

# Biosecurity: Australia's System

## A Good Advice Guide for Gardeners

### The Garden Clubs of Australia Inc.



**Above:** Citrus canker is a disease infection (caused by the bacterium *Xanthomonas axonopodis*) which causes lesions on the leaves, stems and fruit of any citrus species.

The Garden Clubs of Australia Inc. encourages all affiliates and their members to be clearly aware of biosecurity regulations in their state or territory.

For many Australian gardeners, biosecurity is an issue in which they have little interest unless they are returning from overseas. Often this is particularly so for suburban gardeners who have been growing the same shrubs, flowers, vegetables and fruit trees for years.

Consult with a gardener in south-east Queensland and northern New South Wales who has been affected by imported red fire ants, or with northern Tasmanian gardeners caught up in the preventative measures to control an incursion of fruit fly, or those affected by citrus canker in Western Australia and suddenly biosecurity becomes relevant and of serious importance.

Australia's biosecurity system relies on partnerships between the

Commonwealth, states and territory governments, industry, environmental groups and the broader public, including gardeners. These important partnerships are facing growing challenges from increased global trade and travel.

In developing a new National Biosecurity Statement, the Commonwealth has identified responsibilities for each of the sectors mentioned above. Responsibilities that could be undertaken by gardeners (in addition to other community groups) include:

- Raising awareness and understanding of the biosecurity system and its requirements
- Developing and promoting partnerships between biosecurity participants, including consultation and information sharing
- Contributing to surveillance and diagnostics to support early detection and diagnosis of exotic pests and diseases
- Promoting reporting of new or unusual pests, weeds and diseases
- Participating in the eradication and containment of nationally recognised pest and disease incursions.

**The Garden Clubs of Australia Inc. has prepared this document as the beginning of a process to encourage affiliates to exercise these responsibilities.**

This paper focuses on developing an understanding of Australia's Biosecurity System.

#### Australia's Biosecurity System

All gardeners would be familiar with the term 'quarantine' which described past arrangements for biosecurity. 'Quarantine' has a largely defensive connotation associated with isolation.

The broader concept of 'biosecurity', with an emphasis on managing risk rather than eliminating it and a shift from a border focus to encompass fully pre-border and post-border measures, has been used by all authorities in recent times.



**Above:** Learn to recognise Myrtle Rust (*Puccinia psidii*) a fungal disease which threatens most of our bushland as it infects plants in the Myrtaceae family including eucalyptus, willow myrtle, turpentine, bottlebrush, paperbark, tea tree and lilly pilly.

Generally myrtle rust starts as small purple spots on leaves. Bright yellow spores then form in pustules within these purple spots. Pustules fade to dull yellow and then grey as the infection ages. In severe infections, spots enlarge and merge, often causing leaf distortion and eventual plant death.

This rust was first detected in NSW in 2010 and is now found in NSW, Victoria, Queensland, Tasmania and the Tiwi Islands.

All Australian states and territories have established services to manage biosecurity within their own borders. While all of these services work collaboratively with the Australian Department of Agriculture in supporting Australia's Biosecurity System, each state and territory engages in particular activities to meet their local needs. The Australian Capital Territory, for example, cooperates closely with New South Wales and its *Biosecurity Strategy* is designed to integrate with that of New South Wales.

Western Australia and Tasmania, while supporting the national strategy, apply particular additional restrictions and biosecurity processes to meet the needs of their own state.

It is important for gardeners to understand that the agricultural, pastoral and fishing industries provide a substantial focus for biosecurity since unwelcome incursions into these industries in Australia would cause substantial economic hardship. The *NSW Biosecurity Strategy*, for example, draws attention to the fact that the NSW's primary industries sector has a gross value exceeding \$12 billion each year and accounts for about 20% of Australian agricultural production, all of which is protected by maintaining their biosecurity status.

Nevertheless, the impact of unwanted incursions can have an impact on us all; they can diminish our enjoyment as gardeners, the broader environment and even our quality of life as normal citizens.

Specific information on biosecurity initiatives is available on each state and territory website (see p. 3 below) and includes a biosecurity strategy document tailored to local needs.

Affiliates and their members are encouraged to peruse these documents and the relevant website in their local state/territory. It is certainly worth spending a little time to understand the threats and responses in other Australian jurisdictions to appreciate the national effort underway to protect our industries, our environment and our local communities.

## Two Examples

### Cane toad containment

The cane toad (*Bufo marinus* - see right) is a highly invasive species that is believed to have entered WA from the Northern Territory in 2009, invading and occupying the habitats of many native species. Since then, they have spread west across the Kimberley at a rate of about 50km a year, reaching Halls Creek and Wyndham by 2014.



