

Emerging Biosecurity threats and industry preparedness.

Biosecurity is an ongoing challenge for our Industry with new exotic plant pests and diseases emerging around the globe. In this month's Nursery Paper NSW Industry Development Officer Michael Danelon looks at some of these emerging threats to Australia and how our industry is positioned to deal with these.

Emerging Biosecurity threats and industry preparedness.

A large amount of plants introduced, grown and sold by the nursery industry are threatened by a range of different pests across different climatic conditions and environments in Australia.

Freedom from exotic pests not known to exist in Australia is vital to the future profitability, productivity and sustainability of Australia's plant industries. It is also key in protecting the natural environment and landscapes of Australia.

Should exotic pests be detected, how will industry and the government look to respond to their presence and set about eradicating them? This nursery paper will define what biosecurity is, the biosecurity tools and framework available for the nursery industry, current threat list and outline the process in responding to a pest once identified.

WHAT IS BIOSECURITY?

Biosecurity is a set of measures which can be implemented at national, regional or business levels to protect against the introduction and spread of new pests and to effectively deal with them should they arrive.

The definition of a nursery industry pest is all: insects, mites, snails, nematodes, pathogens (diseases) and weeds that may harm plants or plant products. Exotic pests are those not currently known to exist in Australia, whilst established pests are those already present.

Biosecurity is a whole of community responsibility, however for the nursery industry it begins at the farm level. Growers have the responsibility to maintain sound on-farm biosecurity practices to protect their plants, livelihood and the greater industry from both established and exotic pests.

Nursery hygiene is critical to maintaining effective biosecurity. Hygiene is more than just using clean nursery inputs and supplying clean outputs to the wider industry. It is very much about assessing the risk of what is introduced to the nursery and how these inputs are managed to maintain freedom of pests throughout the product cycle. Personal hygiene for example is often overlooked. For example, dirty clothes may carry pathogens or pests and boots may carry soil borne pathogenic spores.

BIOSECURITY THREATS LIKELY TO INCREASE

Australia has been fortunate to be geographically isolated. This has been of great benefit as the isolation has made the introduction of exotic pests difficult as long travel times provided an inherent form of quarantine. However much has changed in recent years. For example, air travel has made access to exotic locations across the globe much easier to access, new tourist destinations have opened up and the value of the Australian dollar has made travel more affordable. The internet has also opened up a new level of small scale trading allowing facilities for individuals to source and supply goods across the world with ease. All of these developments have

increased our risk of exposure to new exotic pests and increased the likelihood of border protections being penetrated and an incursion occurring. In view of this, it is likely that the nursery industry will continue to be threatened with biosecurity issues.

NEW BIOSECURITY LEGISLATION

The current legislation concerned with biosecurity in Australia is the *Quarantine Act 1908*. This legislation is being reviewed and will be replaced with a new piece of legislation in the near future. This new Bill is the Biosecurity Bill 2012 and was submitted to federal parliament in November 2012. Several issues with this Bill were identified by industries and it was forwarded for further review by the Senate Rural and Regional Affairs and Transport Legislation Committee who will report their findings on 24th June 2013.

BIOSECURITY AWARENESS OF AN EXOTIC PEST – MYRTLE RUST

Myrtle Rust (*Uredo rangelii*) is a recently introduced disease which has heightened the need for awareness of exotic diseases and the potential impact they may have if they are detected but are not contained.

The first formal detection of *Uredo rangelii* (Myrtle rust) was in April 2010 on a cut flower and foliage property in the Central Coast region of NSW. Within 8 months from the first detection, numerous Myrtle Rust infections were reported across NSW and also into South East Queensland in gardens, public areas and nurseries which made eradication impractical. Since then it has been detected and declared as established in areas of Victoria.

The financial cost to industry is difficult to measure, however we do know there are costs which businesses continue to absorb in:

- prevention, treatment and management of the disease,
- complying with market access requirements should they exist and
- loss of potential markets from quarantine restrictions.

Myrtle rust is the first and nor is it likely to be the last exotic plant pest to affect the nursery industry and environment. For example there are several exotic pests classified as significant to the nursery industry being managed now with the objective to eradicate them from Australia. These include chestnut blight and red imported fire ants.

The need for early detection followed by a rapid and coordinated approach to eradication is critical to limit the potential establishment of exotic pests in Australia. To assist in this area, the Nursery and Garden Industry has undertaken a number of initiatives to assist in the prevention of exotic plant pests and disease incursion and plans for the eradication of exotic plant pests and diseases if they occur.

PREPARING FOR EXOTIC PLANT PESTS

The nursery and garden industry in partnership with Plant Health Australia (PHA) has examined the potential threats to the industry. Through the support of industry levy funds, the nursery industry has developed a number of **Threat Specific Contingency Plans**

for priority exotic pests. These plans were developed with consultation and support of PHA which is the national coordinator of the government-industry partnership for plant biosecurity in Australia.

