Enrolments are Open!
Introducing the Certificate, Diploma and Masters in Plant Biosecurity

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Cooperative Research Centre for National Plant Biosecurity
Formal Qualifications

- National Plant Biosecurity degrees
  - Graduate Certificate
  - Graduate Diploma
  - Masters
- World-first postgraduate qualifications developed specifically to meet the needs of the plant biosecurity sector
Teaching Consortium

- Enrolments occur through Murdoch University
- Taught in collaboration with Charles Darwin University, LaTrobe University, Queensland University of Technology and the University of Adelaide
- New universities soon to come on board
Strong Links to Industry

- Our teaching team has strong links with
  - the CRC for National Plant Biosecurity,
  - state and Federal biosecurity agencies,
  - their international counterparts, and
  - all of the major plant industries.
Audience

- Developed specifically for those working in the plant biosecurity sector
- For people who wish to pursue a career in plant biosecurity
Current Students

- Staff from Commonwealth and state agencies
- Staff from plant industries
- Recent graduates
- People seeking a change in career
- International students
Entry Requirements

- No previous qualifications necessary
- Relevant professional experience allows direct entry into the Graduate Certificate
- A relevant 3 or 4 year degree from a recognised university
- A PhD does not rule you out!
Time Commitment

- **Graduate Certificate**
  - 6 months full time study
- **Graduate Diploma**
  - 12 months full time study
- **Masters of Plant Biosecurity**
  - 18-24 months full time study
  - Completion of research project
Time Commitment

- Study full time or part time
- Part time = at least one unit per semester
Units

- Biosecurity Plant Pests
  - choose two of:
    - invertebrates
    - plant pathogens
    - weeds
- Detection and Diagnostics
- Plant Biosecurity in Practice
Units

- Invasion Biology
- Risk Analysis
- Community Engagement
- Policy Frameworks
- Research Project
Delivery

- No attendance at classes required!
- The individual units are delivered entirely online, so you can study in the comfort of your own home.
- Internet access is a compulsory pre-requisite.
Assessments

- Online quizzes
- Practical assignments
- Industry-relevant reports
- Diagnostic methods
- Pest Risk Analysis
- Essays and exams
Individual Units

- Individual units are also available for those interested in a specific topic.
- If you are currently enrolled in another postgraduate course you may be able to complete units from the plant biosecurity program and have them count towards your qualification.
A Taste of the Content..

**Section I: Basic biology of plant pathogens:**
- Introduction to pathogens and biosecurity
- Major pathogens fungi-like organisms
- Major pathogens: Fungi
- Major pathogens: Bacteria and Viruses
- Modes of pathogenicity
- Disease triangle and epidemiology

**Section II: Applied plant pathology**
- Symptoms and signs
- Working with plant pathogens
- Management and control

**Section III: Detailed case studies**

Capsicum infected with *Glomerella cingulata*
biosecurity built on science
An introduction to plant pests

A fluid phylogeny

PROPERTIES
Allow user to leave interaction: Anytime
Healthy vs diseased plant

This is a schematic representation of the basic functions in a plant and the kind of interference caused by some of the common types of plant pests: on the left you can see a representation of the normal or unaffected functions of a healthy plant - on the right the symptoms caused by several biotic agents (caused by biological organisms or plant pests).
Signs vs Symptoms

Symptoms and signs are the most important evidence used in a triage diagnosis, although information about environmental, cultural, and other conditions must be considered as well.

The roles of symptoms and signs in diagnosis are different.

Signs can point directly to causal agents. However, care should be taken since they could belong to secondary agents or saprophytic colonisers.
Hemiptera have a hemimetabolous development, progressing through egg to adult without a "resting" or pupal stage. The juvenile stages often become progressively more like the adult in appearance as they moult. There is no fixed number of juvenile stages; this varies from species to species and sometimes is altered by environmental conditions.

Background image: Nezara viridula life-cycle from Gullan and Cranston, The Insects: An outline of entomology.
Introduction

With the exception of some galling species, most nematodes are quite common.
Module 1 Revision Questions

1. Define the term plant biosecurity.

2. Give examples of different categories of pests in the context of plant biosecurity.

3. The international treaty governing plant biosecurity was formally established in what year? What is it called?

4. What are the main drivers underpinning plant biosecurity? Give examples of each.

5. List all of the basic principles of the IPPC.

6. Define transparency, harmonisation and equivalence.

7. Pest listing and pest reporting are examples of what?

8. What type of information details are contracting parties to the IPPC obliged to provide?
Feedback

- Haven't studied for 15 years and never online, interesting experience and a pleasant return to study.
- Easy to understand format for delivery, timelines for study/assignments/quizzes was good.
- It has been very enjoyable to do the course!
- The lecture material was very good, very useful
Feedback

I would certainly recommend the [Plant Biosecurity in Practice] unit to other colleagues and would even suggest that this unit is completed in the first year of service as it provides a fantastic grounding to the big picture of biosecurity.
Feedback

I found the content to be of a high standard and providing a detailed picture of not only domestic but international biosecurity [Plant Biosecurity in Practice].
Feedback

“\textit{I am quite excited by the new diagnostics that will soon be available to biosecurity. I think Plant Biosecurity should be more open to new technologies and the science available for technical advice - that we give policy advice on}”
Need to Know More?

- Visit the plant biosecurity program website - www.plantbiosecurity.edu.au