

CODE OF PRACTICE

*FOR THE MANAGEMENT AND CONTROL OF PANAMA DISEASE
TROPICAL RACE 4 ON AN INFESTED PROPERTY IN QUEENSLAND*

Version 2, current as of 30 September 2024



Australian
Banana
Growers

**TR4 CONTROL
PROGRAM** 
Protecting Australian bananas, together

Code of Practice

For the Management and Control of Panama disease tropical race 4 on
Infested Property in Queensland

Version 2
current at 30 September 2024

Part 1 Preliminary

1 Short title

This code of practice may be cited as the *Code of Practice for the Management and Control of Panama disease tropical race 4 on Infested Property in Queensland*.

2 Dictionary

The dictionary in schedule 2 defines particular words used in this code of practice.

3 Meaning of *commercial banana farm*

Commercial banana farm is a property used for the growing of banana plants for commercial purposes.

4 Meaning of *Suspected Infested Property*

Suspected infested property is a commercial banana farm from which a banana plant has tested positive for Panama disease tropical race 4 by molecular testing.

5 Meaning of *Infested Property*

Infested property is a commercial banana farm from which a banana plant has tested positive for Panama disease tropical race 4 by vegetative compatibility group testing.

PART 2 General Requirements

6 Application of part

This part applies to the occupier of a suspected infested property or an infested property defined under part 1.

7 Clean zones

- 1) A clean zone must be established on the property in areas that-
 - a) have not been subject to contamination by banana plant material or soil in which banana plants have been grown; or
 - b) have been decontaminated; or
 - c) have had the ground surface sealed with material imported from outside the property.

Example -

A public parking area within a property clean zone is resurfaced with gravel from a commercial quarry.

- 2) The clean zone must-

-
- a) be maintained so that the zone's surface is free of banana plant material or soil in which bananas have been grown; and
 - b) if public vehicle access to the property is required, have a clean access road.
 - 3) For subsection (2)(b), the clean access road must-
 - a) have signage that is clearly visible and states that all persons intending to enter the property must seek the permission of the property owner or occupier, and comply with the biosecurity requirements of the property; and
 - b) have sufficient space for vehicles to turn, park, load, and unload; and
 - c) be constructed with material that restricts plant growth.

8 Production zones

- 1) A production zone must be established on the property in areas-
 - a) where banana plants are grown; or
 - b) that are subject to contamination from banana plant material or soil in which bananas have been grown.
- 2) The production zone must-
 - a) adjoin a clean zone; and
 - b) have signs placed on the zone boundary to deter unauthorised entry to the zone, including at zone entry points; and
 - c) have a decontamination facility at the zone boundary at places where risk items or people exit the production zone.
- 3) The property owner or occupier must take all reasonable steps to ensure that soil and banana plant material from a production zone do not contaminate a clean zone or other areas of land.

Note –

Banana plant material is defined in schedule 2 and does not include banana fruit.

9 Movement of a risk item from a production zone

- 1) A risk item used in a production zone must be decontaminated prior to being moved out of the zone.

Note -

Schedule 2 defines the term **risk item**.

- 2) A risk item used in a production zone or at a decontamination facility that cannot be decontaminated must be left within the production zone.
- 3) Where a risk item is an appliance and is to be moved between production zones across a clean zone or another area of land such as a public road, the appliance must be decontaminated to the extent possible and-
 - a) moved between the production zones with a barrier placed on the ground to contain any soil or banana plant material from the appliance during the movement; or

Example –

Construction grade plastic sheeting is placed on the ground of a clean zone to allow a tractor to move between two production zones.

- b) moved across the land on a machine or vehicle retained outside the production zone; or

Example –

A trailer top used to move harvested material across public land must be decontaminated to the extent possible and moved on trailer that is retained within a clean zone.

- c) moved in a secure manner.

Note -

Schedule 2 defines the term **secure manner**.

