



**Nursery & Garden Industry
Australia**

Parliament of Australia

Agricultural Competitiveness White Paper

A Submission by
Nursery & Garden Industry Australia (NGIA)

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About Nursery & Garden Industry Australia (NGIA)

Nursery & Garden Industry Australia is the peak national industry body representing producers, retailers and allied traders involved in the production of plants across all states and territories of Australia. In partnership with state and territory peak bodies, NGIA is responsible for overseeing the national development of the Australian nursery industry.

The nursery industry is a significant sector of the Australian horticultural industry and employs over 45,000 people in more than 20,000 small to medium sized businesses with a combined supply chain market value in excess of \$15 billion annually. It is important to note that the industry is far broader than the perceived 'ornamental' market, with businesses involved in large scale forestry, nurseries, medicinal products, flowers, alcohol production, revegetation for mining, landscaping and starter plants for fruit and vegetable production. Table 1 shows the wide range of end users supported by the nursery industry.

Table 1: National value of horticultural sectors supplied by production nurseries.

Production Nursery	Horticultural markets	Economic value
Container stock ¹	Ornamental/urban horticulture	\$2 billion retail value
Foliage plants ¹	Indoor display/hire	\$87 million industry
Seedling stock ²	Vegetable growers	\$3.3 billion industry
Native and exotic forestry stock ³	Plantation timber	\$1.7 billion industry
Fruit and nut tree stock ²	Orchardists (citrus, mango, etc)	\$5.2 billion industry
Landscape stock ¹	Domestic & commercial projects	\$2 billion industry
Plug and tube stock ²	Cut flower growers	\$700 million industry
Revegetation stock ¹	Farmers, Government, Landcare	\$109 million industry
Mine site revegetation	Mine site rehabilitation	Value unknown
Total Horticultural Market Value		\$15.0 billion

¹ Freshlogic (2008) Australian Garden Market Monitor for the Year Ending 30 June 2009

² Horticulture Australia Limited (2004) Australian Horticultural Statistics Handbook

³ Australian Bureau of Agricultural and Resource Economics (2008). Australian Forest and Wood Products Statistics

Submission

Nursery & Garden Industry Australia (NGIA) welcomes the opportunity to make a submission to the inquiry into *The Agricultural Competitiveness White Paper*. This submission provides data, information and recommendations in relation to the following ten issues that the Australian nursery industry perceive will “enhance the contribution of agriculture to economic growth, employment creation and national prosperity, through increased innovation, productivity, investment and trade”. These include:

1. State of horticulture
2. Industry data needs
3. Harmonised interstate market access
4. Biosecurity – A shared responsibility
5. Energy – Electricity costs
6. Investment in extension
7. Minor use permit provisions
8. Research Development Corporation matched funding
9. Export support
10. Skilled labour

1.0 State of horticulture

The Agricultural Competitiveness White Paper fails to adequately address the importance of the horticulture industry which is considered the third largest agricultural sector. Indeed, Australian production nursery businesses make up a multi-billion dollar industry that plays a vital part in the food, fibre and foliage value chain plus the human (community and personal), environmental and economic well-being of the wider Australia community. The production sector is broad based producing in excess of 10 000 different plant cultivars with many and varying target markets that have an estimated annual value to the Australian economy exceeding \$14 billion.

Plants produced by the Australian nursery industry are vital in creating resilient, sustainable cities that provide healthy and enjoyable places for people to live, commute and work. Trees have the capacity to reduce greenhouse gas emissions directly through carbon storage and sequestration and indirectly by alleviating impacts of the Urban Heat Island Effect (UHIE)¹.

