

Biosecurity Code of Practice

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Version 1.0

**Sourcing and planting
of banana plants in
an area where
serious pests
are present**



**Hort
Innovation**





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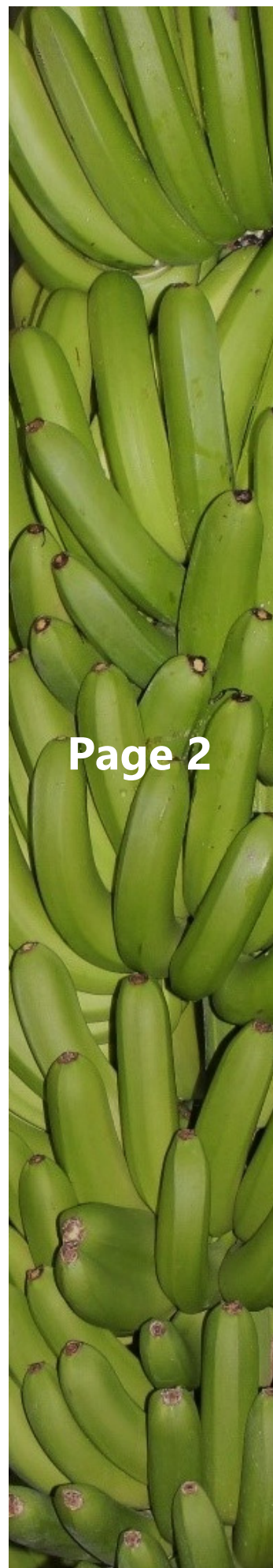
Code development

This Code was developed by Grant Telford, Director and Principal Consultant, Biosecurity Solutions Australia Pty Ltd, on behalf of the Australian Banana Growers' Council (ABGC) under Hort Innovation Project BA18000.

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FOREWORD

The Australian banana industry relies on its reputation for producing clean and disease free banana fruit. Pest and disease introduction and spread poses a serious risk to the economy and efficiency of the industry as a whole. Implementation of sound biosecurity measures is essential to protect the banana industry. The importance of biosecurity in our industry cannot be understated.

The Australian Banana Growers' Council (ABGC), as the peak industry body for all Australian commercial banana growers, takes its biosecurity obligations seriously. Functions of ABGC include advocacy and representations to policy and decision makers on biosecurity matters as well as guiding research and development to maintain this enviable international biosecurity status.

A successful approach to biosecurity in maintaining, or improving, economy and efficiency in banana production requires a shared approach - with all stakeholders playing their part. At an industry level, this Code of Practice sets to achieve three goals:

- Early identification of new banana pests while taking steps to minimise spread through responsible biosecurity practice.
- Providing guidance to growers about ways to minimise the risk of introduction of serious banana pests onto their own farm, or spread within their farm, through appropriate sourcing and planting of banana planting materials.
- Providing assurance to growers who implement good biosecurity practice that standards have been established for other farms to minimise the risk of introduction of serious banana pests into and within their production area and through natural dispersal onto their own farms.

In a biosecurity context the ABGC supports this approach and the path set out within the biosecurity continuum – prevention, detection, response and recovery. This Code supports both prevention and, if a biosecurity event occurs, early detection leading to effective response and recovery. Movement of new and potentially infected banana plant material into and within a farm and throughout a production area poses a significant risk. Sourcing and movement of planting material is generally governed and controlled through government regulation; however, this typically only extends to movement of materials into and between established biosecurity zones. Pests and diseases considered endemic within a zone or exotic to a place are often only subject to other regulatory mechanisms after a property has been found to be infested.

This Code should be considered as a statement of intent on what the Australian banana production industry considers as reasonable and practical steps to minimise biosecurity risks in sourcing and planting banana material within a biosecurity or control zone. Following these reasonable and practical steps is in the best interests of every banana producer and the Australian banana industry as a whole.



Jim Pekin
CEO, Australian Banana Growers' Council

1.0 Introduction

1.1 Long title

This Code of Practice may be referred to as the *Australian Banana Industry Code of Practice for the Sourcing and Planting of Banana Plant Material in an Area where Serious Banana Pests are Present* (the Code).

1.2 Purpose of this Code

The Code has been developed to provide Australian banana growers with reasonable and practical ways to discharge their *General Biosecurity Responsibilities* when sourcing *banana planting material* and growing bananas within areas (*Biosecurity Zone or Control Zones*) that have been established to minimise the risk of spread of *serious banana pests*.

The Australian banana industry through ABGC and individual growers, in consultation with Government, have contributed to the Code's development.

For the purpose of this Code a 'banana pest' includes a disease of a bananas. Serious banana plant pests under this Code are defined within *SCHEDULE 1 – SERIOUS BANANA PLANT PESTS*.

A summary of minimum Industry expectations under this Code, despite a grower's other lawful obligations, is included as *SCHEDULE 2 – OUR CODE, YOUR RESPONSIBILITIES*.

1.3 Legal status of this Code

Nothing in this Code of Practice is to be taken to override State or Territory laws about managing biosecurity risks associated with banana growing.

