

Vegetable Industry Development Program

Plant Biosecurity

What is Biosecurity?

Biosecurity is a general description for a series of measures designed to protect businesses and the nation as a whole from the threats posed by insects and diseases (collectively called pests). These pests may originate in other countries (**exotic pests**) or other regions within Australia (**endemic pests**). Good biosecurity systems are critical to:

- Ensure Australia's food security and safety.
- Protect producers' productivity.
- Maintain market access and protect producers' livelihood.

Minimising the biosecurity risks posed by pests that are new to Australia is a key focus for governments, plant industries and Plant Health Australia.

Who is Plant Health Australia?

Plant Health Australia (PHA) is the lead national coordinating body for plant health in Australia. PHA works in partnership with industry, governments, researchers and others to:

- Provide national coordination to improve biosecurity policy and practice across Australia's plant industries.
- Build capacity to respond to plant pest emergencies.

What is a plant pest emergency?

A plant pest emergency occurs when a pest, not found in the country or a region previously, is discovered. This may be an exotic or endemic emergency pest.

All emergency pests must be reported as soon as you suspect that you have found signs of them on your property or elsewhere. Your state or territory specifies which endemic pests and diseases are notifiable. A list of state and territories notifiable pests can be found on the PHA website at <http://www.planthealthaustralia.com.au/index.cfm?objectid=A4FC7C1D-E8D1-CE04-10845F708FD324FA>



Photo: White Blister on broccoli

Key Messages

- Good biosecurity systems are critical to:
 - Ensure Australia's food security and safety
 - Protect producers' productivity
 - Maintain market access and protect producers' livelihood.
- Quarantine is an essential part of biosecurity and protects Australia's vegetable industry from new pests. However, it does not provide total protection. For example:
 - The currant-lettuce aphid, discovered in Tasmania in 2004, appears to have entered Australia from New Zealand after unusual weather conditions.
- **BIOSECURITY IS EVERYONE'S BUSINESS**
Industry, government and the community are all responsible for maintaining Australia's plant health status.



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What can I do?

Farm biosecurity entails a set of management practices and activities that are carried out on-farm to protect a property from the entry and spread of pests. Here are some simple things you can do to reduce the threat of new pests entering and establishing on your farm.

Prevention is the key	You can use simple biosecurity measures to protect the industry by keeping crops pest free and preventing movement of pests between regions.
Awareness	Make sure you, your farm workers and contractors are familiar with local and common pests and the most important vegetable pest threats (emergency/notifiable pests) for your region so that any new pests can be identified.
Training	Conduct biosecurity training sessions on your farm and use photos or posters to explain hygiene practices for workers, equipment and vehicles. Ask your local extension specialist or agronomy service provider for help, if required.
Know your sources	Ensure all propagation material (seed, transplants, tubers, corms, bulbs, rhizomes) and farm inputs are fully tested and pest free. Keep records (batch numbers, source) and retain a sample of your farm inputs. Be especially careful with second hand packaging, bins and machinery movements.
Keep it clean	Practicing good sanitation and hygiene will help prevent the entry and movement of pests onto your property. You, workers and visitors can spread pests, so make sure to clean dirt and plant material from any footwear, equipment or vehicles before they enter and leave your farm. Restrict the movement of people, vehicles and machinery on your farm.
Use signage	Inform visitors and contractors and remind staff of your biosecurity and hygiene measures and identify any problem areas on your farm to prevent weeds or pests from spreading.
Check crops	Monitor your crops frequently. Knowing the usual crop appearance will help you recognise new or unusual pests or plant symptoms. Keep written and photographic records of all unusual observations. Constant vigilance is vital for early detection of any exotic or new endemic plant pests.
Abide by the law	Support and be aware of laws and regulations established to protect the vegetable industry and other horticultural industries in your region. Contact your state vegetable association for more information on these laws and regulations.
Familiarise yourself with the Vegetable Industry Biosecurity Plan	The Vegetable Industry Biosecurity Plan is available from www.planthealthaustralia.com.au

Contact the exotic pest hotline 1800 048 881 if you see anything unusual - early detection and immediate reporting may save your industry!



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Case Study: Currant-Lettuce Aphid

An incursion of currant-lettuce aphid (CLA) was detected in Devonport, Tasmania in 2004. This major pest of lettuces, then a new species to Australia, literally blew in from New Zealand. Crucial to the management of CLA was the liaison between government, all levels of industry, agribusiness and researchers to develop an effective management plan to control CLA. This was followed by the immediate evaluation and adoption of Integrated Pest Management (IPM) measures combined with approval of an appropriate systemic insecticide. The steps involved in the response to this pest incursion are outlined below.

