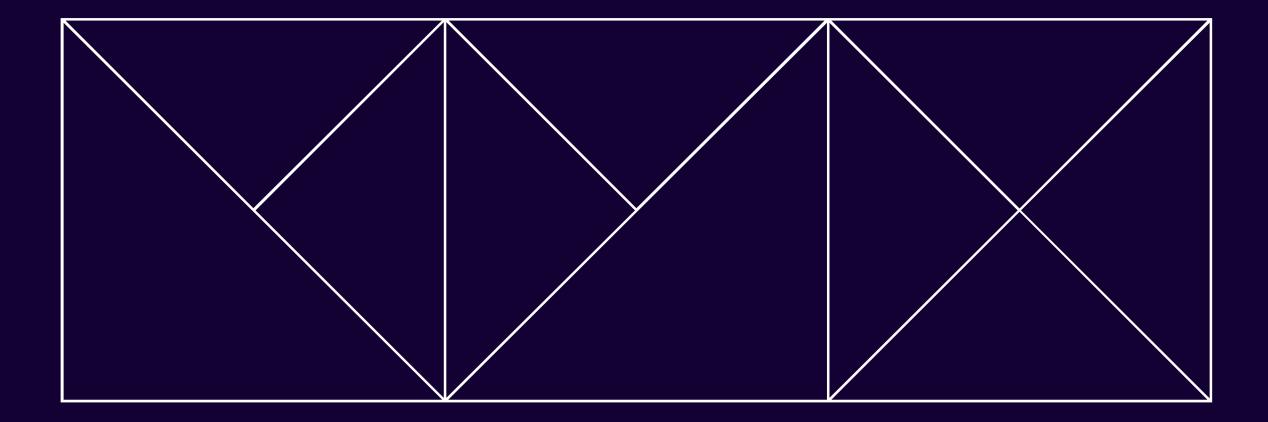
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Hort Innovation Nursery Fund (2 of 2)

Fig 7 Hort Innovation Nursery Fund in the PESTLE framework

	Proportion of	projects		Political	Economic	Social	Technological	Legislative	Environmental
	Relatively lower project spend	Relatively hig project spen		Green spaces, urban greening, open space, urban planning, development, decision- support, costs and benefits	and benefits, data, research,	Consumer programs, marketing, Conference, indoor plants, indoor air quality, green space, urban greening, urban development, leadership, career pathways, training, engagement, risks, biosecurity, management plans	Biosecurity, pest and disease, data, gap analysis, research, indoor plants, costs and benefits	Urban greening, development, open space	Biosecurity, pest and disease, spotted wing drosophila, vegetable leafminer, xylella, management plans, preparedness, severe weather events, natural disasters, risks
Primary audiend	e impacted		Overall by audience						
Growers	Consumer programs, training, e Conference, biosecurity, pest an drosophila, vegetable leafminer, plans, severe weather events, n preparedness, risks, data, resea pathways	nd disease, spotted wing ; xylella, management atural disasters, risks,							
Government	Green spaces, urban greening, planning, development, decision benefits								
R&D	Biosecurity, pest and disease, sp vegetable leafminer, xylella, gap management plans, preparadne events, natural disasters, risks	o analysis, research,							
Retail	Consumer programs, indoor pla marketing	nts, indoor air quality,							
Landscape	Urban forestry, planning, develo support, green spaces, costs and								
Consumers (end supply chain)	of Consumer programs,indoor plan green space, urban developmen								
Processing/value add	- Consumer programs, indoor pla	nts, urban planning							

Key issues for industry



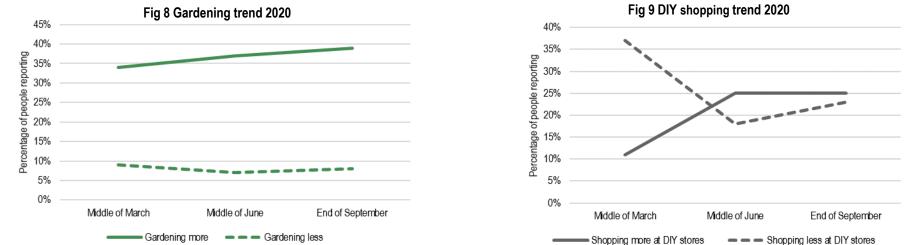
Demand trends (1 of 2)

Demand

- Generally, there are positive impacts from increasing demand in household and community spaces.
- Between March and September 2020 during the COVID-19 pandemic, consumers generally spent more time gardening, likely due to longer periods of time spent at home under lockdown and travel restrictions.
- The trend in DIY shopping exhibits an interesting convergence: in March 2020, more people stopped shopping at DIY stores, then the trend flipped in June, where consumers started shopping more at DIY stores. By the end of September, the percentage of people shopping more at DIY stores equalled those that are shopping less in effect 'cancelling out' each other.
- Local councils operate an important role in the 'streetscaping' their suburbs but there are inconsistencies in the approaches taken across different local councils in Australia.
- Urban greening and green infrastructure interest from government and commercial developers, and strongly supported through the Hort Innovation Nursery Fund, offers opportunity for growers.

Meeting demand

Attracting, developing and retaining suitable labour has been a challenge for many growers in recent years, becoming an even more heightened challenge now given the expectations for increasing demand. This is explored in more detailed in the Productive Workforce chapter <u>here (slide 27-29)</u>.



GIA addresses this issue through advocacy and promotion work to government and with other industry bodies and investment in career development for the industry. Hort targets increased demand and sales as a strategic outcome, more effective marketing and promotion, and collaboration activities to improve career development in the industry.