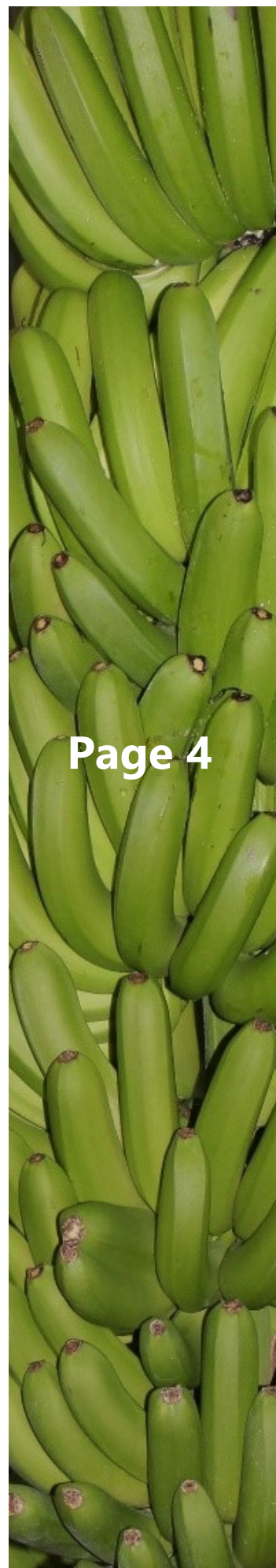
Procedures outlined in this Code are of no force or effect if inconsistent with an instrument made by legislation. For example, if a procedure outlined in this Code is prohibited by an existing law, an emergency order, a control order, a direction or any other instrument made under an Act, the Code's procedure must not be followed.

Important

At the date of issue of this Code, the minimum expectations of this industry Code *may* not meet ALL legislative requirements, or obligations, made on persons.

Currently, lawful obligations in some biosecurity zones or control zones are greater than industry expectations of what is considered as practical and reasonable as documented within this Code. These include existing lawful obligations specified within and for the New South Wales BBTV Control Zone, and requirements established in Queensland in regard to varietal plantings for an owner or occupier of land in far northern banana biosecurity zone 1 or 2.

Until this Code is adopted and made compulsory or a mandatory measure under regulations, compliance with this Code is voluntary. **However, it does state minimum measures that the banana Industry considers as reasonable and practical in addressing certain biosecurity risks. It does not state ALL measures a grower can take in meeting their *General Biosecurity Responsibilities*.**



1.4 Objectives of this Code

In achieving the purposes of this Code, the objectives of the Code are to:

- identify options, by adopting a systems approach, to minimise biosecurity risk where a grower's preferred option may not be reasonable and practical in consideration of banana grower's individual circumstances;
- provide banana growers with a better understanding of on-farm biosecurity measures that help reduce instances of pest outbreaks within the industry;
- assist growers to discharge their *General Biosecurity Responsibilities* where relevant by providing a range of flexible, reasonable and appropriate measures to manage risks associated with banana growing in the sourcing of *banana planting material*;
- assist growers to be aware of, and identify, biosecurity risks associated with banana production and the sourcing of *banana planting material* and provide guidance in applying one or more measures that can be used to minimise or limit the spread of *serious banana plant pests*; and
- supplement the existing biosecurity legal framework through integration of the Code's practices so as to provide a holistic approach to biosecurity when growing bananas.

1.5 Meeting the Code's objectives

The Code's objectives are primarily achieved by:

- educating growers about systematic approaches that may be used to minimise biosecurity risk;
- outlining simple to follow procedures to avoid creating a biosecurity risk associated with banana growing; and
- building the capacity for growers, and government, to respond to biosecurity risks, and where they eventuate, to deal with those risks early to support effective containment and reduce further spread.

1.5.1 Who does the Code apply to?

The Code applies to all banana growers and their employees who grow bananas within a *Biosecurity Zone or Control Zone* within Australia – particularly within New South Wales and Queensland where *General Biosecurity Responsibilities* are established by law.

The Code applies in situations where a grower sources *banana planting material* from within a *Biosecurity Zone or Control Zone*. **However, where practical and reasonable, these approaches should also be considered outside of those zones.**

The Code does not specify requirements for the movement of banana products, including *banana planting material* and the like into or out of a *Biosecurity Zone or Control Zone*. Those are matters that are generally governed by State and Territory legislation.

1.5.2 **Compliance with this Code**

This Code establishes industry benchmarks for the sourcing and use of *banana planting materials* within an area where *serious banana plant pests* are known to be present – what is considered as reasonable and practical by the industry. Whilst compliance with the Code is considered as voluntary when not an adopted Code under an Act or specifically required by legislation, a person in a relevant jurisdiction still could be deemed to have failed to discharge their *General Biosecurity Responsibilities* if the person did not follow the reasonable and practical (reasonably practicable) measures outlined in this industry Code, **or did not follow another way that is at least as effective as this Code's way.**

1.5.3 **Revision of this Code**

Because of the emergence of new and exotic pests and the spread of endemic pests, existing biosecurity responses may not meet contemporary needs. To maintain relevance and responsiveness, this Code will be reviewed by the ABGC annually to ensure its objectives are being met and to address any deficiencies as they arise. A full independent review of this Code must be undertaken within 5 years of its commencement.

Input into the Code's revision

- A person who is affected by the Code may provide input into the revision of the Code. The person must describe the nature of any proposed change and the reason/s for the change.
- It is preferred that submissions are made in writing, and forwarded to info@abgc.org.au, however submissions may also be made to ABGC by contacting us at our offices on (07) 3278 4786.

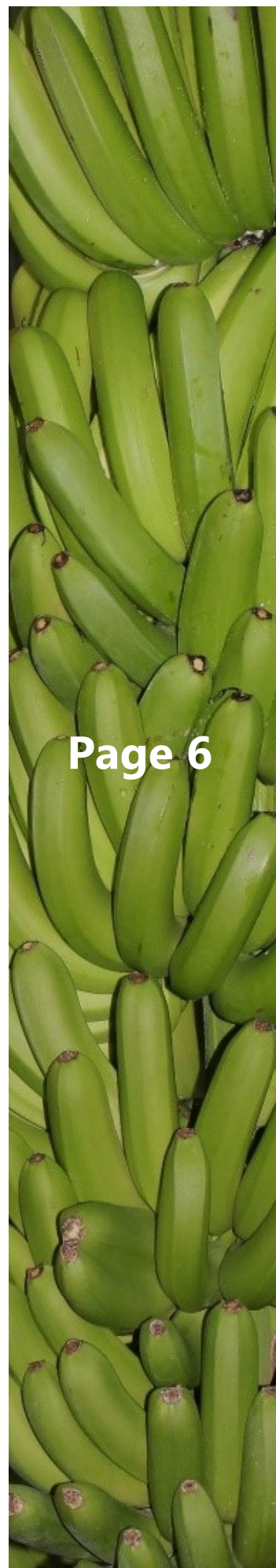
2.0 **Biosecurity in a banana context**

2.1 **General Biosecurity Responsibilities**

'Biosecurity' is a concept about mitigating the risks and impacts associated with pests, diseases and contaminants adversely affecting the economy, environment, social amenity and human health (each a biosecurity consideration/impact).