¹ State of Australian Cities 2013 Report <http://www.infrastructure.gov.au/infrastructure/pab/soac/>

A key aspect to highlight when considering the role of trees in greenhouse gas emission reduction are the indirect benefits aside from carbon sequestration, namely the role of trees in mitigating the phenomena of the Urban Heat Island Effect (UHIE), whereby urban areas become warmer than the surrounding rural countryside, often by several degrees. This is attributed to large expanses of paved and dark surfaces in urban environments such as roads, car parks and roofs. This phenomenon is potentially deadly for city dwellers as heat stress associated with elevated temperatures is linked to higher rates of human mortality and illness, particularly amongst vulnerable demographics such as: the elderly; lower socio-economic classes; and residents in high density, older housing stock with limited surrounding vegetation.

Trees can achieve this by providing shade in summer, reducing the absorption of heat by hard surfaces and they can also cool the air by a process known as transpiration whereby water within a plant is lost as water vapour from the leaf surface. This in turn cools the surrounding air and acts as a natural air conditioner.

Lowered air temperatures and wind speeds from trees can reduce cooling costs and peak energy demand, and result in reduced greenhouse gas emissions from power plants. A summary of this is presented below in Table 2 which estimates the 1.25 million tonnes of carbon is stored in 100,000 mature urban trees and a further 3,600 tonnes of carbon is saved as a result of indirect energy savings associated from less air-conditioned dwellings during summer months and reduced gas use for heating in winter months.

Table 2: Estimates of various environmental economic values for 100,000 large mature urban trees growing in an Australian city (modified from Moore 2009b²).

Parameter	Value per Tree	Quantity	Unit Price AUD \$	Value AUD \$	Reference
Carbon sequestered in trees	12.5 tonne	1.25 million	\$23 per tonne	\$28.75 million	Moore 2009b ⁵
Street tree value	\$200 AUD per		\$20 million per		Killicoat et al. 2002 ³

² Moore G M (2009b) *Urban Trees: Worth More Than They Cost* Lawry D, J Gardner and S Smith Editors, Proceedings of the Tenth National Street Tree Symposium, 7-14, University of Adelaide/Waite Arboretum, Adelaide, ISBN 978-0-9805572-2-0

	annum		annum		
Electricity saving	30 kWh	3 million kWh	\$0.17 per kWh	\$510,000 per annum	Fisher 2007 ⁴
Carbon emissions saved	1.2 kg for each kWh	3,600 tonne	\$23 per tonne	\$82,800 per annum	Moore 2009b ⁵

Notes on estimations and calculations:

- the estimate of 12.5 tonne is for a large mature urban tree
- the price of AUD \$23 per tonne is based on the Australian carbon market price
- the electricity saving is based on reduced energy use due to shade from trees
- the price used for electricity is based on a rounded Victorian rate per kWh

Production nurseries are the cornerstone in the supply of starter plants for the majority of horticultural crops, both urban (foliage) and commercial (food/fibre), having the expertise in propagating and growing starter plants for a range of horticultural enterprises targeting various domestic and international markets. This expertise includes seed germination, raising and growing, grafting or budding on pest/disease resistant and/or vigorous rootstocks, rapid multiplication of true to type, high yielding and disease resistant plant varieties through tissue culture.

The industry is also the primary sector for the identification, introduction and propagation of new and improved plant varieties across most production categories in the food, fibre and foliage sectors. These skill sets and the expertise of industry exist nowhere else in horticulture thereby making nursery production a critical component in the supply chain of our urban greenlife and food/fibre horticultural products. The nursery industry is a key component for increasing farm productivity through the introduction of higher yielding varieties, increasing disease resistance and improving drought tolerance due to the development of hardy and new varieties plus the grafting of high yielding species to appropriate root stocks.

The Agricultural Competitiveness White Paper needs to consider nursery production when discussing agriculture (horticulture) and the Australian Government must recognise that our collective plant industries produce food, fibre and foliage.

³ Killicoat, P, Puzio, E, and Stringer, R (2002), *The Economic Value of Trees in Urban Areas: Estimating the Benefits of Adelaide's Street Trees*. Proceedings Treenet Symposium, 94-106, University of Adelaide.

