

**Surveillance Program for Panama disease tropical race
4 – Detection of disease in Queensland, under the
*Biosecurity Act 2014***

This publication has been compiled by Biosecurity Queensland, Department of Agriculture and Fisheries.

© State of Queensland, 2016.

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 3.0 Australia (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.



You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit <http://creativecommons.org/licenses/by/3.0/au/deed.en>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.

Contents

1	Biosecurity program.....	1
1.1	Program name.....	1
2	Requirement for a surveillance program	1
2.1	Purpose and rationale.....	1
2.2	Measures that are required to achieve the purpose.....	2
2.3	Powers of authorised officers	3
	Entry of place.....	3
	Power to carry out aerial control measures.....	3
	Obligations.....	4
	General powers of authorised officers.....	4
2.4	Consultation.....	4
3	Authorisation of a surveillance program in the State of Queensland	5
3.1	Biosecurity matter.....	5
3.2	Purpose of the Program	5
3.3	Area affected by the program.....	5
3.4	Powers of authorised officers	5
3.5	Obligations imposed on a person under the Program	7
3.6	Commencement and duration of the Program.....	7
3.7	Consultation with relevant parties.....	7
3.8	Notification of relevant parties of requirements.....	8

1 Biosecurity program

1.1 Program name

The surveillance program (biosecurity program) for Panama disease tropical race 4 (also known as fusarium wilt of banana, caused by *Fusarium oxysporum* f. sp. *ubense* tropical race 4) will be known as the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland (the Program).

2 Requirement for a surveillance program

2.1 Purpose and rationale

The *Biosecurity Act 2014* (the Act) provides for the establishment of surveillance programs. Surveillance programs are directed at any of the following—

- (a) monitoring compliance with the Act in relation to a particular matter to which the Act applies;
- (b) confirming the presence, or finding out the extent of the presence, in the State or the parts of the State to which the program applies, of the biosecurity matter to which the program relates;
- (c) confirming the absence, in the State or the parts of the State to which the program applies, of the biosecurity matter to which the program relates;
- (d) monitoring the effects of measures taken in response to a biosecurity risk;
- (e) monitoring compliance with requirements about prohibited matter or restricted matter;
- (f) monitoring levels of biosecurity matter or levels of biosecurity matter in a carrier.

The objectives of the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland are:

- to determine the presence of Panama disease tropical race 4 in the state of Queensland; and
- to determine the extent of Panama disease tropical race 4 on known infested¹ properties or suspected² to be infested properties.

Panama disease tropical race 4 (also known as fusarium wilt of banana) is a disease of banana plants (*Musa* spp.) caused by the fungus *Fusarium oxysporum* f. sp. *ubense* tropical race 4. On 3 March 2015, the disease was detected on Cavendish banana plants on a commercial banana farm located in the Tully Valley, North Queensland. This disease poses a significant threat to the commercial banana industry.

Bananas (*Musa* spp.) are Australia's most valuable horticultural crop with an annual production value of approximately \$600 million. All fresh bananas available in Australia are grown domestically. There are no fresh banana imports because of the disease threat they pose to local production.

The major banana production area is situated in the wet tropics of North Queensland, in the coastal area between Cardwell and Lakeland, and accounts for 95 per cent of national production. Commercial

¹ An infested property is a property where Panama disease tropical race 4 has been detected using a suite of Panama TR4 Program approved diagnostic tests, and that is recorded as such in official records held by the Department.

² A suspect property is a property identified to be at risk of having Panama disease tropical race 4 due to significant tracing links with an infested property. Examples of significant tracing links with an infested property include, shared ownership, plant material and/or shared appliances. If a suspect property shares tracing links with infested property, it may pose a significant biosecurity risk of disease spread. Alternatively, a suspect property is a property at which plants have positive internal symptoms consistent with Panama disease tropical race 4 and confirmatory diagnostic testing is pending. Suspect properties are identified and recorded as such in official records held by the Department.

production also occurs in the subtropical region between Bundaberg in southern Queensland and Coffs Harbour in northern New South Wales, and in Carnarvon in Western Australia. Bananas are also produced in the tropics of Western Australia and the Northern Territory, although the Northern Territory industry was largely wiped out by Panama disease tropical race 4 in the late 1990s and more recently eradication activities associated with the National Banana Freckle Eradication Program.