DATE	RESPONSE
MID MARCH 2004	Major growers voluntarily destroyed unsaleable infested crops to assist in control and containment. Interstate trade in lettuce products was immediately suspended for two weeks after detection of lettuce aphid.
26 MARCH 2004	The Department of Primary Industries, Water and Environment (DPIWE) Tasmania facilitated the issue of an emergency permit by the Australian Pesticides and Veterinary Medicines Authority (APVMA) for an additional pesticide to be made available nationally.
MID APRIL 2004	Following the successful establishment of a secure quarantine system by DPIWE staff, the moratorium on the export of loose-leaf lettuce products was lifted.
APRIL 2004	The Consultative Committee on Exotic Plant Pests and Diseases (CCEPPD) determine that the eradication of lettuce aphid is not feasible. Instead, all agencies supported alternative action to minimise the pest's effects on lettuce production in Tasmania and other States.
MARCH - APRIL 2004	State quarantine officials identified pathways of quarantine concern (host vegetables, nursery stock, fruit and cut flowers/foilage), evaluate the risks posed by these pathways and determined the need for and extent of any quarantine measures necessary to provide the appropriate level of protection for the State, whilst minimising any impediments to trade. Emergency measures were imposed for lettuce aphid hosts under relevant State Acts pending a closer evaluation of the risk.
APRIL - OCTOBER 2004	Risk evaluations were conducted by all states and appropriate quarantine measures put in place.
SEPTEMBER 2004	A Horticulture Australia (HAL) funded R&D project into IPM of CLA commenced in Tasmania, involving IPM specialists from Victoria and NSW and frequent demonstrations to growers and industry. The work proved that IPM was a viable control strategy.
MAY 2005	Outbreaks confirmed in eastern Melbourne and IPM R&D continued in Victoria confirming IPM as the best control option.
SPRING - SUMMER 2005	CLA confirmed throughout Melbourne including Bacchus Marsh.
FEBRUARY 2006	CLA confirmed in the Sydney basin.
MAY 2006	CLA confirmed in Adelaide.
OCTOBER 2006	CLA confirmed in Brisbane.
DECEMBER 2006	CLA confirmed in Perth. CLA has not been confirmed in territories, and some lettuce producing areas are still CLA-free.

What you can do to manage and prevent CLA on your farm:

- Practice IPM
- Observe pesticide resistance strategies when controlling insect pests of lettuce, especially CLA
- Plant CLA resistant lettuce varieties
- Keep yourself informed via lettuce aphid fact sheets such as those at http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/57572/Currant_lettuce_aphid_-_Primefact_155-final.pdf or <http://www.vgavic.org.au/pdf/VegeNote-Lettuce-Aphid.pdf>
- Contact your state vegetable association for more information



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Case Study: Tomato-potato psyllids

Tomato-potato psyllids (TPP) are found in the USA, parts of Mexico, southern Canada, and now New Zealand. It has been reported that the psyllid caused losses of \$43 million for New Zealand producers in 2008/09. The psyllid can be considerably destructive, however it can also infect potatoes with *Liberibacter*, the bacterium which causes 'Zebra Chip' in potatoes.

An Australian Zebra Chip Taskforce has been established by AUSVEG to work with/lobby government agencies and put in place measures to prevent the disease getting to Australia. Task force members keep informed on current control measures and R&D conducted in New Zealand, and other countries affected by this serious pest/disease complex. This information is passed onto industry via state vegetable associations and state departments of agriculture.

Regular updates on this issue can be found on the AUSVEG website www.ausveg.com.au.

Key Message

Once a pest is established in one region of Australia it is very hard to contain. The best strategy is to be proactive on a personal and industry level and prevent pest incursions from becoming established.

Where can I find further information?

Websites:

Farm Biosecurity

You can find easy to use tools to assess risks on your property, and ways to reduce them, on the farm biosecurity website at www.farmbiosecurity.com.au

Plant Biosecurity Research

You can find information on plant biosecurity research at www.crcplantbiosecurity.com.au

Plant Health Australia

Plant Health Australia (PHA) has dedicated a section of their website to highlight each of its Industry Members biosecurity activities and information on specific crops. This can be found at the PHA website at www.planthealthaustralia.com.au. You can also find the following information on the website:

Links to Documents:

- List of state and territories notifiable pests.
- Emergency plant response deed including PlantPlan (agreed technical response plan used by jurisdictions and industry in responding to an Exotic Plant Pest - EPP - incident).
- Technical guidelines for contingency planning.
- Pest risk assessment for industry biosecurity plans.
- National Plan Health Status Report.
- Farm Biosecurity information.

Information Support Systems:

- Australian Biosecurity Intelligence Network.
- Australian Plant Pest Database.
- Pest and Disease Image Library (including Plant Biosecurity Tool box).
- Plant Health Experience Register (list of professionals).
- The Pest Information Document Database (contains the pest-specific document developed as part of Industry Biosecurity Plans (IBPs). They provide background and emergency response information on a number of the High Priority Pests of Australia's plant industries.

National Training Program:

- Information on training opportunities.

Further Information

- Copies of the Biosecurity Induction Manual for Bundaberg Horticultural Farms and the Farm Biosecurity Manual for the Northern Adelaide Plains Vegetable Growers can be downloaded from the Plant Health Australia website at <http://www.planthealthaustralia.com.au/go/phau/biosecurity/vegetables>.
- A VEGEnote on biosecurity can be downloaded from the Vegetable Growers Association of Victoria website at http://vgavic.org.au/communication/vege_notes/biosecurity.htm.
- Go to the R+D Insights Database (available in the log-in section of the AUSVEG website) to search for further information on biosecurity management.



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