⁴ Fisher P (2009) *Why We need the Urban Forest*. Urban Magazine, July 2007

2.0 Industry data needs

As the benefits of greenlife become more apparent to government, the corporate sector and community, the need for nursery industry data will continue to grow. *The Agricultural Competitiveness White Paper* needs to articulate the need for accurate, reliable and timely data to ensure that as a nation we can maintain, protect and support the financial investment (by growers) and to quantify the financial benefit of greenlife over time. The information gained will benefit multiple organisations including industry, all tiers of government and the corporate sector. The current data available on the nursery industry is difficult to interpret, is contradictory across both intra and inter agency reports. It is often a long and repetitive process to action such information and when the data lacks credibility, then the effort to obtain and interpret the information cannot be justified by a non-profit industry organisation.

The top three information needs for the Australian nursery industry are:

1. A classification of businesses contributing data into collection surveys on the business type: We would like to ascertain if they are a:
 - **Greenlife Producer** – an organisation that grow tube stock and/or plants, sold to another business. Purchasers of their product could include production nurseries, government, farmers, landscapers, retailers etc.
 - **Greenlife Broker/Reseller/Market** – an organisation who onsell plants without adding value to the plant, however apply a mark-up. Identifying resellers and brokers allows us to more accurately measure the industry by not counting plant values more than once.
2. Total sales receipts by classification in point 1 above.
3. Total annual full time equivalent (FTE) employees.

3.0 Harmonised interstate market access

The Agricultural Competitiveness White Paper needs to focus on the productivity gains and efficiencies through harmonisation of interstate market access which is considered a major issue for the Australian nursery production sector. Indeed, market access and cost minimisation priority areas require greater attention and resourcing by national and state Biosecurity Departments and should be articulated in *The Agricultural Competitiveness White Paper*.

There is a major shift in biosecurity policy settings across Australia with most jurisdictions pushing for a “shared responsibility” which in effect is pushing historical government responsibility more and more back to the farm gate. For two hundred years biosecurity has been firmly in the hands of government, national and state, with producers being directed and serviced by the relevant authorities. The new approach is a significant paradigm shift and as such industry is struggling to keep pace with the changes and actively participate at both a peak body and farm gate level. The “shared responsibility” mantra offers great opportunity for both industry and government across economic and operational areas however industry cannot do this alone.

NGIA believes that governments, at all levels, must accept that industry is not geared to rapidly adopt these changes in roles and responsibilities without significant support from government. A major longterm commitment to funding an adjustment/transition package for plant industries (similar to the water reform packages rolled out in the late 1990's) is desperately needed otherwise there will be a significant disconnect between the aims of the new paradigm and the on-farm reality.

The federal government must take the lead in supporting plant industries through a nationally coordinated response to the changes to our biosecurity system and partner with state governments and plant industries in managing this transition. *The Agricultural Competitiveness White Paper* must outline a plan to transition industry to an active, willing and responsible partner in the biosecurity continuum.

A recent needs based assessment undertaken by NGIA has identified a number of criteria that need to be addressed by national and state biosecurity agencies including; market access driven strategies and policy, industry training, preparedness support plus systems recognition through on-farm biosecurity programs (Farm Management Systems), cost minimisation including on-farm inspection fees, resourcing allocated to the development of pest specific certification guidelines/Interstate Certification Assurances (ICAs) and the upgrading of the outdated paper based tracking systems and record keeping to an electronic format. The following describes the issues in some detail:

- Investment is required in supporting industry to develop on-farm tools that support a greater participation in pest & disease surveillance by growers and up-skill industry in all aspects of biosecurity from pest identification and monitoring to record keeping and on-farm capacity building to address biosecurity risks. Further investment is required in developing technical guidelines and linking on-farm programs under the

Nursery Production Farm Management System umbrella with potential to align to co-regulation with government agencies (State & Federal).

