



# Soil Movement Guideline

Version: 1

The National Red Imported Fire Ant Eradication Program has developed the Soil Movement Guideline to inform individuals and businesses of measures that can be employed to minimise the risk of moving live fire ants in soil. This will help all parties inside and close to the fire ant biosecurity zones to meet their general biosecurity obligation when performing activities involving the movement or storage of soil.

This guideline is to be read in conjunction with the *Biosecurity Act 2014* and Biosecurity Regulation 2016.

## 1 Background

All Queenslanders have a general biosecurity obligation under Queensland's *Biosecurity Act 2014*. This means that everyone is responsible for managing biosecurity risks that are:

- under their control; and
- that they know about, or should reasonably be expected to know about.

Under the general biosecurity obligation, individuals and businesses whose activities pose a biosecurity risk must:

- take all reasonable and practical steps to prevent or minimise each biosecurity risk;
- minimise the likelihood of causing a 'biosecurity event', and limit the consequences if such an event is caused; and
- prevent or minimise the harmful effects a risk could have, and not do anything that might make any harmful effects worse.

Fire ants can be transported in a variety of materials referred to collectively as 'fire ant carriers' and individuals and businesses must take steps to minimise the potential for moving fire ants in such materials. Soil (includes fill, clay, scrapings, and any material removed from the ground at a site where earthworks are being carried out) is considered to be a fire ant carrier.

The Biosecurity Regulation 2016 outlines a number of risk mitigation measures that can be employed to minimise the likelihood of moving fire ants from one location to another in known fire ant carriers. The risk mitigation measures outlined in the Biosecurity Regulation 2016 are not comprehensive however and may not suit all circumstances. The program has developed this guideline to outline additional measures that can be employed by individuals and businesses to minimise the likelihood of moving live fire ants in soil and satisfy their obligations under the *Biosecurity Act 2014*.

**Obligation to report fire ants:** The red imported fire ant (*Solenopsis invicta*) is listed as category 1 restricted matter under the *Biosecurity Act 2014*. All persons are required to notify Biosecurity Queensland if they encounter fire ants or ants which they suspect may be fire ants. Reports of fire ants can be made either by calling 13 25 23 or completing the yard check report form which is available on the Department of Agriculture and Fisheries website at: <https://ants.daf.qld.gov.au/table-of-contents/report-fire-ants/>.

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## 2 About this guideline

This guideline has been established under Section 107 of the *Biosecurity Act 2014*. It is intended to provide guidance to individuals and businesses about how to satisfy their obligations under Queensland's biosecurity legislation in relation to fire ants when moving or storing soil.

### 2.1 To whom does this guideline apply?

This guideline applies to all persons (individuals and businesses) moving or storing soil within the fire ant biosecurity zones and adjacent areas. Information about the location of the fire ant biosecurity zones can be found on the Queensland Department of Agriculture and Fisheries website at:

<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/land-management/health-pests-weeds-diseases/pests/movement-controls/biosecurity-zones>

## 3 Acceptable strategies to avoid spreading fire ants

### 3.1 Disturbance of soil

To minimise the likelihood of moving viable fire ant colonies in soil, it is recommended that soil be subject to a 'disturbance' activity before it is moved to another place. The aim of the disturbance is to separate the queen from her workers without whom she cannot survive.

In this context, 'disturbance' of soil would involve subjecting the material to any combination of the following:

- **vigorous and thorough turning of the soil** (e.g. repeatedly turning a soil stockpile with machinery before it is loaded for transport offsite);
- **screening the soil** (e.g. sieving the soil through a screening bucket or grate before it is loaded for transport offsite);
- **crushing the soil** (e.g. processing the soil through a crushing machine before it is loaded for transport offsite); or
- **washing the soil** (e.g. processes that involve washing sand to remove impurities or contaminants).

### 3.2 Storing soil prior to movement

Storing soil appropriately helps minimise the likelihood of fire ant colonies becoming established or being moved to different areas. Appropriate storage of soil requires that the soil is:

- On a surface that is considered fire ant resistant, for example:
  - Concrete or bitumen that does not contain cracks through which fire ants could access the soil; or
  - An impermeable barrier (e.g. plastic sheeting at least 200 microns thick); or

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- An area of compacted ground, other than sand, that has been treated with an appropriate chemical product<sup>1</sup> before the soil is put on the area; and
- An appropriate barrier chemical has been used to create a 30 centimetres wide chemical perimeter around the area where the soil is being stored.
- If practical, covered in a way that prevents the soil becoming infested by fire ants (i.e. in a shed, under a shade cloth or tarpaulin).

