



COTTON INDUSTRY BIOSECURITY STATEMENT

August 2024

Introduction

Cotton Australia recognises the need for the cotton industry to work with the federal, state and territory governments to help reduce the potential for incursions of emergency plant pests that could adversely impact on production, domestic and international trade and the regional economy and environment.

The cotton industry is committed to ensuring effective responses to pest incursions are possible to minimise costs to growers, the industry, other plant industries, government parties and the wider community.

The cotton industry through Cotton Australia is working with Plant Health Australia (PHA) to develop a comprehensive national approach to managing biosecurity risks in the cotton industry. Valuable assistance is received from researchers and staff from CSIRO, NSW Department of Primary Industries (NSW DPI), Queensland Department of Agriculture and Fisheries (DAF), Biosecurity Queensland, Cotton Research and Development Corporation (CRDC), Cotton Seed Distributors (CSD), the Australian Government Department of Agriculture and Water Resources and several universities.

Commitments under the Emergency Plant Pest Response Deed

1. Cotton Industry Biosecurity Plan

The National Cotton Industry Biosecurity Plan, consistent with PHA's National Industry Biosecurity Planning Guidelines, was launched in 2006 and has been regularly updated with the current version (Version 4.0) available on the Cotton Australia website.

Version 1: November 2006

Version 2: February 2010

Version 3: March 2015

Version 4: August 2024

The biosecurity plan identifies and prioritises the cotton industries biosecurity risks and provides a framework for risk mitigation and preparedness activities. The awareness section identifies a range of existing industry processes, fact sheets and other sources of information

for the identified 10 High Priority Pests (HPPs) that can be used to promote biosecurity awareness throughout the industry. The cotton Industry Biosecurity Group meets annually to maintain currency of issues, review pest threats, identify biosecurity research and preparedness gaps, and provide oversight of industry implementation and adoption of biosecurity strategies as identified in the IBP.

2. Pest categorisation

Cotton Australia will, as far as it is within its power to do so, ensure that appropriate industry technical experts will be available to participate in future meetings of the Categorisation Group to consider either pest categorisation or funding weight calculations for Emergency Plant Pests with multi-industry impacts. Cotton Australia has participated in all relevant categorisation group meetings. Currently, seven cotton industry identified Emergency Plant Pests have been categorised and are listed in Schedule 13 of the Emergency Plant Pest Response Deed.

3. National decision-making processes

Cotton Australia will endeavour to ensure that senior and qualified industry delegates are available at short notice to participate in meetings of the Consultative Committee on Emergency Plant Pests or the National Management Group and to take up roles in Local Pest Control Centres or the State Pest Control Headquarters in the event of an incursion. Cotton Australia will also endeavour to ensure that all delegates participate in relevant competency and non-competency based training, which is being delivered through Plant Health Australia's Emergency Plant Pest Preparedness Training Program.

4. Owner Reimbursement Costs

In association with Plant Health Australia, Cotton Australia developed the cotton Owner Reimbursement Cost (ORC) framework. This framework has been endorsed by the Cotton Australia Board, the PHA Board and Relevant Parties to the Emergency Plant Pest Response Deed (EPPRD) and is available on the PHA website.

On-farm biosecurity

Best management practice program

The cotton Best Management Practices program (*myBMP*) is the core platform for delivery of best practice across the Australian Cotton Industry. The *myBMP* program includes a farm biosecurity module. This module is designed to assist growers in protecting their farm from the introduction of endemic and exotic pests, and to help minimise the spread of pests throughout the industry. Practices to create awareness, documenting biosecurity risks and the process for reporting a suspected incursion are also outlined.

The biosecurity module for MyBMP is reviewed annually. Revisions reflect the responsibilities growers have under changed biosecurity legislation (including General Biosecurity Obligation and General Biosecurity Duty) and best practices. The module provides linkages to resources available on other websites including the industry's extension program, CottonInfo, and the PHA/AHA, Farm Biosecurity website. Further to this, links have been added to guide growers to Northern Territory and Western Australia biosecurity resources in recognition of the developing industry in Northern Australia.

Biosecurity Extension and Training

The Australian Cotton Industry's CottonInfo team play a key role in the development and delivery of research extension resources. The CottonInfo team includes a Biosecurity Tech Lead to help coordinate industry biosecurity extension. CottonInfo have delivered eight farm biosecurity planning workshops to help build cotton growers' capabilities in identifying and assessing biosecurity risks, implementing biosecurity practices, and developing farm biosecurity plans. 46 growers from 41 enterprises have attended the workshops, capturing nearly 200,000 hectares of cropping land. Further workshops are planned for the remainder of the year. These workshops have supported the broader adoption of biosecurity plans within the industry, with 52% of Australian cotton growers having a farm biosecurity plan.

Additional training activities underway in 2024, include:

1. Grower workshop to increase biosecurity awareness and preparedness with growers and industry personnel.
2. Increased Industry Liaison Officer (ILO) capacity with specific training planned for industry personnel such as Cotton Australia and CottonInfo staff.
3. Biosecurity campaign focused on the importance of reporting unusual symptoms at the 2024 Australian Cotton Conference, Gold Coast.