- 4) Where a vehicle or machine is used to move an appliance under subsection 9(3)(b) and the vehicle or machine has come into contact with the appliance, or soil or banana plant material from a production zone, it must be decontaminated within the production zone.

Example-

A truck tray and loading equipment used to move an appliance across public land must be decontaminated following the movement of the appliance.

- 5) All equipment used for the movement under section 9(3) that has come into contact with an appliance must be retained in the production zone unless it can be decontaminated or disposed of under section 13.

- 6) In this section-

appliance means a risk item that poses a significant risk of soil or banana plant material being moved from a production zone, including vehicles, tractors, slashers, sprayers, planting equipment, trailers, bagging machines, pumps, or any of their parts.

10 Movement of people from a production zone

All people leaving a production zone must-

- a) decontaminate footwear or leave footwear within a production zone before entering a clean zone; and
- b) contain clothing that has been contaminated with soil or plant material in a sealed bag and launder at the earliest time.

11 Movement of fruit from a production zone

1) Fruit from a production zone must-

- a) be harvested from a healthy plant; and
- b) not have come in contact with the ground; and
- c) be packed into cartons or re-usable crates that are free of soil and banana plant material.

2) In this section ***banana plant material*** means all parts of a banana plant except the fruit. *Note-*

Some interstate jurisdictions may require biosecurity certification stating that the fruit meets plant quarantine entry conditions.

12 Wastewater from a decontamination facility

Wastewater from a decontamination facility within a production zone must not directly enter a clean zone, waterway or land adjacent to a production zone.

13 Waste management in a production zone

All waste from a production zone must be-

- a) left within the production zone; or
- b) decontaminated and moved in a secure manner to a refuse facility; or
- c) removed by a waste contractor who deals with contaminated biosecurity waste.

14 Biosecurity training

Prior to a person commencing work on the property, they must undertake training in biosecurity practices relating to their work on the property, which may include-

- a) the location of clean zones and production zones on the property; and
- b) decontamination requirements relating to the movement of risk items and people from a production zone; and

- c) any other relevant biosecurity requirements that apply under part 2.

15 Earthworks in a production zone

Earthworks within a production zone must be undertaken in a way that minimises the movement of dust or soil from the production zone.

Example –

Earthworks must be undertaken in weather conditions that minimise dust dispersal from the production zone.

16 Record Keeping

- 1) The following records must be kept for a period of 12 months and provided to an authorised officer upon request –

- a) details of destruction activities mentioned in part 4 and part 5, including–

- i) type and date the activities were undertaken; and
- ii) names of the persons undertaking the destruction; and
- iii) maintenance activities undertaken in the destruction zone; and

- b) banana planting activities, including–

- i) the type of banana planting material used; and
- ii) date and location the material was sourced; and
- iii) date and location the material was planted; and

- c) details of employees and contractors, including–

- i) names and contact details of persons who have worked on the property; and
- ii) the dates they worked; and
- iii) the date and name of the person who provided biosecurity training under section 14; and

- d) an inventory of appliances within the production zone; and

- e) details of appliances decontaminated for movement under section 9, including –

- i) a description of the decontaminated appliance; and
- ii) the date and location of where the appliance is being moved; and
- iii) the name of the person who completed the decontamination; and

- f) consignment information for bananas and other produce grown on the property.

2) Records may be kept as hardcopy or in electronic form.

PART 3 Additional general requirements for an Infested Property

17 Application of part

This part applies to the occupier of an infested property in addition to the requirements under part 2.

18 Restricting access to a production zone

Within three months of establishing a production zone under section 8, the production zone must be fenced or bordered by barriers that restrict access from a clean zone or other areas of land.

PART 4 Plant destruction requirements

19 Application of part

This part applies to the occupier of a suspected infested property or infested property upon receiving documentation confirming a positive diagnostic result from a banana plant.

20 Meaning of infected plant

Infected plant means a banana plant from which a sample has been taken and tested positive for Panama disease tropical race 4.