The importance of the banana industry to regional Queensland and the Queensland economy overall is significant. The industry contributes greatly to local jobs, commerce and backpacker working-tourism. The volume of produce transported each day from the Queensland production areas supports a considerable economic sector in its own right, and in turn it supports the Queensland community. The potential impact of the disease to the Queensland and regional economy is such that ongoing investment by stakeholders is warranted to address the needs of the commercial banana industry in the face of this serious disease threat.

There is no known effective treatment for the disease. The fungus is considered to be the greatest threat to banana production worldwide owing to its capacity to survive for decades in the soil and its ability to spread in infected plant material, soil and water. The fungus is also known to persist in the roots of some grass and weed species. *Fusarium oxysporum* f. sp. *cubense* tropical race 4 initially infects the plant through the roots, then moves through the corm into the vascular system within the pseudostem. The fungus eventually blocks the plant's vascular system cutting off the supply of water and nutrients which causes the plant to die. The fungus is not transferred to the fruit. The time frame between infection and when the plant first shows symptoms can range from two months to three years, depending on the number of spores in the soil, the number of successful infections, the age of the plant and environmental stresses. Unfortunately, this means that the fungus may have been spread to other properties by the time an infection is detected.

Following the initial detection in the Tully Valley, the Department of Agriculture and Fisheries mounted an emergency response program under the *Plant Protection Act 1989* and the *Plant Protection Regulation 2002*. Surveillance was undertaken under an *Authorisation of a Pest Surveillance Program for tropical race 4*. The response transitioned to the Panama TR4 Program in September 2015.

The Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland, under the *Biosecurity Act 2014* is required as an essential component of the ongoing Panama TR4 Program, to:

- find the extent of the presence, and confirm the presence, of Panama disease tropical race 4 in Queensland;
- monitor the levels of Panama disease tropical race 4 on known infested properties and suspected to be infested properties;
- monitor the effects of control measures put in place to mitigate the biosecurity risk of Panama disease tropical race 4.

The nature of Panama disease tropical race 4 is such that timely and efficient surveillance activities are critical to ensure that the spread of the disease is minimised and any measures taken to control and contain the disease are as effective as possible. This is especially important given that there is no known method of effectively treating the disease. Minimising inoculum through rapid treatment of plants once detected, assists in mitigating the risk of disease spread.

This Program complements the Surveillance Program for Panama disease tropical race 4 – Monitoring and Compliance which is focussed on monitoring compliance with the legislative requirements in place for the control of Panama disease tropical race 4. Furthermore, by confirming the presence of the disease in Queensland, the Program supports the delivery of the ongoing controls for the disease, such as destruction of infected plants under the *Biosecurity Act 2014* and its subordinate legislation.

2.2 Measures that are required to achieve the purpose

The key activities undertaken by the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland include but are not limited to:

- Gathering and recording information for the purpose of informing the surveillance activity, which includes, but is not limited to: premise geographical, spatial and ownership details, movement of restricted matter and carriers, planting history and farm operations.
- Tracing activities which aim to identify properties where Panama disease tropical race 4 may have originated from and/or spread to. This in turn informs the prioritisation and delivery of surveillance activities to determine the presence of the disease.
- Surveillance, including inspection, sampling and testing to determine the presence of Panama disease tropical race 4 in Queensland.
- Surveillance, including inspection, sampling and testing to monitor the effects of control measures implemented to minimise the spread of the disease.