Research and development

Enhanced cotton biosecurity R&D capacity

Cotton Australia is the [PIRD Act 1989] representative organisation for the cotton industry to the Cotton Research and Development Corporation (CRDC) and as such, has a strong role in advising industry priorities for the Corporation's R&D budget. Cotton Australia is committed to supporting proposed projects that enhance our industry's biosecurity expertise and response preparedness.

CRDC, along with other plant-based RDCs, have continued their partnership with Plant Health Australia, and the Department of Agriculture in the Plant Biosecurity Research Initiative (PBRI). The aim of this collaboration is to coordinate biosecurity research and increase collaboration. This is demonstrated in high number of collaborative projects above.

Capacity to respond to exotic pests is supported through the inclusion of biosecurity milestones for researchers monitoring and research of endemic pests and diseases. Biosecurity research and diagnostic capacity for cotton have also been leveraged through a number of scientific exchanges. For example, in early 2019 CRDC, through partnership with US CottonInc, supported cotton pathologist, Linda Smith, QDAF, and virologist, Murray Sharman to travel to the US to participate in meetings following the confirmation of an incursion of Cotton leaf roll dwarf virus (also HPP for Australia). CRDC will also be providing support for a student from US to conduct disease research in Australia.

Recent enhancement of biosecurity capacity, capability and preparedness have been delivered by a variety of research projects which notably includes:

- CRDC is a participant in a collaborative project, *Digital technologies for dynamic management of disease, stress and yield* led by Wine Australia, with funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme. The project includes

developing a molecular tool for quantifying Australian strains of *Verticillium dahliae* in soil and developing improved disease management recommendations from improved analysis of historical and current disease surveys. These surveys also provide proof of absence for HPP exotic diseases.

- CRDC is a participant in a collaborative project *Improving Plant Pest Management Through Cross Industry Deployment of Smart Sensor, Diagnostic and Forecasting* led by Horticulture Innovation Australia, with funding from the Australian Government Department of Agriculture and Water Resources as part of its Rural R&D for Profit programme. This project should deliver an advanced plant pest surveillance network which will monitor and report on endemic and exotic threats to major primary production industries, including grains, cotton, horticulture, wine and forestry.
- Through the CRDC funded project with QDAF, '*Surveillance and studies for endemic and exotic virus diseases of cotton*' the industry has forged stronger connectivity between the cotton industry and surveillance activities in northern Australia by Northern Australian Quarantine Strategy (NAQS, Department of Agriculture and Water Resources). This has led to greater understanding about the diversity of cotton leaf roll virus particularly in near neighbour regions such as Timor Leste and the risk to Australian cotton in terms of resistance breaking strains. This project is also responsible for viral surveys for major cotton growing regions.
- A UQ PhD, *Biology of Amaranthus hybridus, A. mitchelli, and A. powellii: emerging weeds of cotton systems*, seeks to understand endemic Amaranthus in cotton regions, in preparation for an incursion of Palmer amaranth, a biosecurity threat because of its resistance to multiple herbicide mode of action groups and significant impact on cotton farming systems in the US.
- CRDC has partnered with Horticulture Innovation Australia on a UQ lead project *Novel topical vegetable and cotton virus protection with BioClay*. This project aims to minimise the economic impact of pest infestation on vegetables and on cotton through the development of an innovative topical protection medium, BioClay. The high-tech BioClay spray uses nanotechnology to deliver double-stranded RNA, which is anticipated to prime the plant's own defences, similar to the way a vaccine works, and helping the plant to naturally attack specific crop pests and pathogens. A key target in this project is to investigate how this type of technology could support the cotton industry to minimise the impact of exotic viruses, particularly cotton leaf curl virus. Cotton leaf curl virus is a major threat, as Australian varieties are highly susceptible and the whitefly vector is already widespread.
- The potential emerging cotton industry in Northern Australia is supported through the CRDC supported project *Science leadership for cotton development in Northern Australia*, led by CSIRO. This project coordinate activities, including extension of past research while providing technical support to new and recent commercial cotton investments in tropical Australia. Through QDAF collaboration the project is also providing assessment and support for crop protection risks unique to Northern systems such as *Spodoptera litura* and conducting advice and monitoring to reduce the risk of Northern pests such as pink boll worm establishing in Eastern cotton regions.

Pest Surveillance

Numerous pest surveys and crop monitoring activities are undertaken each season by cotton industry and State government researchers. Formal alignment of monitoring protocols for high priority exotic pests by all researchers now enables the collection widespread surveillance data throughout NSW and Queensland annually during routine benchmarking of endemic diseases (NSW DPI and DAF early and late season disease surveys). Viral surveys of major commercial areas and Northern Australia are conducted annually as part of the project '*Surveillance and studies for endemic and exotic virus diseases of cotton*'.

Most cotton growers employ consulting agronomists who generally conduct twice weekly crop inspections for pests. In a survey of these consultants, 40 respondents reported spending significant 1558 hours on biosecurity, including cleaning down of vehicles and equipment, investigating/ reporting unusual pest/ plant symptoms and completing training/ farm inductions. The Crop Consultants Association regularly includes biosecurity issues in their annual meetings. In addition to agronomist monitoring, CRDC funded the resistance monitoring programs for SLW (with QLD DAF), *H. armigera*, aphid and mites (with NSW DPI) provide dual purpose of informing industry of any developing resistance issues, as well as monitoring for unusual resistance profiles and exotic pests.