- Data / Information gaps
- Quantitative data on government and commercial greenlife spending trends
- As above for food production

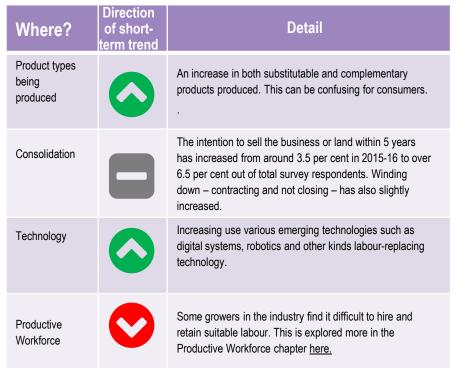
Demand trends (2 of 2)

Table 2 Demand-side trends

Where?	Direction of short- term trend	Detail
In household spaces	\bigcirc	Some evidence (quantitative from Fiftyfive5 and anecdotal) that more disposable income is being spent on gardening and indoor plants due to the greater amounts of time being at home for both homeowners and tenants.
In community spaces (including community gardens)		In recent years there has been increasing activity in greening community spaces with both edibles and non-edibles. Since the pandemic began, the benefits around mental health spurred interest further.
Public spaces		Investing in greenlife in public spaces is a priority for many local councils, however greater resources are being directed at the economic recovery and community resilience. Overall, there are inconsistencies in the approaches taken across different local councils in Australia.
In government and commercial spaces		Anecdotal evidence there is less expenditure on greenlife in some government and commercial customer groups, however urban greening and green infrastructure interest offers opportunity for growers.
Sales to large and corporate retailers		Sales to large and corporate retailers is trending up at a bit over half of sales into the retail segment (NY17008 survey). The decisions and preferences of the consumers have a large influence on the upstream parts of the supply-chain.
Dwelling builds	\bigcirc	According to ABS data, dwelling commencement and approvals peaked in 2018, but the sector remains strong despite the COVID-19 pandemic Government stimulus measures and re-bounding demand (house prices fall, spurring increased local demand). The majority of commencements in June 2020 were split evenly between NSW and Victoria at around 30 per cent each.

Almost 50 per cent of dwelling approvals not yet commenced in June 2020 are in NSW, suggesting greenlife demand associated with new builds could be greatest in NSW.

Table 3 Supply-side trends



Government supports and programs (1 of 3)

The Government responded to the COVID-19 pandemic crises with a suite of new stimulus measures including (detailed in the <u>Appendix</u>):

- **JobKeeper:** government subsidise businesses to retain employees,
- JobMaker: government subsidise businesses to onboard new employees,
- JobTrainer: government subsidise education and training providers:
- Tax and insolvency relief: government lower insolvency thresholds and reduce tax obligation
- HomeBuilder: government subsidise new home buyers

Lockdowns and reduced mobility means less cash for businesses and less opportunities for employment. These stimulus measures are designed to 'bridge' the gap until a new stable point is achieved as society learns to live with the virus in a less restricted way

Figures 10 & 11 summarise the impact of the pandemic on jobs and wages between March 2020 and January 2021:

- All states experienced a fall in jobs and wages, with NSW, WA and Victoria the top 3 most affected jurisdictions.
- The top 3 most negatively affected industries in terms of wages were mining (-23%), information media and telecommunications (-12%) and accommodation and food Services (-12%).
- The impact on the agriculture and forestry sector was relatively low, ranking 14th out of the 19 industries, with around 7 and 3 per cent decline in jobs and wages, respectively.

Fig 10 Wages and Jobs change by state across all industries (March 2020 – January 2021)



Total wages • Payroll jobs

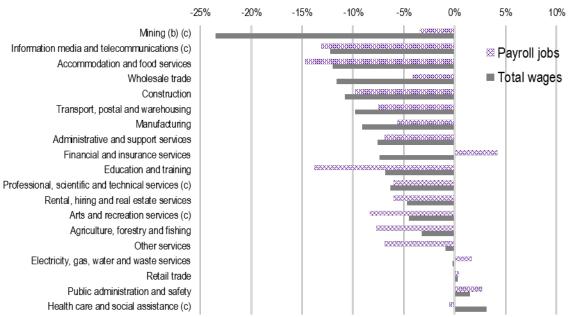


Fig 11 Wages and Jobs change by industry (March 2020 and January 2021)

Wage and job impact on the greenlife industry specifically

Data / Information gaps

Relative impacts compared to other similar industries

AUSTRALIAN BUREAU OF STATISTICS, WEEKLY PAYROLL JOBS AND WAGES IN AUSTRALIA, (b) The Mining industry wages estimates in may include annual bonuses. c) Some businesses have expected year-end reporting variability. The scope and coverage of these estimates are largely defined and constrained by the characteristics of the data sources (including Single Touch Payroll) from which these estimates are produced. As such, users should note that not all jobs and wages in the Australian labour market are captured within these estimates. The ABS may revise the data at any time.

Government supports and programs (2 of 3)

Data / Information gaps

Interest and opportunity for industry to take advantage of these programs and programs like these

The greenlife industry is one of the most diverse industries within the agriculture sector, offering thousands of products and associated uses. The industry is a multi-billion industry in existing markets and attracts millions to hundreds of millions of dollars of value from different avenues, a few current ones highlighted below.