Where a property is determined to be infested, the owner/occupier's compliance with the requirements of the Act and its subordinate legislative tools will be monitored in accordance with the Surveillance Program for Panama disease tropical race 4 – Monitoring and Compliance.

2.3 Powers of authorised officers

Entry of place

The Act provides that authorised officers appointed under the Act may, at reasonable times, enter a place situated in an area to which a biosecurity program applies, for the purposes of taking any action authorised by the biosecurity program.³ These activities must be done in a timely and efficient manner to ensure that the measures are as effective as possible. The Program will authorise entry into places to allow these measures to be undertaken.

In accordance with the Act, a reasonable attempt will be made to locate an occupier⁴ and obtain the occupier's consent to the entry prior to an authorised officer entering a place to undertake activities under the Program. Nevertheless, an authorised officer may enter the place if⁵ -

- (a) the authorised officer is unable to locate an occupier after making a reasonable attempt to do so; or
- (b) the occupier refuses to consent to the entry.

If, after entering a place an authorised officer finds an occupier present, or if the occupier refuses to consent to the entry, the authorised officer will make reasonable attempts to produce an identity card for inspection and inform the occupier of the reason for entering, and the authorised officer's authorisation under the Act to enter without the permission of the occupier. An authorised officer under the Program must make a reasonable attempt to inform the occupier of any steps taken, or to be taken, and if any steps have been taken or are to be taken, that it is an offence to do anything that interferes with a step that has already been taken, or a step that is to be taken.

An authorised officer must leave a notice in a conspicuous position and in a reasonably secure way. This notice must state the date and time of entry and information addressing the reason for entry, authorisation to enter a place, and the steps undertaken by the authorised officer after entry.

Power to carry out aerial control measures

The power to carry out aerial control measures is authorised by a biosecurity program under the Act.⁶ This means that an authorised officer may carry out, or direct another person to carry out, the aerial control measure for Panama disease tropical race 4 in relation to a place to which the Program relates.

³ See section 261 (Power to enter a place under biosecurity program) of the Act.

⁴ The Act defines an **occupier**, of a place, generally to include the person who apparently occupies the place (or, if more than 1 person apparently occupies the place, any of the persons); any person at the place who is apparently acting with the authority of a person who apparently occupies the place; or if no-one apparently occupies the place, any person who is an owner of the place.

⁵ See section 270 (Entry of place under sections 261 and 262) of the Act.

Obligations

In addition to the general biosecurity obligation and other obligations expressly imposed by the Act, the following obligations may be imposed on a person who is an occupier of a place to which the Program relates:

- Allow surveillance for Panama disease tropical race 4 to be undertaken including inspection of banana plants, soil, water, grasses and weeds, and other carriers, and the taking of samples for disease identification at the place to determine the presence of the disease.
- Not move or interfere with any items identified for further testing and/or identified for treatment.

The occupier of the place subject to surveillance may be specifically directed by an authorised officer to:

- provide information including, but not limited to:
 - geographical, spatial and ownership details;
 - movement of restricted matter and carriers;
 - planting history; and
 - farm operations and processes;
- facilitate safe and timely access to the place for the purposes of surveillance;
- allow inspection and the taking of samples including banana plant material, soil, water and weeds;
- not interfere with any carriers identified for sampling prior to completion of the surveillance and sampling activities;
- provide reasonable help as required under 297 of the Act.

General powers of authorised officers

Nothing in the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland or its associated Authorisation limits the powers of authorised officers under Chapter 10 of the Act.

2.4 Consultation

Stakeholder consultation has been undertaken as part of both the Panama emergency response and the subsequent Panama TR4 Program. This has included consultation with industry, local growers, local governments and the wider community in a variety of forums including the Panama Response and Resilience Taskforce, and various subgroups such as the Regional Working Group. Frequent meetings are held with the Australian Banana Growers Council, the peak banana industry body.

Consultation with the owners and occupiers of any identified infested property is central to the Program and will be ongoing.