21 Establishing a destruction zone

Within three business days of receiving documentation confirming a positive diagnostic result, a destruction zone must be established that-

- a) extends 5 metres in both directions from the infected plant along the row of the infected plant; and
- b) is bordered by a temporary barrier to deter unauthorised access; and
- c) has signage placed on the temporary barrier stating that there is to be no unauthorised access to the destruction zone.

22 Destruction of an infected plant

Within 15 days of receiving documentation confirming a positive diagnostic result, the infected plant must be destroyed in accordance with the following-

- a) If the plant has wilted or been cut down-

- (i) cut off pseudostems at 10cm above the growing point without disturbing the soil; and
- (ii) chop up pseudostems and leaf material into 60 – 80cm pieces; and
- (iii) place all pieces of the infected banana plant(s) in heavy duty plastic bags; and
- (iv) place 1kg of urea in each bag, seal bags securely and leave in the destruction zone; and
- (v) gouge out the surface of each remaining corm to create a hollow; and
- (vi) inject each stool with 5mL of glyphosate as listed in schedule 1(1); and
- (vii) inject each stool with 18mL of imidacloprid as listed in schedule 1(2); and
- (viii) spray each stool, and a 30cm band around each stool, with 500 – 750mL (depending on stool size) of bifenthrin as listed in schedule 1(4); and
- (ix) apply 200g of urea evenly to the gouged surface of each corm; and
- (x) apply urea at the rate of 1kg per m² evenly around each infected stool.

b) If the plant is standing -

- (i) for banana plants that are up to 1 metre tall inject at one point in the stem with 5mL of glyphosate as listed in schedule 1(1); and
- (ii) for banana plants that are over 1 metre tall inject at two points around the stem with a total of 5-15mL of glyphosate as listed in schedule 1(1) at 0.5 – 1 metre above the growing point; and
- (iii) inject each pseudostem at one (1) point for banana plants up to 1 metre tall and three (3) points for taller banana plants, with a total of 18 – 30mL of imidacloprid as listed in schedule 1(2); and
- (iv) spray the bottom 30cm of each stool as well as the soil in a 30cm band around each stool, with 500-750mL of bifenthrin as listed in schedule 1(4); and
- (v) where bunches are present, mark the surface of the fruit to clearly indicate that fruit cannot be sold or consumed.

c) This subsection applies to an infected plant destroyed under **section 22(b)**

- (i) between 10 and 15 days after requirements section 22(b) have been completed, cut off pseudostems at 10cm above the growing point without disturbing the soil; and
- (ii) cut pseudostems and leaf material into 60 – 80cm pieces; and viii. place all pieces of the infected banana plant(s) in heavy duty plastic bags; and
- (iii) place 1kg of urea in each bag, seal bags securely and leave in the destruction zone; and
- (iv) gouge out the surface of each remaining corm to create a hollow; and
- (v) apply 200g urea evenly to the gouged surface of each corm; and
- (vi) apply urea at the rate of 1kg per m² evenly around the infected plant stool.

23 Risk item and waste material from a destruction zone

- 1) Soil and plant material within a destruction zone must not be removed from the destruction zone unless otherwise approved by an inspector.

- 2) Any risk items or waste within a destruction zone must be-
 - i) retained within the destruction zone; or
 - ii) decontaminated and retained in a production zone; or
 - iii) decontaminated prior to being moved in a secure manner to a refuse facility; or
 - iv) removed by a waste contractor who deals with contaminated biosecurity waste.

24 Access to a destruction zone

A destruction zone must only be accessed for the purpose of conducting activities prescribed under part 4 and part 5, or unless otherwise approved by an inspector.

PART 5 Additional plant destruction requirements for an infested property

25 Application of part

This part applies to the occupier of an infested property in addition to the requirements under part 4.

26 Destroying remaining plants within a destruction zone

Within 15 days of receiving a positive diagnostic test result, all remaining banana plants in the destruction zone must be destroyed in accordance with section 22(b).