- Project Phoenix, also known as the Native Seed Strategy, involves the development of a strategic program to build and secure native seed and plant supply for landscape restoration, recovery and resilience in bushfire impacted areas.
- Large-scale tree planting has traditionally been a government activity and while the Queensland Government has extended this in their Land Restoration Fund – private sector interest is also growing, such as pharmaceutical multi-national AstraZeneca's program for 25 million tree planting.
- Sustain Australia is seeking half a billion dollars to develop a National Edible Gardening Fund.

Fig 12 Examples of large-scale programs



ACILALEN HTTPS://WWW.GREENINGAUSTRALIA.ORG.AU/GREENING-AUSTRALIA-TO-LEAD-5M-NATIVE-SEED-AND-RESTORATION-PROGRAM-AS-PART-OF-BUSHFIRE-RECOVERY/,HTTPS://WWW.ASTRAZENECA.COM.AU/MEDIA/PRESS-RELEASES/2020/ASTRAZENECA-TO-PLANT-25-MILLION-TREES-IN-AUSTRALIA-AND-INVEST-200M-IN-LOCAL-MANUFACTURING.HTML, HTTPS://WWW.QLD.GOV.AU/ENVIRONMENT/CLIMATE/CLIMATE/CLIMATE-CHANGE/LAND-RESTORATION-FUND/ABOUT, HTTPS://WWW.GREENLIFEINDUSTRY.COM.AU/STORY?ACTION=VIEW&STORY_ID=2881

Government supports and programs (3 of 3)

There is not a reliable timeline of how events will unfold

The cash value of government stimulus measures is reduced from January 2021 and a vaccine rollout began in February 2021. We have an idea about the future week or two about most other government policies and economic events before they will change.

The government is committed to improving the conditions for communities and business

The government intends to have a positive impact in keeping the community safe and healthy and enabling businesses to operate. However, there will always be some trade-offs as a consequence of their policies which will leave some people and businesses worse-off. The greenlife industry being recognised as an 'essential service' was a positive achievement – businesses can still operate even when strong lockdown measures are enacted.

A lot of lessons were learnt in 2020 which we can apply over the next few years

The pandemic forced us to deal with elevated levels of uncertainty - managing evolving lock-down restrictions, stricter controls on travel, doing 'more with less' and shifting consumer behaviour – and these lessons will be applied again in 2021 and beyond for the next several years.

GIA addresses this issue through advocacy and championing the industry to government and investment in career development for the industry. Hort invests in promotion and collaboration activities with training institutions to improve career and leadership development in the industry.



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- Productive workforce (1 of 3)
- 30 50 %

wages % of revenue Higher for smaller sized businesses

~13,500

full-time employees (70%) are working in larger (>\$4M) or medium sized (\$500k - \$2M) businesses

Fig 14 Full time employee distribution across the greenlife industry, 2019-20



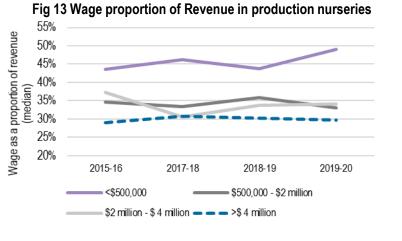
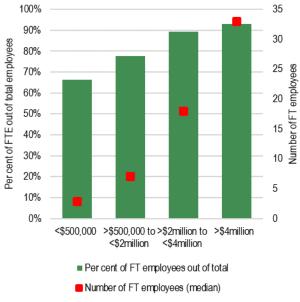


Fig 15 Full time employee vs total employees in production nurseries, 2019-20



- Features of and access to the current labour pool
- How much more is the Industry willing to pay for labour?

Labour costs for production nurseries is a major area of interest, being one of the most often cited statistic collected from the industry surveys:

- Businesses with more than \$2 million in sales have a higher proportion of full-time employees within their business – they still employ casuals and part-time employees, but most of their employees work full-time.
- Businesses earning less than \$500,000 per year have the lowest proportion of fulltime employees, with approximately 30-40 per cent of the workforce being casuals or part-time employees.

The nature of the labour is diverse and complex across greenlife businesses

The nature of the labour employed and various contracting arrangements means at a peer to peer level, direct comparisons of labour costs between businesses is difficult. One business may sub-contract a transport provider while another doesn't because it is more suitable for their needs. A more labour-intensive business could justify that arrangement because a high-margin product requires more labour than others. A business with low labour costs may actually benefit from employing more people to add value.

The most cost-effective arrangements depend on the needs and intentions of the business and this may change as conditions change, considering factors such as:

- How do each of my employees add value to the bottom-line?
- Could a different mix improve this productivity?
- What stage of business do I want to be in?
- How does this change my employee mix?
- What are realistic labour cost-saving measures that could developed?

Productive workforce (2 of 3)

24%

Employees in the Greenlife Industry have a tertiary qualification

~192,400

Apprentices and trainees employed in May 2020

~33% are between 15-20 years old

~3,780

Registered Training Organisations operating across ~6,700 locations in Australia

Long-term issue

Attracting and retaining labour with relevant qualifications and skillsets in the Industry is a common issue across production nurseries in Australia revealing longstanding problems that require long-term solutions. As shown in the figure below, the trend from 2014 shows the split of apprenticeships and trainees in all trades across different age groups narrowed by 2020. In other words, in 2020, there was a similar number people above 25 years registered as an apprentice or trainee as they were between 20 -24 years and 15 – 19 years.

Training and Education mismatch

Growers in the Industry have experienced a mismatch between what courses education and training institutions provide and what skills and competencies are required for the business.