Cane toads attain high population densities during colonisation and their immediate impact can be dramatic, particularly affecting reptile species (goannas and snakes), as well as other native fauna such as northern quolls. Some highly susceptible native animals have become locally extinct as a result of cane toad impacts.

The people of Kununurra have been active in trying to slow the spread of cane toads in the area and the Department of Parks and Wildlife has established a number of toad 'drop-off points' in the east Kimberley for travellers.

A dog trained in cane toad detection is also used as a proactive quarantine measure, inspecting high priority freight for 'hitchhiker' toads to help prevent the spread of cane toads to other parts of the state. These actions are part of a range of government initiatives being implemented under the *Cane Toad Strategy for Western Australia 2014–19*, as well as the *Kimberley Science and Conservation Strategy*. Associated funding has enabled investment in scientific research in cooperation with a range of partners.

While a number of possible cane toad control and management projects have been thoroughly investigated, some have proven not to be useful. Work continues on investigating options for effective landscape-scale methods to mitigate the impact of cane toads on native species in WA.

(Source: *Western Australian Biosecurity Strategy 2016 – 2025*)

### Keeping Didymo out of Australia

*Didymosphenia geminata* (known as Didymo or Rock Snot) is a freshwater alga (single-celled plant) that is causing serious environmental problems around the world.

Didymo has invaded rivers, lakes and native waterways in Europe, Asia, North America and New Zealand and is smothering stream beds, killing aquatic plants and insects and reducing fish habitat and food. Didymo masses can also clog pumps used to extract water for irrigation and industrial use, as well as being detrimental to the recreational use of waterways.



**Above left:** Didymo infestation affecting fishing nets.

**Above right:** Microscopic Didymo.  
Learn to recognise Didymo:

- **Touch** - although it looks slimy, it doesn't feel slimy, but rather spongy and scratchy like cotton wool
- **Strength** - Didymo attaches very securely to river stones and does not fall apart when rubbed between your fingers
- **Colour** - Didymo is beige/brown/white but not green
- **Odour** - live Didymo has no distinctive odour
- **Microscope** - definitive identification requires microscopic analysis.

Didymo was first found in the southern hemisphere in 2004, in the lower Waiau River in New Zealand. In only a few years it has spread to 150 rivers in the South Island of New Zealand.

Human activity is thought to be the main cause of the spread of Didymo. Only one cell (invisible to the naked eye) transferred on footwear, fishing and boating equipment can spread this alga. Didymo cells can be transported easily on any damp materials. It is essential that Australia prevents this serious environmental pest contaminating our shores. Computer modelling suggests that our environment is suitable for Didymo to become established in parts of Tasmania, Victoria and NSW.

Everyone visiting the South Island of New Zealand should be aware of this pest and take steps to ensure that they do not bring it back to Australia.

In 2009, the Australian Government introduced new questions on arrival cards for international travellers to identify high-risk equipment (including used fishing rods and footwear) that may have come in contact with infested waterways. This allows the equipment to be treated.

(Source: *NSW Biosecurity Strategy 2013 – 2021*)

**It is recommended that all members of affiliates familiarise themselves with the biosecurity initiatives being undertaken in their particular state or territory and the broader role of the Australian Government.**



**Above (from left):** Pests of concern: Tomato and potato psyllid; Marmorated Stink Bugs; Queensland Fruit Fly.

### Sources of further information about biosecurity in Australian States and Territories:

ACT	<a href="http://www.environment.act.gov.au/parks-conservation/plants-and-animals/Biosecurity">http://www.environment.act.gov.au/parks-conservation/plants-and-animals/Biosecurity</a>
Aust. Government	<a href="http://www.agriculture.gov.au/biosecurity">http://www.agriculture.gov.au/biosecurity</a>
NSW	<a href="https://www.dpi.nsw.gov.au/biosecurity">https://www.dpi.nsw.gov.au/biosecurity</a>
NT	<a href="https://dpir.nt.gov.au/news/2016/august/biosecurity-in-the-northern-territory">https://dpir.nt.gov.au/news/2016/august/biosecurity-in-the-northern-territory</a>
QLD	<a href="https://www.daf.qld.gov.au/business-priorities/biosecurity">https://www.daf.qld.gov.au/business-priorities/biosecurity</a>
SA	<a href="http://pir.sa.gov.au/biosecurity">http://pir.sa.gov.au/biosecurity</a>
TAS	<a href="https://dpirwe.tas.gov.au/biosecurity-tasmania">https://dpirwe.tas.gov.au/biosecurity-tasmania</a>
VIC	<a href="http://agriculture.vic.gov.au/agriculture/biosecurity">http://agriculture.vic.gov.au/agriculture/biosecurity</a>
WA	<a href="https://www.agric.wa.gov.au/biosecurity-quarantine/biosecurity">https://www.agric.wa.gov.au/biosecurity-quarantine/biosecurity</a>



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