

NURSERY PAPERS

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What is NIASA and how can it benefit you?

Just like many businesses in Australia, the nursery and garden industry has to deal with uncertain times. You only need to open a newspaper to read of rising interest rates and a global credit crunch, not to mention water shortages, global warming and carbon emissions. It can all get pretty gloomy, very quickly.

Fortunately, our industry has schemes in place that can not only fortify your business but also help position you as an expert in your community when it comes to dealing with issues such as water conservation, resource management and biosecurity. This Nursery Paper will look at three production nurseries who have gained NIASA Accreditation and the positive impact that applying NIASA Best Management Practice has had on their business.



What is NIASA and how can it benefit you?

Nursery Industry Accreditation Scheme Australia (NIASA) is the national program for the adoption of best management practice for production nurseries and growing media manufacturers. All NIASA Accredited businesses operate in accordance with a set of national 'best management practice' guidelines. NIASA Accreditation is designed to enhance the status and recognition of production nurseries and growing media businesses through constant business improvement as well as striving for the highest levels of professionalism.

The aims of NIASA are to:

- Improve customer confidence at all levels of the distribution chain
- Improve the profitability of production nurseries and growing media manufacturers through the adoption of industry best management practice
- Encourage the use of environmentally sound work practices
- Encourage the continuous improvement of NIASA Accredited businesses and those working towards NIASA Accreditation.

NIASA can help you to:

- Reduce costs through improved production and business processes
- Increase marketplace recognition and customer confidence
- Lift levels of professionalism
- Improve staff knowledge and skills
- Reduce wastage and production losses
- Gain access to technical assistance from Industry Technical Officers
- Reduce business risk
- Improve on occupational health and safety issues.

The NIASA Best Management Practice (BMP) Guidelines that form the backbone of the scheme have been developed by people with years of experience working in the industry and are supported by the national R&D program. Having been developed over a number of years, the guidelines continue to evolve and are reviewed annually to make sure they remain relevant.

NIASA Accredited businesses are supported by Industry Development Officers (IDO) who are based across the country. In order to ensure the ongoing success and relevance of the scheme, all NIASA Accredited businesses are audited at least annually by IDOs to make sure they are operating according to the latest set of NIASA BMP Guidelines.

What's in it for you?

There are a number of reasons why your business should become NIASA Accredited. These include:

- It can help your business by improving customer confidence and improving your businesses efficiency
- Customers know that the product they buy from a NIASA Accredited business has been produced under industry recognised best management practices
- NIASA Accredited growing media manufacturers have an immediate marketing advantage for supply to NIASA production nurseries, which prefer NIASA Accredited suppliers
- Many government departments and large landscape contractors now prefer to buy from NIASA nurseries.
- Joining NIASA also projects a positive public image due to the guidelines requiring a demonstrated commitment to efficient and environmentally conscious water management, plant nutrition and pest management.

Case study - Wild Valley Propagation

De'arne and Paul Veal from Wild Valley Propagation had always intended to become NIASA Accredited, but it was talking to their IDO at a NGIQ EcoHort training event that finally convinced them to take the plunge.

They believed it would be beneficial to have their IDO provide an objective appraisal of where their business was at and identify what changes needed to be made. Their IDO would also be able to guide and assist them throughout the NIASA Accreditation process. As a result, a site visit was arranged with Queensland Industry Development Manager (IDM) John McDonald.

John helped identify areas that were underperforming or causing serious losses. Wild Valley had one area that needed particular attention. This growing area had a problem with water pooling that resulted in boggy patches. In addition, there were also dry patches owing to an ineffective irrigation system design. As a result, this area experienced crop losses of 30 per cent.

The solution was to reshape the growing area with a Bobcat to allow free water drainage across the bed to a central point, then along to a sump at one end via a new sub-surface drainage system. When the sump fills it automatically empties, irrigating an inground stock plant area in the process. New drainage gravel was applied to a depth of 100mm over a 200 micron plastic barrier. The irrigation was redesigned and installed to 'Waterwork' standard. This utilised all existing piping, merely shifting laterals to form a 3 x 3m grid pattern. A new line was added and Toro waterbird sprinkler heads were used to replace mismatched shrub heads and micro sprinklers.

As a result, irrigation efficiency was significantly improved across the growing area. Using the Coefficient of Uniformity (Cu - a measure of how uniform the water is applied across the growing area), it improved from a shocking 29 per cent to an impressive 87 per cent (the ideal is above 85 per cent).

The Scheduling Coefficient (Sc) refers to the irrigation system applying water to the driest section, with one indicating that all areas receive the same amount of water at the same time. In this particular growing area the Sc was improved from over 11 (meaning it was irrigated 11 times longer than was best practice) to 1.4 (the aim is to be less than 1.5).

The financial benefits of implementing these changes are impressive. The total outlay came to \$1500. This included the sub surface drainage pipe, plastic, drainage gravel, sump pipe, irrigation upgrade, Bobcat hire and labour. This breaks down to \$10 per square metre (with a total area of 150m²).

Before the changes were implemented the business was losing 30 per cent of its annual turnover from this growing area. This works out at \$266/m². When you multiply this over the entire 150m², it works out at a whopping \$40,000 per annum. Put another way, for every retrofit dollar the business spent it will get \$26 back within the first 12 months, and it will have recouped the initial outlay back in just a month and a half.

As a result, Wild Valley Propagation has reduced its annual losses by \$40,000, all for just \$1500. The growing area now consistently produces healthy plants of a high calibre and losses are negligible.

For De'arne and Paul the results spoke for themselves. The whole process had been so rewarding that they were motivated to complete several other projects in a short space of time. As a result, they were able to apply for NIASA Accreditation which was awarded after just nine months.



