



# Teachers' notes

supporting classroom resources and activities

## Plant Pest Investigation

### Background information for teachers

## What is plant biosecurity?

**Plant biosecurity is a set of measures designed to protect plants from pests and diseases at national, state and regional levels.**

Australia is relatively free from many of the plant pests and diseases that seriously impact on agricultural industries in other countries. Through the absence of many pests and diseases commonly found overseas, Australia's plant industries have a valuable competitive advantage in terms of securing market access and maintaining lower production costs.

If these pests found their way into Australia, the economic viability of Australia's plant industries (which have a farm gate value of over \$18 billion and contribute over \$12 billion to export income) would be directly threatened. Even the perception of pests in Australian produce would have a rapid and negative impact on its reputation as a producer of safe, quality food products.

For example:

... **Khapra beetle is a high-risk serious pest for all stored grain and would have a serious impact on market access and production costs if it became established in Australia...**



#### Biosecurity risks

Khapra beetle: adult males 1.4mm-2.3mm long; adult females 2.1mm-3.4mm long



#### Diagnostic capacity

Khapra beetle in stored grain



#### Surveillance

the wheat industry (Australia's largest plant industry) is currently free of Khapra beetle



#### Food security

overseas, wheat infected with Khapra beetle has caused losses to stored grain as high as 70 per cent



#### Market access

the presence of Khapra beetle would result in the loss of major export markets for Australia



## *Background information for teachers*

# Cooperative Research Centre for National Plant Biosecurity

The Cooperative Research Centre for National Plant Biosecurity started operating in November 2005 in recognition of the need to strengthen the plant biosecurity scientific capacity of Australia.

Our head office is located in Canberra where we centrally coordinate plant biosecurity research across all Australian states and territories. We have an extensive collaborative network of researchers and educators from 23 participating organisations representing industry, universities, state and Australian government.

The Cooperative Research Centre for National Plant Biosecurity has seven programs. The first five programs focus on innovative research activities across the full biosecurity continuum; pre-border, border and post- border.

Recognising the need to be better prepared and prevent problems before they occur – our *Preparedness and Prevention Research Program* delivers the knowledge required to underpin decisions on the risk of entry, establishment and spread for emergency plant pests.

To rapidly and accurately diagnose these pests, our *Diagnostics Research Program* is developing new tools and procedures to provide access to data and expertise that is accurate, sensitive, reliable and cost-effective.

The *Surveillance Research Program* is developing sound and cost-effective surveillance procedures and new technologies to assist in accurately defining Australia's plant health status.

Our *Impact Management Research Program* is developing management strategies to minimise the social and economic impact of an emergency plant pest incursion.

To support the health and competitiveness of Australia's grain industry, the *Post-Harvest Integrity Research Program* is contributing to the management of biosecurity threats in the post-harvest grains sector.

Our sixth program, the *Education and Training Program* provides resources to support PhD students, workshops/training in plant biosecurity and the development of a national schools program and postgraduate curriculum in plant biosecurity.

To maximise the adoption of new research, the *Delivery and Adoption Program* is facilitating the delivery, commercialisation and use of all program outputs to appropriate end-users.

More information about the CRCNPB, pests and the importance of plant biosecurity can be found at [www.crcplantbiosecurity.com.au](http://www.crcplantbiosecurity.com.au)