Biosecurity involves government, industry and the public working together to stop pests and diseases entering Australia, detecting and eradicating them where they accidentally or deliberately enter, and where they become established, minimise their impact by implementing control and containment measures.

Biosecurity legislation within Queensland and New South Wales impose responsibilities (referred to as obligations or duties) on a person who deals with biosecurity matter, the carrier of biosecurity matter, or carries out an activity that the person knows, or ought reasonably know, poses or is likely to pose a biosecurity risk. **A person has a legal responsibility to take all reasonable and practical measures to prevent or minimise biosecurity risks.**



Within the scope of this Code:

- **Biosecurity matter** means a living thing, other than a human or part of a human; or a pathogenic agent that can cause disease in a living thing, other than a human; or a disease or a contaminant. *Example – Serious banana plant pests mentioned in SCHEDULE 1 – SERIOUS BANANA PLANT PESTS.*
- A **Carrier** means any plant, or part of any plant, or any other thing capable of moving biosecurity matter attached to or contained in the plant or other thing, from a place to another place; or containing biosecurity matter that may attach to or enter another plant, or part of another plant, or another thing. *Example – soil, banana planting material, soil attached to that material, machinery or tools or equipment with soil attached, or an insect pest present on that material.*
- A **Contaminant** is anything that may be harmful to plant health or pose a risk of any adverse effect on a biosecurity consideration.
- An **Activity** is any activity that a person may undertake that poses a biosecurity risk to a biosecurity consideration.

As part of that responsibility the person must:

- prevent or minimise any adverse effects from dealing with the biosecurity matter, a carrier or activity;
- minimise the likelihood of causing a biosecurity event or impact or limit the consequences of a biosecurity event or impact caused by dealing with the biosecurity matter, carrier or carrying out the activity; and
- not to do or omit to do something if the person knows or ought reasonably to know that doing or omitting to do the thing may exacerbate the adverse effects, or potential adverse effects, of the biosecurity matter, carrier or activity.

2.2 Responsibilities in a banana context

The *Farm Biosecurity Manual for the Banana Industry* (the Manual) outlines six steps a banana grower can do to reduce the risk of pests from entering and establishing on farm. The Manual provides for key criteria to address matters to be considered across the biosecurity continuum. In summary, they are:

- **Awareness of biosecurity threats** - making sure you and your farm workers are familiar with the most important banana pests.
- **Using clean planting material** - ensuring all planting material and other farm inputs are pest free.
- **Keeping it clean** - taking care to prevent the entry and movement of pests on your farm, ensuring farm hygiene (a very effective preventative measure), ensuring that workers, visitors, vehicles and equipment are decontaminated before they enter and leave your farm.
- **Checking your crop** - checking your crops frequently for pests (this will help you and your staff notice anything new or unusual).

- **Reporting anything unusual** - If you suspect a new pest report it immediately.
- **Abiding by the law** - being aware of legislative regulations established to protect the banana industry from biosecurity threats.

Further information

The Manual is supported (in a practical way) by a number of key banana industry resource publications including:

- the Banana best management practices on-farm biosecurity manual - <https://abgc.org.au/biosecurity-bmp/>;
- high priority pest information available at - <https://abgc.org.au/biosecurity/>; and
- other Biosecurity resources provided through - <https://abgc.org.au/panama-tropical-race-4/>.

2.3 Those responsibilities in this Code

This Code incorporates and expands on the Manual's six steps for farm protection whilst specifically identifying and clarifying the fundamental 'how to' measures you need to adopt to meet your biosecurity responsibilities and protect you and your neighbours' farms.

The following sections of this Code will detail those fundamental 'how to' measures. These measures have been recommended by banana industry participants as being reasonable and practical. The Code adopts provisions for feedback from all participants should they believe these minimum standards are not reasonable or practical (see *1.5.3 Revision of this Code*).

In some instances, it may not be reasonable and practical to adopt one specific measure. The Code acknowledges this and incorporates a number of alternative measures designed to achieve equivalent biosecurity outcomes, however it expects that each grower can and must justify **other** alternative measures it adopts that are not documented within the Code if required to do so by an inspector or other authorised person (see *1.5.2 Compliance with this Code*).

Your responsibilities under the Code appear in grey boxes throughout the Code where they relate to specific advice, however a complete list of responsibilities under the Code is also included as *SCHEDULE 2 – OUR CODE, YOUR RESPONSIBILITIES*.

It is the expectation of ABGC that you will, at a minimum, implement and comply with these Code measures OR follow another way that is at least as effective as this Code's way.

Your responsibilities

You are expected to:

- follow the reasonable and practical measures outlined in this industry Code; or
- follow another way that is at least as effective as this Code's way.



3.0 Identifying Biosecurity or Control Zones and known pest presence

A growers' *General Biosecurity Responsibilities* include knowing what a person must do or not do when dealing with biosecurity matter, the carrier of biosecurity matter, or carrying out an activity that the person knows, or ought reasonably know, poses or is likely to pose a biosecurity risk. This includes:

- knowing and keeping up to date with area-specific biosecurity laws affecting the grower's local area. These area-specific laws may be created through government regulations or instruments like Biosecurity Zones and Control Orders; and
- complying with directions given by authorised biosecurity officers to ensure you meet your responsibilities.