Difficulty retaining workers

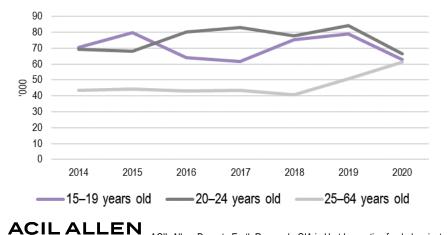
The Greenlife industry offers a progressive career pathway through the business like many other agricultural businesses, however anecdotally many growers experience a labour 'drain,' where workers shift to other horticulture and landscape sectors before advancing to higher level management positions in the business.

Greenlife Industry requires to keep supplying at current volumes and what increase is needed to meet expected future demand

The number and type of labour positions the

- The 'preferred providers' of courses well aligned with the Greenlife Industry's needs
- Collaboration between the Greenlife Industry and Training and Education providers creating fit-forpurpose courses

Fig 16 Number of apprentices and trainees by age group in all trades



Promotion strategies: positive developments but the Greenlife roles are not on the National Skills List – the closest is 'Landscape Gardener'

Both Greenlife Industry Australia and Hort Innovation include career promotion and development in their Strategic Plans. Currently, the Federal Government is offering an extra boost through the JobTrainer program (see <u>Appendix</u> for more details).

- Greenlife Industry Australia is currently working on a Nursery Careers Pathway strategy and represents the industry's interests across several committees within Skills Impact – a non-for-profit operating national to benchmark learning and skills standards.
- The Hort Innovation Nursery Fund has invested in three major projects developing a career roadmap for the industry, promoting careers and engaging leaders in the industry on this issue.
- In Partnership with the National Skills Commission, the JobTrainer Fund is subsidising over 300,000 training places (the number of places filled as at March 2021 is unknown). Some courses that relate to the greenlife industry are eligible such as Certificate III in Nursery Operations.

N ACIL Allen, Down to Earth Research, GIA in Hort Innovation funded projects: NY17008. Viewed February 2021, <u>https://www.myskills.gov.au/jobtrainer</u>, <u>https://www.horticulture.com.au/growers/nursery-fund/</u>, Greenlife Industry Australia Annual Report 2020, <u>https://www.myskills.gov.au/jobtrainer</u>, <u>https://www.myskills.gov.au/jobtrainer</u>, <u>https://www.horticulture.com.au/growers/nursery-fund/</u>, Greenlife Industry Australia Annual Report 2020, <u>https://www.myskills.gov.au/jobtrainer</u>, <u>https://www.myskills.gov.gov.gov.gov.gov.</u>

Productive workforce (3 of 3)

As well as improving labour productivity, future productivity can be improved through business investment in infrastructure and technology. Notably, businesses within the relatively smaller turnover ranges that employ a relatively lower share of total full-time employees across the industry (<\$2M), are investing more in infrastructure as a proportion of their revenue at between approximately 5 and 8 per cent in 2019-20. Comparatively, investment in technology is low at around 1 per cent of revenue.

Balance between investment and labour

The commercial decision about the optimal balance of investment and labour spend depends on:

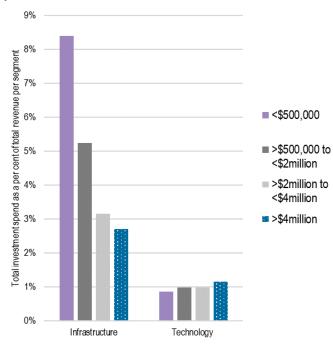
- Expected returns to investment
- Opportunity cost
- Stage of the business expanding, steady, winding down, etc
- Other practical constraints such as access to suitable land, etc
- Future expectations of demand

Some future expectations

- There are expectations of continued strong demand for greenlife in the wholesale and retail customer segments and there has been an increase in demand from the primary industry segment.
- The Hort Innovation Nursery Fund has invested strongly in motivating demand for urban green spaces and indoor plants and large-scale Federal Government programs are targeting the revegetation sector.

Trade-offs and pay-offs on labour vs business investment

Fig 17 Investment spend per turnover size in production nurseries, 2019-20



GIA addresses this issue through investment in career development for the industry by working with other organisations like Skills Impact, the educational sector and offering development programs. Hort invests in promotion and collaboration activities with training institutions to improve career and leadership development in the industry and updates the industry's best management practices to improve productivity, profitability and professionalism



Plant biosecurity (1 of 4)

High standards of plant biosecurity

Profit protection

Plant biosecurity in the greenlife industry is not a new concern, nor will it ever stop being one.

The industry's risk profile is changing

Data / Information gaps

- Value of biosecurity (\$ terms) across the supply chain: value of this 'insurance policy'
- Itemised business cost metrics to allow for a comparison of the value of biosecurity practices
- Trends in biosecurity measures on production sites
- Supply-chain traceability and grower monitoring register

From the citrus canker incursion and response in 2018 heightened awareness of and measures against the brown marmorated stink bugs in shipping containers, to the recent detection of the serpentine leafminer in NSW and the fall armyworm in parts of northern Australia highlights that investment in biosecurity measures is a vital investment in the viability and prosperity of Greenlife industry itself.