- There are significant differences between states and territories in the processes taken to identify pest risks which in-turn drive the variations in the risk mitigation, compliance evaluation and treatment protocols established by each state/territory. These protocols dictate the volume of red tape and compliance costs borne by industry. Inconsistencies across the country raise major questions surrounding the science that supports such significant differences between departmental experts. A nationally adopted and implemented process that mandates the uniform processes for plant biosecurity across Australia and ensuring the protocols are relative to the risk needs immediate action.
- The current system employed by the national and state/territory governments in assessing the risk of an Emergency Plant Pest (EPP) is ad-hoc and lacks any sign of common ground and consensus amongst the various agencies. That an EPP can be viewed by different agencies as such divergent risks demonstrates a need for national action. A National Emergency Plant Pest Risk Assessment Methodology is required across Australia (states & territories) for the uniform application of EPP management strategies.
- With interstate agencies recognising the value of on-farm self-certification for area and property freedom of plant pests the nursery industry requires the development of ICA arrangements for a number of EPP in Australia. This would allow growers to be trained to detect the specific pests, enhance on-farm systems and meet self-certification requirements that minimise inspection fees and releases departmental officers from compliance action to undertake industry training and support plus participate in pest surveillance programs across the states/territories. Furthermore this increased industry skill level will value add the overall participation of industry in state based plant pest surveillance for inclusion in a national strategy.
- Electronic document creation, record keeping and transfer for interstate plant movement must be an immediate target for investment by state and federal agencies. The process at present is paper based and costs industry in time and resources. With the international trade in plants fully supported by electronic documentation it is clearly possible to implement at a state/territory level to facilitate interstate trade.

- National and state/territory agencies must recognise that on-farm biosecurity programs can be a valued and efficient mechanism for maintaining and/or gaining market access. By providing the support services to industry national and state agencies can have an active and positive role in driving change at a farm level. The on-farm programs that have been developed by industry for industry offer the most likely vehicle to bring growers forward in the area of biosecurity.

4.0 Biosecurity – A shared responsibility

The Agricultural Competitiveness White Paper needs to determine a plan to adequately resource biosecurity agencies for the future. It is further disappointing to observe the declining investment by government(s) in biosecurity across all levels and at all points of the biosecurity continuum. The current and potential economic, social and environmental impacts the incursion of exotic plant pests has, and could have, on the nation demands that this downward trend cease and state and national governments seriously embrace the “Shared Responsibility” of quarantine and biosecurity.

In some instances questionable off-shore and domestic facilities have gained Government Accreditation which enhances the risk(s) of a border breach due to non-compliance, low skill levels, limited diagnostic capacity or poor facilities. The reduced investment has seen alternative strategies adopted to accommodate the requirements to protect our borders. The issue industry has with this approach is that some of the off-shore facilities are assessed and audited by governments that have a poor creditability record, staff that are unskilled and where corruption within agencies is known. This leads to a complete failure of the system and it is continuing to frustrate industry when these pathways are left open after successive emergency plant pests have been detected

5.0 Energy – Electricity costs

The continuing increases in electricity costs are imposing significant challenges to the long-term viability of production nurseries across Australia. Nursery production is highly mechanised utilising electrically powered components in heating, cooling, ventilation, climate control, irrigation, potting machines, etc. As a high electricity user with limited scope to reduce energy demand without severely impinging productivity and profitability the industry requires government support move to low cost alternatives and improve energy efficiency.

In 2013 Nursery & Garden Industry Queensland (NGIQ) investigated the impact on one production nursery faced with an increase in electricity bills from \$11,000 to \$83,000 per annum if the producer's electricity supplier switched the nursery to a demand tariff. Additional general tariff changes have the potential to increase electricity as a percentage of input cost of production for nurseries from 5 % to 17 % and higher. Farm electricity costs in Queensland alone have risen by 200 % over the last five years, these are unsustainable cost pressures that need to be addressed.

The Agricultural Competitiveness White Paper needs to address the growing issue of electricity cost pressures on plant production through programs that support and assist producers move to renewable alternative electricity (energy) sources and/or improve on-farm energy efficiencies.