Further information

- Within **Queensland**, biosecurity requirements are outlined in the [Biosecurity Act 2014](#), the [Biosecurity Regulation 2016](#) and other subordinate instruments including Biosecurity Orders, Codes, Guidelines and other provisions made within [Queensland's Biosecurity Manual](#). Currently, biosecurity zones are established within Queensland, including the Far Northern Biosecurity Zones 1 and 2, the Northern Banana Biosecurity Zone and the Southern Banana Biosecurity Zone. Restrictions still apply to movement into, within and out of these zones. All endemic *serious banana plant pests* are known to occur within Queensland.
- Within **New South Wales**, requirements are outlined in the [Biosecurity Act 2015](#), and [Biosecurity Regulation 2017](#). Subordinate instrument made under the Act must also be considered, in particular Biosecurity Orders. For example, the [Biosecurity \(Banana Bunchy Top Virus\) Control Order](#) which establishes and deals with the requirements for a BBTV Control Zone and the [Biosecurity Order \(Permitted Activities\) 2019](#). All endemic *serious banana plant pests* with the exception of Panama TR4 are known to occur within New South Wales. Banana bunchy top virus (BBTV), Panama race 1 and Sub-tropical R4 in particular continue to impact on NSW banana production.
- Within the **Northern Territory**, requirements are outlined in the [Plant Health Act 2008](#) and [Plant Health Regulations 2011](#). Importantly, the [Plant Quarantine Manual](#) specifies *serious banana plant pests* that are present within the Territory. This includes Panama TR4.
- Within **Western Australia** requirements are outlined in its [Biosecurity and Agriculture Management Act 2007](#) and [Biosecurity and Agriculture Management Regulations 2013](#). A biosecurity zone exists for movement into an area within 50km radius of Kununurra Post Office.

Your responsibilities

- (1) You are to comply with your *General Biosecurity Responsibilities*.
- (2) You are expected to know and comply with general and area-specific biosecurity laws.
- (3) You must comply with any lawful direction given by an authorised biosecurity officer.

4.0 Sources of banana plant material and relative risk

Using clean *banana planting material* is a fundamental component of good biosecurity practice. As such, growers of banana plants should source *banana planting material* produced under a clean planting scheme **OR** produced as part of a systems approach using one or more equivalent measures.

4.1 Using tissue cultured (virus indexed) material

The best protection against moving and spreading *serious banana plant pests* onto, or off, your farm is to use *banana planting material* produced from virus indexed tissue culture and available from production nurseries (including tissue culture laboratories) accredited under an approved accreditation program.

Further information

- A list of accredited QBAN tissue culture nurseries is included within each ABGC Australian Bananas Magazine at - <https://abgc.org.au/news/australian-bananas-magazine/>
- Other sources of accredited tissue culture plants include Greenlife Industry Australia production nurseries holding Banana nursery stock specification accreditation. Ask your supplier for a copy of a current certificate of accreditation.

Accredited suppliers adopt a systems approach to address biosecurity risk of contamination from all *serious banana plant pests* listed within *SCHEDULE 1 – SERIOUS BANANA PLANT PESTS* through prevention, monitoring and detection.

4.2 Alternatives to tissue cultured (virus indexed) material

There are certain circumstances where sourcing tissue cultured banana plants as *banana planting material* may not always be reasonable or practical.

Examples - situations where tissue culture use MAY be impracticable or unreasonable

Reasons for not using tissue culture material from an accredited source could include:

- lack of availability of supply of accredited tissue culture material in sufficient quantities;
- lack of availability of supply during appropriate planting windows;
- presence of *serious banana plant pests* already present on the property or in close proximity to the property that would likely infect that material by natural means;
- inability to propagate some varieties true-to-type via tissue culture without uneconomical rates of off-types;
- the activation of latent Banana Streak Virus by the process of tissue culturing in some varieties, particularly some plantains, resulting in high rates of infection in the plant population;
- unsuitability of the product due to individual environmental or other circumstances (e.g. low soil moisture and insufficient access to water supply during dry spring planting months); and



- additional costs associated with acquiring tissue culture material are to such an extent impractical or unreasonable for the business.

Where it is impractical or unreasonable to use banana plants from tissue culture, bits and suckers (other *banana planting material*) can be sourced from the banana grower's own contiguous parcel of land for planting on the same parcel of land.

Growers may also choose to share bits and suckers between parcels of land that are farmed as a single production unit (that is, parcels of land that have shared management, machinery and vehicles etc.) and are free of *SCHEDULE 1 – SERIOUS BANANA PLANT PESTS*.

Your responsibilities

(1) You are expected to source banana plant material in the form of tissue culture material from a production nursery or tissue culture laboratory accredited under an approved accreditation program.

(2) Where it is unreasonable or impractical to comply with (1), you may source on-farm material from a contiguous plot of land for planting on the same parcel of land.

(3) Where it is unreasonable or impractical to comply with (2), growers may share bits and suckers between parcels of land that are farmed as a single production unit and are free of *serious banana plant pests*.

4.3 Sourcing material from another farm

The use of bits and suckers sourced from other growers or properties in different production areas within a *Biosecurity Zone or Control Zone* poses the highest risk of spreading pests between farms and across the growing districts. This practice carries the highest risk of introducing a *serious banana plant pest* onto your property. A grower who does not minimise this risk by following the measures outlined in Section 5 and 6 below is at serious risk of not discharging their *General Biosecurity Responsibilities*.

Your responsibilities

If sourcing non-tissue culture planting material you are expected to comply with the risk minimisation measures outlined in Section 5 and 6 of this Code in addition with any other requirement.