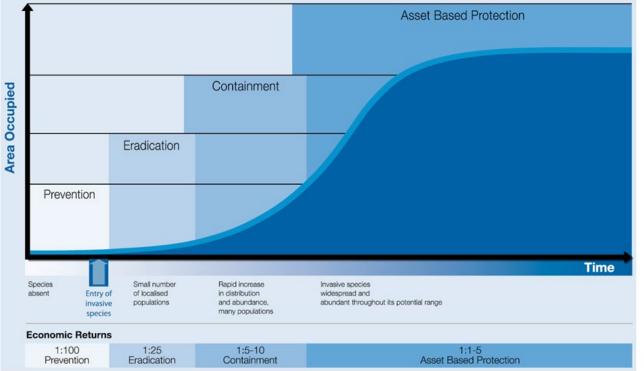
The major sources of risk are:

- The diversity of the industry with over 30,000 species/cultivars in cultivation and the natural complexity of host-pest relationships.
- Highly connected national supply chains and logistics across Australia.
- Multiple supply chains servicing ornamental, landscape, fruit, vegetable, forestry and regeneration greenlife clients.
- More travel and trade: 50 per cent increase in containers, 27 per cent increase in air cargo and 93per cent increase in passengers by 2025 (DAWE).
- State government biosecurity and market access protocols risk tolerances reducing.
- Reduced capacity and capability in plant biosecurity agencies in Australia.
- Management in production nurseries capable of identifying risk and skill levels within a predominantly permanent workforce.
- Low recognition and value placed on the importance of biosecurity across participants in the supply chain.

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Plant biosecurity (2 of 4)

Fig 18 Biosecurity continuum



Government performance

In recent years the investment and service delivery from government agencies has been arguably declining as noted in the Nairn Review 1996, The Beale Review 2008 and State Biosecurity Reviews with anecdotal commentary on issues such as:

- There has been downward trend government investment in plant biosecurity over the last 25 years, and at the same time an increase in the portfolio in which the budget is allocated. Biosecurity includes animals, plants and product integrity (pesticides and veterinary medicine control of use), a sub-component of plant biosecurity. Broadly defined invasive species and environmental biosecurity are also managed within the same agency in most jurisdictions
- This means the budget is spread more thinly over a range of issues and the budget allocation is not proportional to the complexity of the issues – animal biosecurity takes up approximately two-thirds of the budget.
- "In August 2015, the Victorian Auditor-General reported a reduction in the Victorian Government's ability to detect, respond and prepare for an emergency response outbreak." (Source: IGAB Draft Report December 2016)

As shown in the figure above the biosecurity continuum broadly occurs in four phases. Quickly acting in eradication stage will supress the size of the area occupied and yield the highest economic returns for effort. If the incursion spreads, the area occupied and the time it takes to manage rises steeply.

- The capacity and capability of biosecurity officers across all four stages have fallen.
- The Regulator doesn't accept self-assessed crop monitoring or site surveillance data records.
- An inspector must make an on-site assessment. Industry representatives note that growers need to give 72 hours' notice to get a plant health inspector on-site in some jurisdictions.
 - You are not guaranteed a plant health inspector a pig inspector turned up to a grower's production nursery
 - The last remaining plant health officer in Sydney Basin was terminated. Shortly after, the pest, serpentine leaf miner was detected in NSW

Plant biosecurity (3 of 4)

Industry performance: adoption of best practice into business as usual

The industry currently offers best management practice and dedicated plant protection/biosecurity programs (BioSecure HACCP program) built from a long-standing plant production standard – the Australian Plant Production Standard (APPS) as below. A robust plant protection program is by default, a good plant biosecurity program. Biosecurity is more than just quarantining and market access. Self-monitoring is common but uptake of the more formal and systemised approach is less common among growers.

The industry can be better off by:

Working with government

Representatives at Greenlife Industry Australia are currently working with government on a structured program that places a high value on plant health and the financial implications for growers. One of the objectives of the program is to ensure growers are not financially worse off for undertaking measures to have high level of plant health. Further work is underway to secure the recognition by governments of on-farm monitoring and surveillance data captured to validate pest presence/absence to allow businesses to maintain continuity or return to trading in the event of a pest incursion and response.

The industry can engage in open and transparent partnership with government, as evidenced by the co-operation in the examples above.

Working across the supply-chain to incentivise action based on a highly valued plant health objectives

Management by growers is essential but only one part of the supply-chain. Businesses across the supply chain can value plant health more highly with the shared responsibility and continuity of supply therefore cost sharing is managed across both upstream and downstream components of the supply-chain.

Fig 19 Australian Plant Production Standard and BioSecure HACCP

The entire data recording resources collection is currently being digitised for use on smartphones/tablets in the field, rolling out in 2021. This will enable people to interrogate the information and use in every day business decisions.

NIASA

URSE

oHor

Certified

BioSecure

High Health Plant Production

Greenlife

dustry Australia

APPS

The Australian Plant Production Standard is the overarching framework binding the nursery industry programs into a cohesive interlocked support system for production nurseries, greenlife markets and growing media manufacturers.

These three programs are:

1. Nursery Industry Accreditation Scheme, Australia (NIASA Best Management Practice)

2. EcoHort (Environmental and Natural Resource Management System)

3.BioSecure HACCP (Plant Protection and Biosecurity Scheme)



BioSecure HACCP

BioSecure HACCP is the only non-government third party accreditation scheme approved for self-certification in the domestic market access system. The program is designed to assist businesses to assess and manage their current and future pest, disease and weed risks.

The BioSecure HACCP program is framed on the 7 principles of Hazard Analysis Critical Control Point (HACCP) being the world recognised systematic and preventive approach to identify hazards through anticipation and prevention, rather than endproduct inspection and testing.

BioSecure HACCP is a set of guidelines providing businesses with methods and documented procedures to

➔ identify plant protection and biosecurity risks

➔ implement controls at critical points

GIA addresses this issue through offering the BioSecure HACCP accreditation and resources. Hort invests in management preparedness R&D and raising awareness of the importance of biosecurity with stakeholders and working with state governments on their systems of moving plants across states.