6.0 Investment in extension

The Agricultural Competitiveness White Paper needs to consider the extension of research and development outcomes to address the current decline in rural extension. Overall funding levels for this key sector of the Australian economy are reducing due to the cutback of investment predominately by State agencies. These cuts are largely due to increasing pressures in other areas of investment. The private sector must therefore spend more to maintain a 'business as usual' position and this has been at a time when external factors such as drought, have had a major impact on business viability.

State Governments have largely abandoned research and extension services and this has dealt a significant blow to the innovation and productivity of the agricultural sector, particularly industries such as the nursery production industry located in peri-urban environments. For example, under the National Horticulture Research Network (NHRN) there is not a single entity identified to be the lead agency for this sector.

Indeed, at a Federal level, there is a distinct lack of research and extension of production in the peri-urban environment, an environment that accommodates large numbers of nursery production businesses in major cities across Australia. Interestingly, it is in these environments that rising regulation, especially with regards to environmental compliance, has placed significant pressure on businesses. This does not reflect the major contribution that the industry makes to public good.

7.0 Minor use permit provisions

The Australian nursery industry is a small user (by volume) of pesticides however due to the more than 10 000 crop lines produced the industry requires a large range of products to combat the various pests, diseases and weeds that threaten the many different production systems in operation across the country. Due to the low volume of pesticides utilised throughout nursery production the pesticide manufacturers see the industry as a minor player within the market and as such tend to focus on the broader horticultural and agricultural markets to maximise the returns on their development and registration investment. This has resulted, over recent years, in a low number of new label registered pesticides being available to nursery production in most states and territories. As such, the industry is reliant on the Minor Use Permit (MUP) provisions provided for by the APVMA to gain access to modern pesticides to efficiently combat the various pests, diseases and weeds impacting on their businesses.

The NGIA considers the general principles behind the arrangements for access to chemicals under minor use as sound however it is in the application of the process that effectiveness is lost to some degree. The 'one size fits all' approach is limiting the delivery of Minor Use Permits (MUP) within appropriate time frames and there is a greater need for flexible, risk based assessment methodologies. That is, NGIA believes that there is a strong argument that supports a less arduous regulatory process for "low" risk products such as biological products, insect traps and the like.

In developing a Minor Use Permit (MUP), a comprehensive data package must be submitted to the APVMA before registration of the permit is approved. The costs for generating and collating such data are high and unsustainable for individual growers and this cost is absorbed by industry investment in R&D. The cost of MUP's has gone from an approximate \$60 to more than \$2500 per application over the past decade. This higher cost is due to the APVMA initially increasing the cost of a MUP application and the increased documentation (application) costs due to the specialist input required plus efficacy, worker exposure and food safety data, etc. The benefit to growers by industry investment in this program are many, but primarily will enable growers to have access to registered products that are safe, effective and will not have any harmful effects on humans, the crops or the environment. *The Agricultural Competitiveness White Paper* needs to incorporate a review of the APVMA, particularly the minor use program to facilitate faster, safer and efficient access to pesticides whilst being mindful of the operational environment.

8.0 Research Development Corporation (RDC) matched funding

Just as most agricultural industries are made up of many individual farm operators, the NGI is made up of many small businesses that do not have the individual economic capability to invest in research for Industry collective benefit. They do however recognize that for efficient business and industry growth, new technologies need to be available. The overall economic benefit from the industry uptake of key outcomes in the areas of natural resource management, contribution to environment and business sustainability justify Government investment as demonstrated by the following reviews of two key areas of investment.