5.0 Minimising risk when sourcing non-tissue culture planting material

5.1 Minimising risk – Determining on-farm history of infection or infestation

Sourcing and collecting *banana planting material* from a property that is infected or infested with a *serious banana plant pest* creates a serious biosecurity risk to the banana grower, surrounding properties and the broader industry. A grower must take all reasonable and practical steps to minimise that biosecurity risk.

This includes, when collecting *banana planting material*, taking all reasonable and practical steps to identify and consider *serious banana pests* that may have a history of being present on the source property, or block within that property.

A person who collects *banana planting material* from their own farm (a place under their care, control or management) is in a better position to identify on-farm history of the presence of *serious banana plant pests* and meet their *General Biosecurity Responsibilities*.

A person who collects *banana planting material* from a property that is not under their care, control or responsibility ('another farm') must take all reasonable and practical steps to determine on-farm history of *serious banana pests* being present on that source property, or block within that property.

For Example

A person who intends to collect *banana planting material* from a property that is not under their care, control or management ('another farm') is expected to enquire, and seek assurance and make and maintain a record in writing as to:

- the length of time the property has been under the care, control or management of the current owner;
- the current status and previous history of the property and known presence of *serious banana plant pests* on that property – including a history of susceptible banana varieties produced;
- banana planting material sourcing practices (e.g. tissue culture, own farm or other farm);
- history of infestation by *serious banana plant pests* on neighbouring properties (if known);
- whether the property is the subject of a legal control order for *serious banana plant pests*; and
- whether the property implements an on-farm biosecurity plan and maintains records of implementation of that plan – for example, a relevant published on-farm biosecurity plan. *An example of a relevant biosecurity plan is the Banana best management practices - On-farm biosecurity guide, which is available for download as a [Queensland Government publication](#).*

Your responsibilities

You are expected to:

- (a) take all reasonable and practical steps, and make and maintain a record of those steps taken, to identify whether a property where *banana planting material* is to be collected has a history of infestation by a *serious banana pest*; and
- (b) not collect or move *banana planting material* from a property if you reasonably suspect that the property is infested by one or more *serious banana plant pests*.

5.2 Minimising risk – Inspection for infection or infestation

If it is not reasonable or practical for *banana planting material* to be used that is tissue culture material sourced from a relevant accredited business, biosecurity risk can be further minimised through inspection for symptoms of *serious banana plant pest* infestation within the area of collection and on the mother plants from which the *banana planting material* will be collected.



Persons collecting *banana planting material* should be trained, experienced or qualified in identifying symptoms of the presence of *serious banana plant pests* (see 7.2 Training).

5.2.1 Block inspection

Within two weeks prior to collection all banana plants within at least 15 metres of where *banana planting materials* are intended to be collected should be inspected for symptoms of *serious banana plant pest* infestation. Where *banana planting materials* are intended to be collected from **another farm that is not under the care, control or management of the grower**, all banana plants within at least 100 metres of where *banana planting materials* are intended to be collected should be inspected for symptoms of *serious banana plant pest* infestation.

Where suspected infestation is detected, *banana planting materials* must not be collected - and the collection process discontinued in that area.

Further information- Situations where inspection within 15 metres, or otherwise, of where *banana planting materials* are intended to be collected prior to collection MAY be unreasonable

In some circumstances, ongoing inspection of banana plants for symptoms of infestation within a collection block may have already been taken.

For example:

- A person has established a block (a 'mother plant block') on their property using 'clean' planting material that is regularly and routinely inspected for symptoms of infestation by *serious banana plant pests* by persons with knowledge and experience of identifying *serious banana plant pests* (see 7.2 Training);
- no symptoms of infestation by *serious banana plant pests* have been detected; and
- records of inspection have been made and are maintained (see 7.3 Inspection and monitoring).

The '*Managing Panama TR4 – early detection is critical*' publication provides a guide on accepted standards for surveillance and monitoring for symptoms of Panama TR4 that is applicable for surveillance for other serious banana plant pests.

Your responsibilities

When you are collecting *banana planting materials* from a property you are expected to:

- (a) for a property that is under your care, management or control (own, or separate property; that is, parcels of land that have shared management, machinery and vehicles etc.) - ensure a trained, experienced or qualified person has inspected all banana plants for symptoms of *serious banana plant pests* within a proximity of at least 15 metres of the collection area within 2 weeks prior to collection;
- (b) for a property that is NOT under your care, management or control (another property) - ensure a trained, experienced or qualified person has inspected all banana plants for symptoms of *serious banana plant pests* within a proximity of at least 100 metres of the collection area within 2 weeks prior to collection; and
- (c) discontinue the collection process and not move *banana planting materials* if symptoms of infestation by *serious banana plant pests* have been detected.

5.2.2 **Materials collection and inspection**

A mother plant should be selected for material collection that is healthy, in good cultural condition and visually represents as true to type. Where suspected infestation by *serious banana plant pests* is detected on a mother plant, materials should not be collected and the collection process must be discontinued.

After removal, each sucker should be inspected for signs of infestation by *serious banana plant pests* not visually obvious prior to removal, i.e. insect presence, leaf damage, vascular discolouration, root or corm rot. Materials displaying suspicious symptoms, and all other materials collected from the area, must be rejected for collection and the collection process must be discontinued.

Your responsibilities

When collecting *banana planting materials* from an area within a property you are expected to:

- (a) ensure that a trained, experienced or qualified person (from your business or otherwise) has inspected each mother plant from which material has been removed, and the material itself, for symptoms of *serious banana plant pests*; and
- (b) discontinue the collection process and not move *banana planting materials* if symptoms of infestation by *serious banana plant pests* have been detected.