The contingency plans provide guidelines and options for steps to be undertaken and considered when developing a Response Plan for incursion of exotic plant pests or diseases. Any Response Plan developed using information in whole or in part from this contingency plan must follow procedures as set out in PLANTPLAN under the EPPRD and be endorsed by the National Management Group prior to implementation.

There are 12 Specific Contingency Plans for the industry to be aware of:

- Aphid transmitted viruses - Potyviridae (include Plum pox potyvirus; Asparagus potyvirus)
- Asian gypsy moth (*Lymantria dispar*)
- Banded greenhouse thrips (*Echinothrips americanus*)
- Glassy winged sharp shooter (*Homalodisca coagulata*)
- Guava rust (causal agent *Puccinia psidii*)
- Longicorn beetles (*Anolophora chinensis* and *A. malasiaca*)
- Pierce's disease (*Xyella fastidiosa*) linked with Glassy winged sharp shooter contingency plan
- Serpentine leaf miner (*Liriomyza huidobrensis*)
- Sudden oak death (*Phytophthora ramorum*)
- Tarnished plant bug (*Lygus lineolaris*)
- Thrips transmitted viruses - Tospovirus (including Chrysanthemum stem necrosis tospovirus; Impatiens necrotic ringspot tospovirus and Tomato spotted wilt tospovirus) and
- Whitefly transmitted viruses – Various (including Tomato yellow leaf curl virus; Tomato leaf curl virus; Lettuce infectious yellows virus and Diodia vein chlorosis virus)

The contingency plans have been incorporated into the Nursery Industry Biosecurity Plan and are available from NGIA and PHA. Each contingency plan provides guidelines to assist in developing a Response Plan to this exotic pest incursion and proposed eradication. This nursery paper does not aim to set out the specific detail of each Contingency Plan. However, the aim of this nursery paper is to raise the awareness of industry participants (growers/retailers and allied suppliers) of these contingency plans in order to become familiar with the exotic pests threatening the Australian nursery industry.

HOW INDUSTRY CAN RESPOND TO EXOTIC PESTS

The NGIA is engaged in several biosecurity initiatives across Australia. These initiatives include the Nursery & Garden Industry Biosecurity Plan (IBP), Biosecurity Manual for the Nursery Production Industry, the EPPRD and Nursery Production Farm Management System - BioSecure HACCP Guidelines for managing biosecurity in nursery production.

INDUSTRY BIOSECURITY PLAN (IBP)

The Nursery and Garden IBP provides a framework for biosecurity risk mitigation measures in the nursery industry. The current IBP was launched in 2008 and provided a blueprint for the exclusion,

eradication and control of key exotic pests relevant to the nursery and garden industry. The IBP has been developed to ensure the industry has the capacity to minimise risks of exotic pests and respond effectively to any exotic pest threats, ensuring the future sustainability and viability of the industry.

An updated release of the IBP is due in mid-2013.

- practicing good sanitation – keep it clean
- frequently monitoring crops and the nursery
- abiding by the law and
- reporting anything unusual to the Exotic Plant Pest Hotline on 1800 084 881.

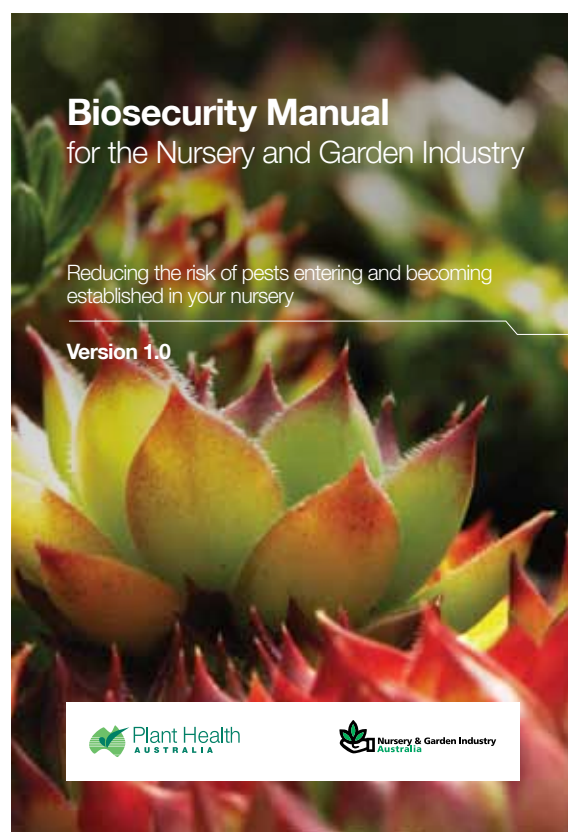
A key aspect to consider is the implementation by responsible businesses will reduce the risk of exotic pests to the wider industry.



National Nursery and Garden Industry Biosecurity Plan

Version 2

March 2008



BIOSECURITY MANUAL – PRODUCTION NURSERIES

Nursery & Garden Industry Australia in partnership with PHA have developed *The Biosecurity Manual for the Nursery Production Industry*. The manual was formally launched in August 2010 by Dr Anthony Kachenko and provides the framework to reduce the risk of pests entering and becoming established in production nurseries.