A recent benefit-cost analyses of 14 environmental projects funded by the Nursery Industry Research and Development Program between 2004–2010 was undertaken to examine, amongst other things, the Net Present Value (NPV), Benefit-Cost Ratio (B/C Ratio) and Internal Rate of Return (IRR) at a discount rate of 5 per cent⁵. The R&D projects included as part of this investigation related to research identifying environmental and health benefits of indoor plants, industry on-farm environmental (EcoHort) and biosecurity (BioSecure HACCP) programs as well as the industry Minor Use Program for access to agrochemicals. Other projects included in this study related to industry R&D into climate change, invasive plants, water, biosecurity and natural resource management. The report found that these projects yielded a NPV of \$8.13 million, a B/C Ratio of 5.6 and an IRR of 26 per cent (all expressed in 2008/09 \$ terms using a discount rate of 5 per cent). The report concluded that the potential benefits from the investments in the examined projects offered industry a significant return in investment.

The Nursery Industry is a recipient of Government Funds to match a Research and Development (R&D) Levy as well as Voluntary Contributions. For several years, NGIA has undertaken R&D through the nursery industry pot levy collected by the Australian Government managed through Horticulture Australia Limited. The R&D pot levy is currently set at 3 per cent of the container price and is matched \$1:\$1 by the Australian Government. The industry also has a Marketing Levy set a 2% which is unmatched.

Levy collection administered by the Levy Revenue Services appears to reflect the costs incurred by the Department of Agriculture. The collection charges incurred by industry have remained relatively consistent for the past decade.

⁵ Clarke, M, Chudleigh, P, and Simpson, S. (2010) NY08016: Economic Assessment of HAL Investment in Four Project Clusters for the Nursery Industry, Horticulture Australia Limited, Sydney.

The Agricultural Competitiveness White Paper must support continued investment in agricultural research and development. Investment in R&D to - at a minimum - be maintained, but preferably increased, to overcome issues that affect profitability of the horticulture sector. For example mechanisation is a key area of innovation that warrants significant Government leadership and investment as a means of improving international competitiveness.

9.0 Export support

For the 2012/2013 financial year, total plant exports amassed \$12 million dollars. The majority of nursery businesses that export plant material often export small quantities on a frequent basis, with many consignments under 200 kg. However, there are several nursery businesses that focus on export of plant material as their principle business actively. It is therefore imperative that all production nursery businesses exporting plant material are adequately supported to develop and grow on the global market.

At present, there is a distinct lack of industry confidence in the Department of Agriculture controlled processes due to the high frequency of change in documentation, inspection/quarantine processes, general protocol interpretation and minimal consultation with industry on matters that have financial ramifications on business sustainability including fee reviews. This concern is warranted following the implementation of the removal of the 40 per cent fee rebate and revised fee schedule on 1 July 2009. The ramifications to exporting production nursery businesses as a result of these measures have seen many businesses unable to absorb added costs. This comes at a time where the value of production nursery export has declined year on year. *The Agricultural Competitiveness White Paper* must incentivise export of horticultural commodities in order to deliver sustained growth to this sector.

10.0 Skilled labour

There is a lack of access to affordable, skilled and R&D focused labour. *The Agricultural Competitiveness White Paper* should address the perception of horticulture as a career option and target all levels of the education sector with particular focus on developing career paths in the VET and tertiary education sector to attract young people to the industry.

Recommendations to consider as part of the review include:

- Implement strategies to encourage more people into horticultural roles, and maximise retention by ensuring these roles are linked to career development;
- Facilitate access to training and skills development, including improved training pathways and development opportunities for employers and employees through targeted skill sets, flexible delivery and funding support;
- Relax requirements around the Working Holiday visas to allow for extended employment options , and reduce the burden of associated administrative obligations on farmers;
- Streamline processes in regard to managing labour (including temporary workers) in the horticultural sector; and
- Work collaboratively with education providers and other agriculture industries to engage and attract people.

We believe that addressing the aforementioned 10 issues will “enhance the contribution of agriculture to economic growth, employment creation and national prosperity, through increased innovation, productivity, investment and trade”. We are committed to the white paper process and welcome the opportunity to contribute to this process further and willing to provide additional information if required.



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