5.2.3 **Removal of soil from banana planting materials prior to movement**

Just like planting material, soil creates a serious biosecurity risk as a carrier of a number of *serious banana plant pests*. A person who moves soil in which a banana plant has been growing to another place creates a serious risk of not meeting their *General Biosecurity Responsibilities*.

Prior to movement of *banana planting materials*, any excess soil adhering to that material must be removed by any means practical. All material to be moved should be virtually free of soil.

Your responsibilities

When you are collecting *banana planting materials* you are expected to remove, by any means practical, excess soil that is attached to that material prior to its movement.

5.3 **Minimising risk – Decontamination and hygiene**

Decontamination means a process to remove a contaminant from an object to make it harmless. Hygiene means a process to prevent contamination of an object.

5.3.1 **People, vehicles and equipment**

Movement of people and equipment pose a significant risk to you meeting your *General Biosecurity Responsibilities*. Where appropriate decontamination and hygiene precautions are not taken, movement of people and equipment poses a risk of moving a carrier of *serious banana plant pests* and other biosecurity matter. Carriers include soil, infected plant material and other plant pests.



Further information

A number of resources have been produced to assist a person to take reasonable steps to minimise this biosecurity risk. These include the [Banana best management practices on-farm biosecurity manual](#) and the Industry [decontamination guide](#).

Although the Banana Industry [decontamination guide](#) has been produced specifically to minimise risk related to Panama TR4, it is still applicable in addressing risks posed by other *serious banana plant pests*.

Your responsibilities

You are expected to minimise any biosecurity risk associated with the movement of a carrier of a *serious banana plant pest* through the use and movement of vehicles, people and equipment. You are expected to:

- (a) read and consider best practice advice on decontamination and hygiene in relation to the use and movement of people, vehicles and equipment; and
- (b) apply any relevant best practice advice when sourcing, collecting and moving *banana planting materials*.

5.3.2 Transporting banana plant material after collection

When transporting *banana planting materials* from one place within the *Biosecurity or Control zone* to another place in the *Biosecurity or Control zone* you must ensure that potential carriers of a *serious banana plant pest* are secured within the transport vehicle.

Your responsibilities

You are expected to minimise any biosecurity risk associated with the movement of a carrier of a *serious banana plant pest* during transport. You are expected to:

- (a) ensure that *banana planting materials* are covered during transport to prevent any spillage and the covering is intact and secured; and
- (b) ensure that no *banana planting material* from the consignment is unloaded prior to reaching the place where the *banana planting material* is to be stored/held or used.

6.0 Minimising risk with non-tissue culture planting material through planting, cultivation and monitoring practices

It is important that you make and maintain appropriate records of banana planting material that you use and cultivate on your property. These records should clearly identify the origin of the *banana planting material* and its planting destination (see Section 7.0 *Making and keeping records*).

Although this Code provides for a number of risk mitigation steps to be undertaken prior to planting, it is important to consider that the risk of any activity you take can never be a zero risk.

Inspection and monitoring of your crop is the best way to identify a biosecurity issue early to minimise potential spread, and support response and recovery should a *serious banana plant pest* be present in the material, or introduced after planting by means of natural dispersal.

It is recommended that, at any reasonable and practical opportunity, you monitor your crop and inspect banana plants within the crop for symptoms of infestation by a *serious banana plant pest*. To minimise risk, it is recommended that inspection and monitoring is conducted at and from the time of planting (or from the time of receipt of tissue cultured plants if held over prior to planting).

Each business should develop its own pest monitoring plan based on its own individual business circumstances. However, it is recommended that each banana plant, established as a new planting, should be inspected **at least** once every 4 months commencing 1 month from the date of planting for the life of the planting.

Further information

- An example of a systematic monitoring plan is provided within the publication *Managing Panama TR4 – early detection is critical*.
- This publication specifies a systematic way that monitoring could be undertaken for any *serious banana plant pest* but does not specify timeframes and scope which is required as part of an inspection and monitoring plan.
- It should be noted that the difference between informal and formal monitoring is only dictated by and through a record of training of a person undertaking the monitoring and inspection, and a record of inspection.
- Banana plants can be inspected at any time including during routine cultural operations such as weed control, desuckering, fertilising etc.
- Growers may choose to engage crop monitoring scouts/professionals to conduct inspections should adequate on-farm training of staff be considered as impractical.

Your responsibilities

You are expected to:

- (a) develop a simple monitoring and inspection plan for your crop;
- (b) commence monitoring of a newly planted crop within one month of planting of the crop; and
- (c) ensure each plant within the crop is inspected at least once within each 4 month period for the life of the planting.

7.0 Making and keeping records

Keeping records is a fundamental element of good biosecurity practice. Records provide a form of assurance that a person has met his or her *General Biosecurity Responsibilities*.

Further, record keeping assists a grower to track and assess risk and supports rapid response and recovery should a *serious banana plant pest* be identified.



Your responsibilities

You are expected to make, keep and maintain appropriate records of:

- (a) the source and planting location of *banana planting material* that you use on your property;
- (b) relevant training you provide to staff about Code requirements including training provided in identifying symptoms of infestation by a *serious banana plant pest*; and
- (c) details of inspection and monitoring for *serious banana plant pests* that you undertake.

7.1 Source of material and planting of the material (all situations)

It is important that you record *banana planting material* movement from a source property to its planting destination on your property.

Appropriate records of material source and planting should include:

- the date of collection, or receipt if the material is tissue culture material;
- the place where the *banana planting material* was sourced from;
- relevant persons who collected (or supervised collection) the material, or the tissue culture business that supplied the material;
- the variety/cultivar of the material and the amount collected or supplied;
- the place of planting on your property; and
- the date of planting.

7.2 Training

In order to effectively implement Code requirements you should undertake biosecurity training for relevant staff. Records should be made of the training provided.

Any person within a business may deliver training; however the person conducting the training should be able to substantiate their own training, experience or qualification if required. Facilitation of the delivery of an approved ABGC training course may also satisfy this requirement.