Plant biosecurity (4 of 4)

Table 4 Plant biosecurity risk and actions summary

Rank (most important =1)	Risk	What actions are growers and GIA taking to minimise this risk?	What actions would you like to see further upstream or downstream in the supply-chain to help minimise the risk?
1	More travel and trade: 50% increase in containers, 27% increase in air cargo and 93% increase in passengers by 2025 (DAWE)	 Monitoring the COVID-19 pandemic impacts on passenger travel Lobbying Government on imports – particularly around plant material (cut flowers) and general cargo Working closely with State Agencies 	 Lobbying of government to better police the risk, increased vigilance on plant pests and diseases Lobby government to reduce restrictions on low risk seeds & tissue culture imported Better protocols implemented at origin to minimise the impact from imported goods
2	Reduced capacity and capability in plant biosecurity agencies in Australia	Working closely with State AgenciesBuilding Industry capacity	 Overall more professional well skilled industry to compensate government performance Increased budget allocation to Government biosecurity resources
3	Highly connected national supply chains and logistics across Australia serving multiple supply chains servicing ornamental, landscape, fruit, vegetable, forestry and regeneration Greenlife clients	 Using quality and consistent suppliers Working with other state specific commodity groups. On-going communication of issues to growers 	Improving industries traceability capability
4	The diversity of the industry with over 30,000 species/cultivars in cultivation and the natural complexity of host-pest relationships	On-going communication of issues to growers	 More streamlined communication between national and state agencies Lobby government for more funding and more industry consultation
5	State government biosecurity and market access protocols risk tolerances reducing	 Working closely with State Agencies Engagement with Government agencies through EPPRD and Plant Health Australia 	 A need for better and greater harmonization of protocols of plant movements across the country Lobby government on economic impact of overly conservative policies
6	Management in production nurseries capable of identifying risk and skill levels within a predominantly permanent workforce	 Communications program across the Industry to highlight the importance of plant health and biosecurity. 	 Overall more professional well skilled industry to compensate government performance

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- The costs and benefits of different levels of water restrictions to production nursery businesses
- Consistency of water restriction implementation across agencies in different states and territories

Water and climate (1 of 3)

55 % full

Australia's total water capacity as at 3 March 2021 Equivalent to 44,600 GL

Water in the supply-chain

Water use is a critical part of the greenlife industry across the entire supply-chain starting from a production input for the growers, maintaining the production as it goes to market and to the enjoyment and success for the end consumers - tighter water restrictions can lead to higher rates of plant failure.

Restrictions and Policy

- There are approximately 80 water agencies and over 20 types of water restrictions in name across Australia. A descriptive summary of the restrictions by state is shown in the figure to the right:
 - The majority of states and territories are under some kind of permanent restriction
 - Tasmania has the lowest level of restriction
 - NSW and QLD have the most variation in restrictions
 - WA's major market is Perth which has had strict 'roster' system Permanent Water Efficiency Measures for over ten years.
- Water restrictions typically operate on a 'trigger' basis. This means when the accessible storage levels of a primary dam reaches a certain point, such as 30 40 per cent, then more severe restrictions are 'triggered' and enforced for businesses and households.

Fig 20 Proportion of state under the different levels of water restriction descriptions (February 2021)

	NSW	ACT	QLD	VIC	SA	TAS	WA	NT
Extreme	7%	0%	0%	0%	0%	0%	0%	0%
Very High	0%	0%	8%	0%	0%	0%	0%	0%
High	3%	0%	17%	0%	0%	0%	0%	0%
Medium	3%	0%	0%	6%	0%	20%	33%	0%
Permanent restrictions	27%	100%	8%	94%	0%	0%	33%	50%
Water Wise	10%	0%	8%	0%	100%	0%	0%	0%
Low	20%	0%	8%	0%	0%	20%	0%	0%
No restrictions	30%	0%	50%	0%	0%	60%	33%	50%

Community education – 'Which Plant Where'?

Selecting the right plants for the right urban space with an eye on the future

The Hort Innovation Nursery Fund has invested in multiple research projects over the years building the knowledge base on the suitability of plant species under current and future environmental conditions and climate scenarios (NY16005, NY17000, NY18002, NY18003, NY18009).

A current ongoing project is 'Which Plant Where?' (GC15002) in partnership with Macquarie University, Western Sydney University, NSW Office of Environment and Heritage. This 5-year project investigates which plant species will thrive the best in different locations across Australia under different environmental stressors that can be expected in the future. The team has held numerous educational workshops across Australia, presenting the findings and exploring the opportunities for greenlife to thrive anywhere in Australia.

Projected impact / risk metrics for nursery sites

Detailed data on the Greenlife industry's potential

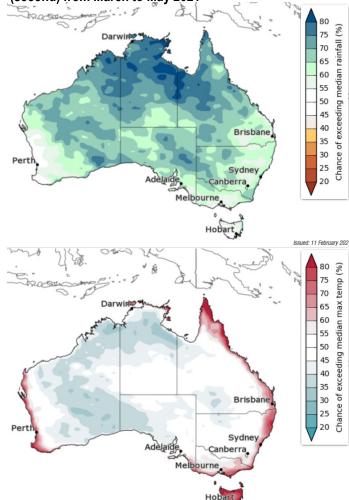
role in climate change intervention and response

across Australia for negative climate events

efforts (greening, cooling, carbon sinks)

Water and climate (2 of 3)

Fig 21 Chance of above median rainfall (top) and temperature (second) from March to May 2021



As at March, the 2020-21 summer season is largely wet and cold on the east coast, hot and dry with bushfires on the west and southern coast. The follows a hot, dry and catastrophic bushfire season last summer 2019-20, particularly for the east coast.