27 Treating destruction zones

- 1) between 10 and 15 days after requirements of section 26 have been completed, a person must-
 - (i) cut all pseudostem and leaf material into 60 – 80cm pieces, and leave on the ground; and
 - (ii) gouge out the surface of each remaining corm to create a hollow; and
 - (iii) apply 200g of urea evenly to the gouged surface of each corm; and
 - (iv) apply urea at the rate of 1kg per m² over the entire destruction zone.
- 2) Immediately after completing section 27, a person must cover the destruction zone, including the bags of banana plant material, with high grade plastic sheeting and secure it in place.

28 Fencing destruction zones

- 1) Within five weeks of establishing the destruction zone under section 21, the zone must be permanently fenced to restrict unauthorised access by people, vehicles, and machinery.
- 2) Immediately following the construction of the permanent fence under section 28(1) –
 - a) signs must be placed on the fence of sufficient size and at suitable locations to deter unauthorised access to the destruction zone; and

- b) the soil in a 0.5m wide band around the external perimeter of the destruction zone fencing must be sprayed with bifenthrin as listed in schedule 1(3).
- 3) Five to six months after requirement of section 28(2)(b) has been met, the soil in a 0.5m wide band around the external perimeter of the destruction zone fencing must be sprayed with bifenthrin as listed in schedule 1(3).

29 Maintenance of a destruction zone

A destruction zone must be maintained to ensure-

- a) the destruction zone is kept free of banana plants, with banana plant regrowth chemically treated in accordance with the label or permit requirements; and
- b) permanent fencing continues to restrict access to the zone by unauthorised persons; and
- c) destruction zone signage remains clearly visible to persons.

Schedule 1 Agricultural chemicals for plant destruction

Agricultural chemicals used for destruction must be prepared in accordance with relevant APVMA permit requirements.

Column 1 Agricultural chemical	Column 2 Solution concentration
1) Glyphosate	90g of active constituent per litre of water
2) Imidacloprid	200mL of a 350g per litre of imidacloprid product per 100mL of water
3) Bifenthrin	25g of active constituent per litre of water
4) Bifenthrin	66g of active constituent per litre of water

Schedule 2 Definitions

appliance means a risk item that poses a significant risk of soil or banana plant material being moved from a production zone, including vehicles, tractors, slashers, sprayers, planting equipment, trailers, bagging machines, pumps, or any of their parts.

authorised officer means a person that is appointed as an authorised person or an inspector and is taken to have the same meaning as the *Biosecurity Act 2014*.

banana plant means a plant of the genera *Musa* or *Ensete*.

banana plant material means all parts of a banana plant except the fruit.

barriers includes waterways, gullies, impenetrable vegetation, or other barriers, natural or constructed, that restrict unauthorised access to the land.

clean water includes water from bores, tank or town water that has not come into contact with banana plant material or soil in which bananas have been grown.

clean zone see section 7.

corm means the horizontal underground plant stem capable of producing the clonal shoot and root systems of a new banana plant.

decontaminate means to make free of soil and banana plant material, and disinfected.

decontamination facilities means a facility that adjoins a production zone where clean water and footbaths are supplied for decontamination and which may include a footwear exchange, hoses, pressure cleaners, brushes, detergent and sanitiser.

destruction zone see section 21.

disinfect means to apply a sanitiser product known to be effective for minimising the spread of Panama disease tropical race 4 that has been prepared with clean water and in accordance with the label instructions or permit requirements.

growing point means the point at which the banana plant emerges from the ground.

inspector means a person that is appointed as an inspector and is taken to have the same meaning as under chapter 10, part 1 of the *Biosecurity Act 2014*.

production zone see section 8.

pseudostem means the trunk-like part of a banana plant formed by the tightly packed overlapping leaf sheaths.

risk items includes appliances, machinery and tools that have come into contact with, or may have come into contact with, banana plant material or soil that banana plants have been grown.

secure manner means enclosing waste or a risk item to contain all soil and banana plant material.

stool means the clump formed by the rhizome, the fruit-bearing stem and the suckers.