⁶ See section 294 (Power to carry out aerial control measures under biosecurity program) of the Act. Section 294(6) of the Act defines **aerial control measure**, for biosecurity matter, to mean an activity, done from the air by an airborne machine or a person in an aircraft, to achieve a purpose of a biosecurity program and includes the following—

- surveying and monitoring the biosecurity matter;
- distributing an agricultural chemical to control the biosecurity matter.

3 Authorisation of a surveillance program in the State of Queensland

I, Dr Elizabeth Woods, the chief executive of the Department of Agriculture and Fisheries (the Department) acting pursuant to section 235 of the *Biosecurity Act 2014* (the Act), authorise a biosecurity program being the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland, on the basis that the disease poses a significant biosecurity risk to the Queensland banana industry and that surveillance to monitor and ensure compliance with both the provisions of the *Biosecurity Act 2014* and the *Biosecurity Regulation 2016* and subordinate legislation is essential to preventing disease spread.

Dr Elizabeth Woods
Director-General
Department of Agriculture and Fisheries

Authorised on 02 / 06 / 2016

3.1 Biosecurity matter

The biosecurity matter to which the Program relates is Panama disease tropical race 4 (also known as fusarium wilt of banana, caused by *Fusarium oxysporum* f. sp. *cubense* tropical race 4).

3.2 Purpose of the Program

The purpose of the Surveillance Program for Panama disease tropical race 4 – Detection of disease in Queensland is to:

- find the extent of the presence, and confirm the presence, of Panama disease tropical race 4 in Queensland;
- monitor the levels of Panama disease tropical race 4 on known infested properties or suspected to be infested properties;
- monitor the effects of control measures put in place to mitigate the biosecurity risk of Panama disease tropical race 4.

3.3 Area affected by the program

The Program will apply to the whole of the State of Queensland. Whilst the focus of the Panama TR4 Program is the commercial banana growing region in northern Queensland, it is imperative that surveillance to find the extent of the presence of the disease be conducted across the State as required.

3.4 Powers of authorised officers

An authorised officer of the Program appointed under the *Biosecurity Act 2014*, may enter a place—other than a residence⁷—without a warrant and without the occupier's consent within the State of Queensland under the Program⁸. An authorised officer appointed under the *Biosecurity Act 2014* will also have the power to enter a place under the Program.⁹

⁷ The Act defines a **residence** to mean a premises or a part of a premises that is a residence with the meaning of section 259(2) and 259(3).

⁸ See section 259 (General powers to enter places) of the Act.

⁹ See section 261 (Power to enter a place under biosecurity program) of the Act.

An authorised officer can exercise the powers of an authorised officer under the Act in relation to the Program, if the authorised officer is appointed by the chief executive¹⁰.

An authorised officer has general powers after entering a place to do any of the following¹¹:

General powers in the Act	Measures an authorised officer may take under the Program
Search any part of the place	Search any place that an officer reasonably believes may have or has had on the property restricted matter or carriers to ascertain the presence of Panama disease tropical race 4.
Inspect, examine or film any part of the place or anything at the place	Inspect, examine or film to determine the presence of Panama disease tropical race 4 in banana plants, other plants and other carriers.
Take for examination a thing, or a sample of or from a thing, at the place	Take samples of banana plant material, soil, water, weeds or other items as deemed necessary to test for the presence of Panama disease tropical race 4.
Place an identifying mark in or on anything at the place	Identify carriers such as, but not limited to, banana plants with tags, notices, flags or signs for any purpose consistent with the Program.
Place a sign or notice at the place	Identify carriers such as, but not limited to, banana plants with tags, notices, flags or signs for any purpose consistent with the Program.
Produce an image or writing at the place from an electronic document or, to the extent it is not practicable, take a thing containing an electronic document to another place to produce an image or writing	Producing a written and/or electronic note(s) to support Program activities.
Take to, into or onto the place and use any person, detection animal, equipment and materials the authorised officer reasonably requires for exercising the authorised officer's powers under Chapter 10, division 4 of the Act	Use of cameras, remote imaging devices, testing equipment or to facilitate early detection of the disease.
Destroy biosecurity matter or a carrier if— (i) the authorised officer believes on reasonable grounds the biosecurity matter or carrier poses a significant biosecurity risk; and (ii) the owner of the biosecurity matter or carrier consents to its destruction	
Remain at the place for the time necessary to achieve the purpose of the entry	
The authorised officer may take a necessary step to allow the exercise of a general power	Gather any relevant information such as, but not limited to, premise geographical, spatial and ownership details, movement of restricted matter and carriers, planting history and farm operations to