Appropriate training records should include:

- the name of the person who has been trained;
- the date of training;
- details and scope of the training provided; and
- the person who has given the training.

Further information

- Training need not necessarily be complicated, it only needs to be fit for purpose.
- For persons on your farm that deal with *banana planting material* it is recommended that you and devise a simple induction based on the information contained in this Code.

- For inspection and monitoring, relevant staff need to know how to identify suspicious symptoms of infestation (spotting what is unusual), what to do if they see symptoms, who to report suspicions to, and your method of recording the location of the plant/s.

7.3 Inspection and monitoring

It is important that appropriate inspection and monitoring records are made for inspection and monitoring activities that you conduct.

Appropriate records of inspection and monitoring should include:

- the date that inspection or monitoring was undertaken;
- the place/area/block where the inspection or monitoring was undertaken;
- relevant persons who conducted the inspection or monitoring activity;
- the scope of the inspection or monitoring activity; and
- the outcomes of the inspection or monitoring.

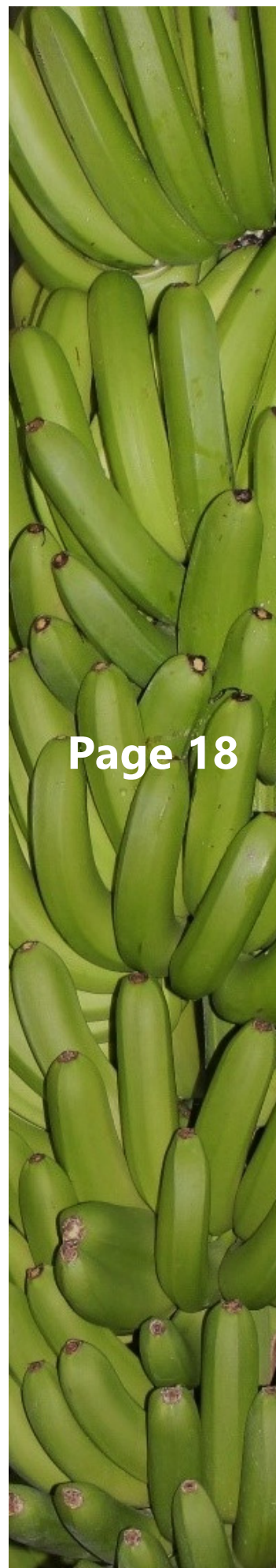
8.0 Reporting problems

There are individual jurisdictional (State and or Territory) requirements about the reporting of the presence of certain banana pests to relevant authorities. *Schedule 1* lists some reportable pests, but it is a grower's responsibility to know what other banana pests need to be reported within their jurisdiction.

Having a knowledge of banana pests, inspecting banana material at sourcing and planting stages and monitoring crops for signs of pests are important biosecurity measures. However, to ensure the early containment of a notifiable pest and its subsequent management it is essential that a grower reports its presence to a relevant authority immediately upon discovery. The timely reporting of notifiable pests is an integral part of a grower's biosecurity responsibility and can assist the grower and the industry in controlling pest incursion, establishment and spread.

Your responsibilities

You are expected to report the presence of a *serious banana plant pest* that is a notifiable pest to an authorised person without delay.



9.0 Dictionary

Some terms mentioned in this Code have been variously defined in biosecurity legislation and for the purposes of this Code those definitions will continue to apply. These terms include, but not limited to, banana plant, planting material and soil. Terms not defined in legislation but used in this Code are defined below.

9.1 Meaning of serious banana plant pest

Schedule 1 defines particular serious banana plant pests for the purposes of this Code.

9.2 Meaning of an area where serious banana plant pests are known to occur

Means an area where a *serious banana plant pest* is known to occur within a State or Territory of the Commonwealth of Australia.

9.3 Meaning of banana planting material

Banana planting material is any plant or plant part of the genera *Musa* or *Ensete* that may be used for the establishment of a banana plant and includes pseudostems, roots and suckers of the plant.

9.4 Meaning of Biosecurity Zone or Control Zone

Means an area identified under an Act or through regulation to eradicate, contain, or otherwise restrict the spread of biosecurity pests and diseases and that is designed to be in place for an extended period.

10.0 Table of Reprints

Register of all revision made to this Code of Practice since first issue.

Issue Date / Version	Amendment details e.g. 2.1, 7.7.2.	Author
01/07/20	Wider industry consultation draft.	Biosecurity Solutions Australia Pty Ltd.
27/08/20 Version 1.0	First Issue,	Australian Banana Growers' Council Inc.

11.0 Schedules

SCHEDULE 1 – SERIOUS BANANA PLANT PESTS.

SCHEDULE 2 – OUR CODE, YOUR RESPONSIBILITIES.



SCHEDULE 1 – SERIOUS BANANA PLANT PESTS

Present in Australia

Common name

Bunchy top disease
Panama disease (Fusarium wilt, race 1) – *susceptible varieties only*.
Panama disease (Fusarium wilt, subtropical race 4)
Panama disease (Fusarium wilt, tropical race 4)

Scientific name

Banana bunchy top virus (Babuvirus)
Fusarium oxysporum f. sp. *cubense* (race 1)
Fusarium oxysporum f. sp. *cubense* (subtropical race 4)
Fusarium odoratissimum - previously *Fusarium oxysporum* f. sp. *cubense* (tropical race 4).