The Biosecurity Manual has been designed to assist nursery producers and the industry from the introduction of new and invasive pests by offering six simple routine biosecurity practices which can be embedded into the daily management of the nursery.

The practices include:

- awareness of biosecurity threats
- using only clean, pest-free and certified production nursery inputs

EMERGENCY PLANT PEST RESPONSE DEED (EPPRD)

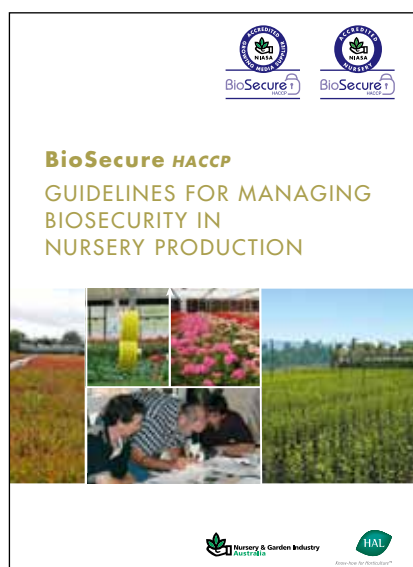
In 2005, NGIA became a signatory to the EPPRD. As a signatory to the EPPRD, NGIA is at the forefront of developments in biosecurity. The EPPRD is a progressive partnership arrangement between governments and NGIA that sees Australian industries and Governments cooperating as equal parties in the management of emergency plant pests (or exotic pests).

As part of this deed, NGIA is directly involved in categorising the emergency plant pests based on their likely environmental, human health, trade, economic and industry impacts. In the event of an incursion, NGIA is also directly involved in decision making about mounting and managing emergency plant pests relevant to industry.

BIOSECURE HACCP - AN ON-FARM BIOSECURITY MANAGEMENT SYSTEM FOR PRODUCTION NURSERIES

BioSecure HACCP is the industry specific, on farm biosecurity program for production nurseries, designed to assist growers in assessing their current and future pest risks. The program guides businesses in the implementation of management strategies at critical control points and provides a systematic approach to assess on-farm biosecurity hazards and responsibilities, detailing how to best manage identified risks.

The program validates many of the best management practice strategies employed under the Nursery Industry Accreditation Scheme Australia (NIASA).



WHAT CAN YOU DO?

Emergency pest threats are very real for the nursery industry and need to be considered and provisions made by businesses and industry to prepare for them. Obtaining the resources which have been developed and implemented biosecurity practices in your businesses and becoming familiar with exotic pests are critical.

SPOTTED ANYTHING UNUSUAL?

When it comes to dealing with exotic pests, speed is of the essence. Detecting an exotic pest early and mounting a swift eradication

response is crucial in order to successfully eradicate an emerging exotic pest threat.

Businesses should be constantly on the lookout for something unusual in their nursery. Nursery workers' eyes and experience are the most important tools that we have.

If you have spotted something unusual, or suspect a pest that represents a risk to your business and the Australian nursery industry, simply call the **Exotic Plant Pest Hotline on 1800 084 881**

Your call will be forwarded to an experienced person in the state department of agriculture who will ask some questions about what you have seen and may arrange to collect a sample. Every report will be taken seriously, checked out and treated confidentially.



CONCLUSION

Biosecurity planning provides a system for the nursery and garden industry, government and other relevant stakeholders to assess current and future biosecurity needs and practices. Biosecurity planning identifies procedures that can be established to reduce the likelihood of pests reaching our borders and minimise the impact if a pest incursion occurs.

Everyone involved in the Australian nursery industry has a role to play in adopting biosecurity practices. Prevention of introducing new pests is far better than dealing with the long term consequences of a new pest. Considering the risks and implementing changes to protect your business, industry and the environment are surely worth doing for everyone's sake.

Further information

- Reducing the pest risk; The Australian Nursery and Garden Industry's Policy Position on Quarantine and Biosecurity. NGIA 2012.
- National Nursery and Garden Industry Biosecurity Plan ver 2.0. Plant Health Australia, 2008.
- BioSecure HACCP: Guidelines for Managing Biosecurity in Nursery Productions. NGIA 2008.
- Emergency Plant Pest Response Deed available from www.planthealthaustralia.com.au
- Australian Emergency Plant Pest Response Plan. Plant Health Australia, 2011.

Nursery Papers

- October 2012, Reducing the Pest Risk – Industry's Policy Position on Biosecurity and Quarantine. A Kachenko, NGIA.
- April 2012, The Nursery Production Plant Health & Biosecurity Project. J McDonald, NGIQ.
- May 2011, Biosecurity – what is it and what does it mean to the nursery and garden industry. M Danelon NGINA.
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- April 2007, Managing emergency plant pest incursions. J McDonald NGIQ.