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Prevention and Control Program for Red Imported Fire Ants under the *Biosecurity Act 2014*

National Red Imported Fire Ant Eradication Program

Queensland Government

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1 Biosecurity Program

1.1 Program name

The prevention and control program (biosecurity program) for red imported fire ants will be known as the Prevention and Control Program for Red Imported Fire Ants (the **Program**).

2 Requirement for a prevention and control program

2.1 Purpose and rationale

Significant biosecurity risk

The *Biosecurity Act 2014* (the **Act**) provides for the establishment of prevention and control programs. Prevention and control programs are directed at any of the following—

(a) preventing the entry, establishment or spread of biosecurity matter in an area that poses a significant biosecurity risk;

(b) managing, reducing or eradicating any biosecurity matter in an area that could pose a significant biosecurity risk.

The red imported fire ant, native to South America, is considered by the World Conservation Unit as one of the top 100 worst invasive alien species, and its detrimental impact on humans, domestic and wild animals, agriculture, and ecosystems is well-documented (Fan et al 2012, Tschinkel 2006). Red imported fire ants have spread to and become an established pest in the southern United States (US), Taiwan, mainland China, Puerto Rico, Virgin Islands, Bahamas Islands, Antigua, Trinidad, Turks and Caicos Islands, Cayman Islands, Hong Kong, Malaysia and Australia. There are also reports of infestations in Macau and the Philippines.

Each year in the US alone, an estimated 14 million people are stung (Drees 2014). Worldwide figures are difficult to estimate due to poor reporting in many infested countries. There have been over 80 fatal and two near fatal red imported fire ant-sting reactions in the USA (Rhoades et al. 1989, de Shazo et al 1999).

Further, it is estimated that red imported fire ant costs the US economy almost $7 billion annually in damage repair, medical care, and control costs, affecting households, electric service and communications, agriculture, schools and recreation areas (Lard et al. 2006). Red imported fire ants infest millions of acres in urban, agricultural, wildlife, recreational and industrial areas. In the US since 1931, red imported fire ant has spread to over 166.8 million hectares (APHIS2015).

In early 2001, red imported fire ants were discovered in South East Queensland and a national cost-share eradication program commenced in June 2001—the National Red Imported Fire Ant Eradication Program (the SEQ Program).

In late 2013, red imported fire ants were confirmed at Yarwun near Gladstone in central Queensland. A national cost-share eradication program commenced in March 2014— the National Red Imported Fire Ant Eradication Program (the Yarwun (2013) Program). Genetic testing confirmed that the red imported fire ant population confirmed in Yarwun in 2013 was a new incursion and not linked to the previous incursion in Yarwun in 2006 (declared free of red imported fire ants in 2010). The most likely source is the southern United States of America (USA).

In September 2015, red imported fire ant was detected within the Brisbane Airport precinct. A national cost-share eradication program commenced in December 2015—the National Red Imported Fire Ant Eradication Program (the Brisbane Airport Program). Similarly, through population analysis the infestation was found to be a new incursion of red imported fire ants in Australia with the most likely source the southern USA.

These responses, run by the Queensland Government on behalf of national cost-share partners (including the Commonwealth, and Australian States and Territories), have been established with the ultimate aim of eradicating red imported fire ants within Queensland and therefore preventing the spread and establishment of red imported fire ants in other states and territories.

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The programs operate under nationally agreed response plans which have been developed using the criteria set out in the National Environmental Biosecurity Response Agreement[1] (NEBRA). The SEQ response plan was developed prior to the introduction of NEBRA and is referred to as NEBRA-like. However both the Yarwun (2013) and the Brisbane Airport response have been implemented under NEBRA. The response plans establish a framework to delimit, contain and eradicate of red imported fire ants in Queensland.

Previous reviews of the National Red Imported Fire Ant Eradication Program in South East Queensland have consistently shown that red imported fire ants are a pest of national significance and that eradication remains technically feasible, efficient and cost beneficial. If there were no publicly funded control program, the environmental, economic and social impacts have been estimated to be up to $45 billion in South East Queensland. This would be higher if red imported fire ants were to spread to other parts of Australia. The National Red Imported Fire Ant Eradication Program in South East Queensland has effectively prevented these impacts from being realised in Australia.

Key eradication measures authorised by the Program include but are not limited to:

- Treatment to eradicate existing infestation and proactive/preventative treatment to prevent the establishment of the pest in high risk areas. Bait is distributed either aerially, by all-terrain vehicle, or by foot.
- Surveillance to check for the presence or absence of red imported fire ants and to monitor the effectiveness of the treatment regime—either by field team or odour detection dog teams.