Wild Valley Propagation – Re-gravelled and redesigned irrigation system on growing area.

NIASA Accreditation - An ongoing process that continues to reap rewards

Overland Nursery has been NIASA accredited since 1997. More than a decade later, its success is an excellent example of the benefits of adopting BMP Guidelines. Embarking on the accreditation process coincided with the redevelopment of the nursery site. As a result, co-directors Brent and Scott Tallis focussed on developing production surfaces using methods prescribed in the NIASA BMP Guidelines.

The surfaces were graded at a consistent slope and consolidated by compacting and applying an impermeable plastic barrier. This was capped with recycled aggregates to provide a substantial drainage layer to remove the potential for the retention of surface water and water splash.

The free draining aggregate discourages weed establishment and minimises the potential for water borne moulds such as *Phytophthora* spp and *Pythium* spp. by removing free water beneath pots and within production surfaces.

Upgrades to the irrigation system water were also undertaken according to NIASA BMP Guidelines. Modifications included redesigning the sprinkler patterns to a four

by four pattern and choice of emitters to match irrigation blocks and altering filtration capacity to achieve uniform irrigation characteristics in their mean application rates (MAR), coefficient of uniformity and scheduling coefficients. The uniformity of plants produced under this system allows the irrigation to operate in a manner which allows precise control of water delivery and plant needs to circumvent issues of variations in crop growth. As a result of upgrading the irrigation system, decisions and time lost on selecting a number of plants of uniform shape and quality have been greatly reduced.

Since adopting NIASA BMP more than a decade ago, Overland Nursery has shown marked improvements on a number of fronts. Financially, substantial savings have been made in labour costs because the nursery is able to operate with the equivalent of 1.5 less fulltime staff than what used to be required. And by implementing risk management systems according to NIASA BMP Guidelines, there has been an increase in turnover as a result of more stock being produced with fewer losses.



Overland Nursery - clean, consistent nursery stock on well maintained production surfaces



Overland Nursery - open outdoor area showing nursery stock on best management practice growing beds in mid winter

Weighing up the value

Of course, there is no denying that getting your business up to a level where it is ready for NIASA Accreditation is likely to take a lot of work, not to mention the financial outlay. For Brocklands Nursery in Tasmania, this all had to be taken into consideration. When they first looked at NIASA Accreditation in 1999, the owners felt quite daunted as it would mean huge changes for their small-scale nursery.

Owner Karen Brock recalls the early stages of NIASA Accreditation:

“The first thing we had to ask ourselves was what direction do we want to take the business in? How professional do we want to become? How much cash is this going to take? And most importantly, what is the timeline for this project? This is important because the enormity for a small business to tackle projects en masse can become too daunting and subsequently

they get put into the ‘too hard’ basket. This is particularly true when dealing with the reality of your cash situation, how long it will take (especially when you’re already working such long hours) and the gamble of whether your business will be better off at the end of it all.”

With the help of NGIT IDO Peter Bobbi, they divided their business into manageable areas and analysed them individually. These were:

- Propagation
- Tubing
- Potting
- Stand out areas
- Dispatch
- Storage - chemicals, pots and general
- Water
- Waste

After carrying out an analysis of each area, it became apparent just how ineffective a number of procedures and operations were. Karen says: “the problem with small business owner/managers is that they get so bogged down in the doing that they rarely take a step outside and look at things from another viewpoint”. In this way having their IDO look at their business with an objective set of eyes identified a number of areas where their business could be easily saving substantially in time and money.



Brocklands Nursery – In-ground roses irrigated with UV treated water.

Case study; Propagation

Each area was broken down into pros, cons, solution and cost. Here are the findings for propagation:

Pros

Existing benches
Glass enclosure

Cons

Flyleaf misting
Heat beds were not always operating correctly
Poor drainage on concrete floors
Overheated in summer
Average success rate 58 per cent
As a result, the area was suffering from botrytis in cuttings. The cuttings were also sitting on hot spots causing them to dry out. There were also several sciarid larvae infestations due to poor drainage and excess water application.

The solution

Installation of overhead fogging nozzles
Individual bed modules were removed and replaced with electric mats
Grooves were cut into the floor to channel water into a drain
Processes were set up so to ensure that floors and benches received a chlorine treatment on a regular basis.
Media treatment investigated for sciarid larvae infestations.

The cost

The initial quote for fogging was \$5200. This was deemed too excessive for an area of 44m². As a result it was decided what was needed was a droplet size of 1000um which can be adequately covered by a high pressure pump. Total costs for fogging finally came to \$890.

Total cost for heat mats - \$1200
Chlorine costs - \$82/annum
Sciarid treatment consisted of drenching when adult flies are visible. In addition, a \$20 insect zapper under the benches wiped out light brown apple moth and a large percentage of adult sciarid flies.

The result

The success rate jumped from a disappointing 58 per cent to an excellent 91 per cent and the nursery is now able to do cuttings all year round. The cost/cutting ratio went down from 71c to 21c.

Success rates were similar in all other areas that were evaluated. Obviously, becoming NIASA Accredited was extremely worthwhile. Although the necessary changes could appear as daunting when viewed all together, when they were broken down into manageable sections, the project became obtainable. Almost ten years on, the benefits of accreditation continue to reap rewards.

What can you do?

If your business is either a production nursery or growing media manufacturer, you can apply to join the NIASA Accreditation program. Membership is voluntary and you do not need to belong to a nursery industry association, however you must comply with a NIASA Accreditation audit.

To begin your NIASA Accreditation journey, contact your local state/territory association.



Brocklands Nursery – Gravelled growing areas with drainage water collected and recycled via wetlands and UV treatment.



Brocklands Nursery's simple greenhouse with energy efficient heat mats and fogging system

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