¹⁰ See section 255 (3) (Powers of particular authorised officers limited) of the Act.

¹¹ See section 296 (General powers) of the Act.

	inform the Program. Taking GPS coordinates to ensure accuracy of location details to support Program activities.
If the authorised officer takes a document from the place to copy it, the authorised officer must copy and return the document to the place as soon as practicable	Require a document to be removed for copying such as a farm map, planting permits or records of carrier movements, on property biosecurity plans, decontamination records, client and/or staff or contractor details that are relevant to the objectives of the Program.
If the authorised officer takes from the place an article or device reasonably capable of producing a document from an electronic document to produce the document, the authorised officer must produce the document and return the article or device to the place as soon as practicable.	

An authorised officer may make a requirement (a **help requirement**) of an occupier of the place or a person at the place to give the authorised officer reasonable help to exercise a general power¹².

An authorised officer may carry out, or direct another person to carry out, aerial control measures for Panama disease tropical race 4 in relation to a place. Under the Program these measures include aerial surveillance or remote sensing using satellite imagery, UAVs, or other aerial equipment, to look for the presence Panama disease tropical race 4 or to determine its extent.

3.5 Obligations imposed on a person under the Program

The following obligations may be imposed on a person who is an occupier of a place to which the Program relates:

In addition to the general biosecurity obligation and other obligations expressly imposed by the Act, the following obligations may be imposed on a person who is an occupier of a place to which the Program relates:

- allow surveillance for Panama disease tropical race 4 to be undertaken including inspection of banana plants, soil, water, grasses and weeds, and other carriers, and the taking of samples for disease identification at the place to determine the presence of the disease;
- not move or interfere with any items identified for further testing and/or identified for treatment.

3.6 Commencement and duration of the Program

The Program will begin on 1 July 2016 and will continue until such time as the disease is considered no longer containable or the chief executive revokes the program.

3.7 Consultation with relevant parties

As required by the Act¹³, I have consulted all local government authorities in Queensland, prior to the authorisation of the Program. This consultation has included the local governments immediately affected by Panama disease tropical race 4:

- Cassowary Coast Regional Council
- Tablelands Regional Council
- Mareeba Shire Council
- Cook Shire Council

¹² See section 297 (Power to require reasonable help) of the Act.

¹³ See section 239 (Consultation about proposed biosecurity program) of the Act.

- Cairns Regional Council

3.8 Notification of relevant parties of requirements

As required by the Act¹⁴, I will give public notice of the Program 14 days before the Program starts by:

- giving the notice, by way of letter, to each government department or government owned corporation responsible for land in the area to which the Program relates; and
- publishing the notice on the Department of Agriculture and Fisheries website.

A copy of the Program (including its Authorisation) is available for inspection at the Department of Agriculture and Fisheries head office at 80 Ann Street Brisbane and the Panama TR4 Program office at 20 Moresby Road, Moresby.

A copy of the Program is also available to view and print at no cost on the Department of Agriculture and Fisheries website at www.daf.qld.gov.au. A copy of the Program Authorisation will be provided on request by contacting the Department of Agriculture and Fisheries Customer Service Centre on 13 25 23.

¹⁴ See section 240 (Notice of proposed biosecurity program) of the Act.