Not known to occur in Australia

Common name

Banana bract mosaic disease
Banana freckle (Cavendish strain)
Black Sigatoka
Blood disease
Banana skipper butterfly
Eumusae leaf spot
Moko
Banana spider mite
Banana Xanthomonas wilt

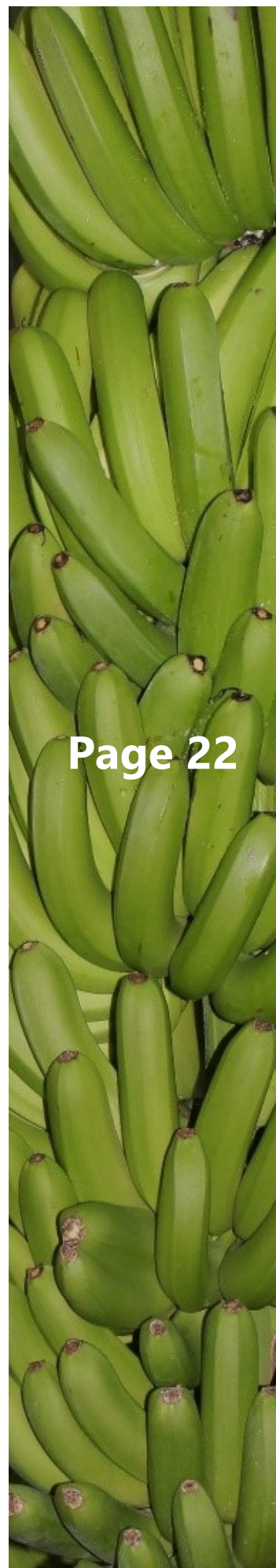
Scientific name

Banana bract mosaic virus (BBBrMV)
Guignardia musae
Mycosphaerella fijiensis
Blood disease bacterium (BDB)
Erionota thrax
Mycosphaerella eumusae
Ralstonia solanacearum race 2
Tetranychus piercei
Xanthomonas vasicola pv. *musacearum*

SCHEDULE 2 – OUR CODE, YOUR RESPONSIBILITIES

In accordance with the Code:

- (1) You are expected to:
 - (a) follow the reasonable and practical measures outlined in this industry Code; or
 - (b) follow another way that is at least as effective as this Code's way.
- (2) You are to comply with your *General Biosecurity Responsibilities*.
- (3) You are expected to know and comply with general and area-specific biosecurity laws.
- (4) You must comply with any lawful direction given by an authorised biosecurity officer.
- (5) You are expected to source banana plant material in the form of tissue culture (virus indexed) material from a production nursery or tissue culture laboratory accredited under an approved accreditation program.
- (6) Where it is unreasonable or impractical to comply with (5), you may source on-farm material from a contiguous plot of land for planting on the same parcel of land.
- (7) Where it is unreasonable or impractical to comply with (5) or (6), growers may share bits and suckers between parcels of land that are farmed as a single production unit and are free of *serious banana plant pests*.
- (8) If sourcing non-tissue culture planting material you are expected to comply with additional risk minimisation measures outlined in this Code in addition with any other requirement.
- (9) You are expected to:
 - (a) take all reasonable and practical steps, and make and maintain a record of those steps taken, to identify whether a property where *banana planting material* is to be collected has a history of infestation by *serious banana plant pests*; and
 - (b) not collect or move banana planting material from a property if you reasonably suspect that the property is infested by one or more *serious banana pests*.
- (10) When you are collecting *banana planting materials* from a property you are expected to:
 - (a) for a property that is under your care, management or control (own, or separate property; that is, parcels of land that have shared management, machinery and vehicles etc.) - ensure a trained, experienced or qualified person has inspected all banana plants for symptoms of *serious banana plant pests* within a proximity of at least 15 metres of the collection area within 2 weeks prior to collection;



- (b) for a property that is NOT under your care, management or control (another property) - ensure a trained, experienced or qualified person has inspected all banana plants for symptoms of *serious banana plant pests* within a proximity of at least 100 metres of the collection area within 2 weeks prior to collection; and
 - (c) discontinue the collection process and not move *banana planting materials* if symptoms of infestation by *serious banana plant pests* have been detected.
- (11) When you are collecting *banana planting materials* from an area within a place you are expected to:
 - (a) ensure that a trained, experienced or qualified person (from your business or otherwise) has inspected each mother plant from which the material and all material removed from the mother plant for symptoms of *serious banana plant pests*; and
 - (b) discontinue the collection process and not move *banana planting materials* if symptoms of infestation by *serious banana plant pests* have been detected.
- (12) When you are collecting *banana planting materials* you are expected to remove, by any means practical, soil that is attached to the material prior to its movement.
- (13) You are expected to minimise any biosecurity risk associated with the movement of a carrier of a *serious banana plant pest* through the use and movement of vehicles, people and equipment. You are expected to:
 - (a) read and consider best practice advice on decontamination and hygiene in relation to the use and movement of people, vehicles and equipment; and
 - (b) apply any relevant best practice advice for decontamination and hygiene when sourcing, collecting and moving *banana planting materials*.
- (14) You are expected to minimise any biosecurity risk associated with the movement of a carrier of a *serious banana plant pest* during transport. You are expected to:
 - (a) ensure that *banana planting materials* are covered during transport to prevent any spillage and the covering is intact and secured; and
 - (b) ensure that no *banana planting material* from the consignment is unloaded prior to reaching the place where the *banana planting material* is to be stored/held or used.
- (15) You are expected to:
 - (a) develop a simple monitoring and inspection plan for your crop;
 - (b) commence monitoring of a newly planted crop within one month of planting of the crop; and
 - (c) ensure each plant within the crop is inspected at least once within each 4 month period for the life of the planting.
- (16) You are expected to make, keep and maintain appropriate records of:

- (a) the source and planting location of *banana planting material* that you use on your property;
 - (b) relevant training you provide to staff about Code requirements including training provided in identifying symptoms of infestation by a *serious banana plant pest*; and
 - (c) details of inspection and monitoring for *serious banana plant pests* that you undertake.
- (17) You are expected to report the presence of a *serious banana plant pest* that is a notifiable pest to an authorised person without delay.