The Bureau of Meteorology (BoM) provides 3-monthly probability forecasts across Australia.

 BoM generally predicts hotter and rainier weather across Australia for the autumn season in 2021, with more rain in Northern Territory and Queensland in particular, and hotter temperatures in Tasmania.

Rainfall and temperature are two key environmental factors in the climate change story. The regularity and strength of extreme weather events such as cyclones, floods and other storms are another part. In light of this, proposed actions generally fall into 3 groups; resilience, adaptation and mitigation:

Resilience

Example: Climate Future Plots revegetated with specific genetic diversity

Adaptation

Example: shifting geographic locations, changed systems and practices

Mitigation

Global and National effort on sources of energy, transport, carbon sinks

Issued: 11 February 202

ACIL ALLEN http://www.bom.gov.au/climate/outlooks/#/overview/summary, https://www.greeningaustralia.org.au/CLIMATE-FUTURE-PLOTS/

35

Water and climate (3 of 3)

Fig 22 Fire Danger seasons across Australia



Catastrophic bushfires during the 2019-20 summer season burned over 17 million hectares of land in Australia, over one billion animals, over 3,000 properties and 33 deaths.

Bushfire threat and preparedness

Data / Information gaps

- Industry participant figures on level of preparedness and management in case of natural disasters
- Industry involvement with other agents on bushfire recovery and preparedness opportunities

- Bushfires pose an immediate threat to production nurseries sites and access roads. Each state's fire authority has a process of developing a bushfire management plant with individuals and businesses to reduce the risk to acceptable levels.
- The Hort Innovation Nursery Fund invested in a project in 2019 assessing the potential for natural disasters and severe weather events to impact upon the Australian production nursery industry and helping to develop strategies and resources for better preparedness, speedier recovery and stronger resilience (Industry Natural Disaster Risk Mitigation and Recovery Plan NY18008).

Bushfire recovery management

Revegetation and plant selection as a result of and in preparation for bushfires has greater community and government attention since this recent natural disaster. Detailed further in under Government Supports, is the recently announced large-scale Federal funded program, Project Phoenix; a national strategy to regenerate the landscapes after a bushfire.

The Country Fire Authority provides guides and tools to help people select plants suitable for high bushfire risk areas:

- Plant Selection Key: online tool to select plants based on information about plant characteristics and flammability
- Landscaping for bushfires guide: a practical guide about landscaping to minimise the effects of direct flame contact and radiant heat on a house during a bushfire.

GIA addresses this issue through development of an industry sustainability framework. Hort updates the industry's best management practices to improve productivity, profitability and professionalism and invests in extension activities to drive adoption of these practices.



Technology (1 of 1)

Technology solutions in the greenlife industry are occurring at pace in 2 main areas:

- Robotics / Automation
- Biological / Genetics

The Department of Industry, Science, Energy and Resources has been funding the program, Early Stage Venture Capital Limited Partnerships. Out of the program, at least 2 horticulture start-ups have been funded:

- NextGen plants: plant design at the genetic level
- Ageriss: Digital Farmbot Assistant, crop and pasture monitoring bot, crop intelligence
- Another innovation that has been in the making for many years, funded by a similar Federal government initiative Accelerating Commercialisation grant - automated tissue culture production to be cost-competitive with low-cost import options.

Data / Information gaps

- Trends in uptake of new technologies across supply chain participants in industry
- Enabling best use of technology in the Industry
- The alignment / gaps with emerging technology and tech the industry wants
- Data on 'transformative' vs 'incremental' technology
- Activities of large technology providers like Powerplants and Transplant Systems

TC Lowes production aims to be cost competitive with imports and double current production volumes

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Greg Lowe at Lowes TC Group, a plant micro-propagation company, is developing a system to automate tissue culture production to produce low-cost tissue culture locally.

Tissue Culture Innovation

The technology around liquid media temporary immersion system bioreactor utilises has existed for fifty years but has not been successfully automated. Greg's new, patented materials handling process enables high volumes of plant transfer out of the bioreactor.

"We realized what we could do with the automation is improve the materials handling process. Every time we touch the bioreactor, we are moving 150 or 400 plants, so we are not touching them one at a time. We touch them in mass, and we produce them in mass," Greg says. Lowes TC automated propagation involves a simple materials handling process using conveyors and pick and place tools. It does though have the potential to be fully automated with robots.