Individuals using chemicals to treat areas where soil is being stored should keep a written record, stating the chemical products used to treat the areas and the way it was used for the treatment (i.e. to treat the surface where the soil is being treated or as a barrier treatment).

Individuals who have stored soil prior to movement at a location in the fire ant biosecurity zones must also subject any stockpiles of soil to a disturbance activity:

- every 21 days; and
- 24 hours prior to moving the material to another location.

### 3.3 Pre-treatment of an area

Activities such as disturbance may not be practical for smaller scale soil excavations and movements (e.g. installing a pool at a residential property). In such circumstances, it is recommended that a licensed pest management technician is engaged two weeks prior to the anticipated excavation date to:

- Inspect the area to be excavated and undertake a direct nest injection of any identified fire ant nest with the chemical Fipronil; and
- Treat the site with an appropriate product to prevent fire ants becoming established in the area to be excavated.

The licensed pest management technician should provide the land holder with a record indicating what steps have been take to treat fire ants at the location. This record should be retained by the land holder as proof that steps have been taken to minimise the likelihood of moving fire ants in the soil that is to be excavated.

### Residential premises

Individuals can pre-treat an area that is to be excavated at their residential premises using a household pesticide (i.e. pesticide ordinarily used in households and available to buy in a retail store). The products used should be recognised by the Australian Pesticides and Veterinary Medicines Authority as an appropriate product for treating fire ants. Individuals seeking to pre-treat an area to be excavated at their residential premises should:

<sup>1</sup> **treated**, with an appropriate chemical product, means treated in a way—  
(a) Stated in the instructions on the approved label for the chemical product; or  
(b) Authorised by a permit issued by Australian Pesticides and Veterinary Medicines Authority.



- Apply the chemical in accordance with the instructions on the label; and
- Keep a written record of the steps that have been taken to treat fire ants at the location.

### 3.4 Taking soil from depth

The main nest chamber of a newly established or young fire ant colony is often located within the top one metre of soil. At those sites that have been surveyed by a licensed pest management technician and found to contain no infestation of fire ants, an appropriate risk mitigation measure may be to take soil from depth. This involves removing the top one metre of soil at a site, undertaking the necessary excavation and then replacing the original top one metre of soil.

This method is not recommended for areas where the soil type is soft, loamy or sandy as fire ant nests can extend further than one metre below the surface in areas with these soil types.

**Note:** The top one metre of soil must not be mixed with soil to be removed from the site. It must either be retained on site or removed to a waste facility within the same biosecurity zone.

Given the scale of the earthworks required to employ this risk mitigation strategy, it is only considered practical for large excavations.

### 3.5 Moving soil to waste facilities

The Biosecurity Regulation 2016 allows for a person to move soil from a place in fire ant biosecurity zone 2 (Zone 2) to a waste facility that is also located Zone 2.

The movement of soil from a place in Zone 2 to a waste facility in fire ant biosecurity zone 1 (Zone 1) is not permitted, as such a movement risks re-infecting areas treated by the program with fire ants.

The movement of soil from a place Zone 1 to a place in Zone 2 is permitted however, as the program has undertaken eradication activities Zone 1, and the likelihood of moving fire ants from this area to another place is considered low.

**Note:** Individuals moving soil from a place located inside the fire ant biosecurity zones to a waste facility located outside of the fire ant biosecurity zones are required to obtain a biosecurity instrument permit before the movement can take place.

## 4 Records of steps taken to avoid moving fire ants

It is strongly recommended that individuals and businesses moving or storing soil in the fire ant biosecurity zones keep comprehensive records about any soil movement; and the steps they have taken to minimise the likelihood of fire ants being moved or becoming established in a new location. Such records should be made available to Biosecurity Queensland inspectors upon request.

Appropriate records may include:

- Dated written records of;
  - the risk mitigations measures employed; and
  - details of where the soil has been taken from/to;

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- Photographs;
- Site plans and surveyors records;
- Receipts and records of treatment applied by licensed pest management technicians.

## 5 Moving soil to a place outside of the fire ant biosecurity zones

It must be noted that a biosecurity instrument permit is required prior to moving soil from a place located inside the fire ant biosecurity zones to a place outside of the fire ant biosecurity zones. Each biosecurity instrument permit application is assessed on its own merits. Applications seeking to move soil from inside a fire ant biosecurity zone to a location outside of the zones may be refused if the movement poses an unacceptable risk of spreading fire ants.

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