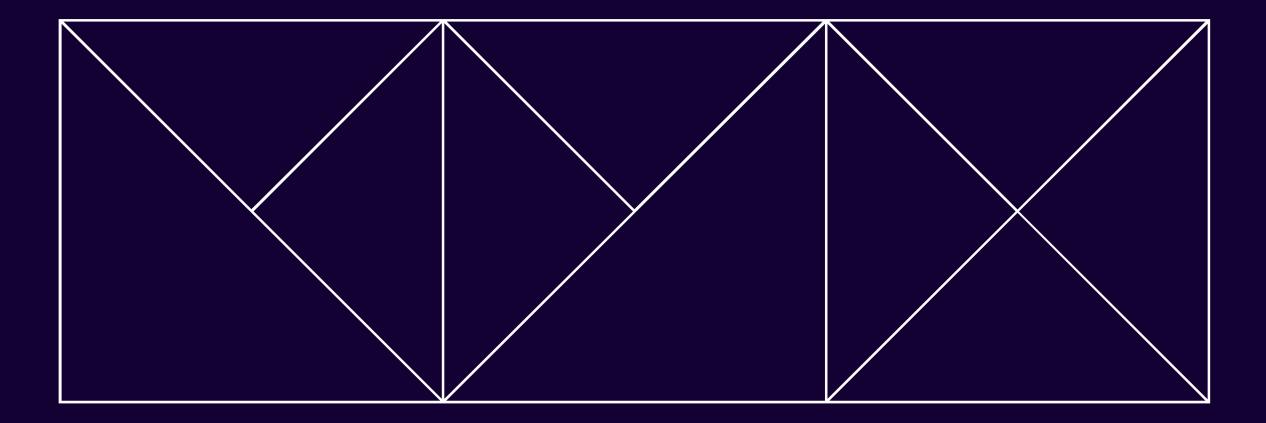
Currently in Australia, TC production costs more than 50 cents per plant, while other countries can produce at a cost of between 5 – 10 cents thanks to low wages, plus freight. This technology will drastically upscale production – much higher than the current estimate of 200 plants per hour.

Viewed February 2021: HTTPS://WWW.LOWESTC.COM.AU/

GIA addresses this issue through advocacy activities to government to support technology innovation and adoption in the industry. Hort invests in early stage and up to commercialisation-ready technology research, development, extension and adoption programs.



Appendix



Government supports

JobMaker For the e Employe Eligible e JobTrainer and For the e	8 September 2020 to 3 January 2021, the payment rate is \$1,200 per fortnight for all eligible employees and from 4 January 2021 to 28 March 2021, the payment rate will be \$1,000 per fortnight for all eligible employees. \$200 per week for each eligible employee aged 16 to 29 \$100 per week for each eligible employee aged 30 to 35. employer to be eligible, new employees must: be aged 16 to 35 years be in receipt of income support payments (such as JobSeeker Payment, Youth Allowance (Other), or Parenting Payment) for at least one of the three months before they were hired. vers will register with us and make claims quarterly, with claims commencing in February 2021. employers will have access to a JobMaker Hiring Credit for each new job they create over the 12 months from 7 October 2020. <i>inre Fund</i> : up to 320,000 new training places will be delivered through the fund as a mix of national accredited qualifications and short courses, including part qualifications and skillsets bTrainer Fund will deliver training courses in areas of genuine skills needs, based on the agreement between participating states and territories and the National Skills Commission. vtring Apprentices and Trainees wage subsidy will be available to support small and medium businesses with fewer than 200 employees, including those using a Group Training Organisation, who retain an Australian Apprentice engage
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	July 2020. Eligible employers can apply for a wage subsidy of 50 per cent of the apprentice's or trainee's wage paid during the 9 months from 1 July 2020 to 31 March 2021, up to a cap of \$7,000 per quarter.
subsidies Boosting	ng Apprenticeship Commencements Wage Subsidy to boost the number of new apprenticeships and traineeships.
This will	Il support up to 100,000 new apprentices and trainees by paying a 50 per cent wage subsidy for commencing apprentices and trainees at businesses of all sizes, in all industries, and in all locations.
Business	sses will receive the 50 per cent wage subsidy, up to a cap of \$7,000 per quarter, for commencing apprentices and trainees, including those employed by Group Training Organisations, until 30 September 2021
A new, q	quicker and lower-cost process will be introduced to allow small businesses to restructure their debts, while they stay in control of their company. In 'normal' times they would be considered insolvent but the thresholds have relaxed
	all businesses that unfortunately cannot survive, there will be a new, quicker and lower-cost simplified liquidation process.
financially distressed Both new	ew processes will commence on 1 January 2021.
businesses They will	vill be available to incorporated businesses with liabilities of less than \$1 million.
Temporary full The Gov	overnment is introducing temporary full expensing of eligible depreciable assets for businesses with turnover up to \$5 billion from 7:30pm (AEDT) on 6 October 2020 until 30 June 2022.
expensing and Compan	nies with turnover up to \$5 billion will also be able to temporarily, up to June 2022, offset tax losses against previous profits and tax paid in or after 2018-19.
	rary full expensing creates a strong incentive for businesses to bring forward investment to access the tax benefit before it expires. Temporary loss carry-back further assists companies that would experience a loss to take age of the temporary full expensing measure.
HomeBu	Builder provides eligible owner-occupiers, including first home buyers, with a tax free grant of \$25,000 to build a new home or to rebuild.
HomeBuilder Expande home.	ded First Home Loan Deposit Scheme: An additional 10,000 places will be provided in an extension to our First Home Loan Deposit Scheme in 2020-21 to support first home buyers to build a new home or purchase a newly built
The Gov	overnment is also implementing reforms to reduce the time taken for consumers to apply for credit and simplify the application process

Methodology

How this report was developed

ACIL Allen firstly undertook a desktop review of available information from a variety of sources in the public domain and resources shared through industry channels.

Survey information and data from the Hort Innovation funded projects NY16004 (2015-16) and NY17008 (2017-18 to 2019-20) *Nursery and Gardens Industry Statistics*' projects were used in generating outputs for this report.

Greenlife Industry Australia and Down To Earth Research were active partners in these projects.

The PESTLE (Political, Economic, Social, Technological, Legislative and Environmental) technique was used as diagnostic and framing tool to identify issues and express the implications of the issues across these themes. Special thanks to the generous volunteers who gave their time and knowledge to develop and review the report in collaboration with ACIL Allen (listed alphabetically):

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