Eradication activities are focused on areas within and surrounding the red imported fire ant biosecurity zones which have been established in the response areas. However red imported fire ants have been detected outside areas of known infestation and the National Red Imported Fire Ant Eradication Program has been able to treat and survey these areas quickly and effectively to prevent the establishment of the pest. Genetic analysis is then undertaken to determine the origin of the infestation as a new incursion will require a separate response.

Monitoring compliance with movement controls is also an important aspect of the responses to ensure the risk of human-assisted red imported fire ant spread is minimised. This will be dealt with the establishment of a surveillance program over the whole State of Queensland.

The objectives of the Program are to:

- prevent the establishment or spread of red imported fire ants in Queensland that pose a significant biosecurity risk; and
- manage, reduce or eradicate any red imported fire ants in Queensland that could pose a significant biosecurity risk.

2.2 Measures that are required to achieve the purpose

The key activities undertaken by the Program include but are not limited to entry by authorised officers to carry out activities directed towards achieving the Program's objectives (see 3.4 below).

2.3 Powers of authorised officers

Entry of place

The Act provides that under a prevention and control program officers appointed as authorised officers under the Act are permitted to enter a place to undertake activities to achieve the objectives of the prevention and control program. 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 occupier[2] and obtain the occupier's consent to the entry prior to an authorised officer entering a place[3] to undertake activities under

[1] The National Environmental Biosecurity Response Agreement (NEBRA) is the first deliverable of the Intergovernmental Agreement on Biosecurity, and sets out emergency response arrangements, including cost-sharing arrangements, for responding to biosecurity incidents that primarily impact the environment and/or social amenity and where the response is for the public good.

[2] 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.

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the Program. Nevertheless, an authorised officer may enter the place if after a reasonable attempt is made to locate the occupier or the occupier refuses to consent to the entry. If after entering a place an authorised officer finds an occupier present or the occupier refuses to consent to the entry—an authorised officer will make reasonable attempts to produce an identity card for inspection and inform the occupier of the reason for entering and the 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 steps have been taken or are to be taken, that it is an offence to do anything that interferes with a step taken or 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.

Giving a direction under a prevention and control program

Section 237 of the Act provides that an authorised officer may, at a reasonable time and at a place within an area to which a prevention and control program applies:

- Direct an occupier to take reasonable steps, within a stated and reasonable timeframe, to remove or eradicate red imported fire ants. These steps must be limited to what is reasonably necessary to achieve the purposes of this prevention and control program.
- Destroy red imported fire ants or a carrier of red imported fire ants, if the authorised officer believes on reasonable grounds that they pose a significant biosecurity risk.

Failure to comply with a direction

Under s 238 of the Act, occupiers of a place are obligated to comply with an authorised officer's direction issued under s 237 of the Act, as outlined above.

Power to carry out aerial controls measures

The power to carry out aerial control measures is authorised by a biosecurity program under the Act[4]. This means that an authorised officer may carry out, or direct another person to carry out, the aerial control measure for red imported fire ants in relation to a place.

An authorised officer may carry out, or direct another person to carry out, an aerial control measure for the purpose of preventing and controlling red imported fire ants in a place[5]. These measures are preventative bait treatment and treatment on red imported fire ant infested properties.

The National Red Imported Fire Ant Eradication Program contracts aerial operators to apply bait. This activity is performed by helicopters in accordance with Civil Aviation Order 20.21 Instrument 2015 (Civil Aviation Order 20.21) which applies to rotorcraft engaged in agricultural operations and related inspection flights.

Aerial treatment undertaken by the contract helicopter pilots are classed as low flying activities[6] which means that the pilot in command of an aircraft must not fly the aircraft over:

1. any city, town or populous area at a height lower than 1000 feet[7]; or
2. any other area at a height lower than 500 feet[8].

The Civil Aviation Regulations 1988 (CAR 1988) states that in order to carry out low flying activities a Civil Aviation Safety Authority (CASA) permit[9] must be obtained. In accordance with Civil Aviation Order 20.21 a

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[3] See section 270 (Entry of place under ss 261 and 262) of the Act.
[4] 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.

[5] See section 294 (Power to carry out aerial control measures under biosecurity program) of the Act.
[6] Under s 157(1) of the CAR 1988 (Volume 3).
[7] 304 m.
[8] 152 m.
[9] An instrument made under s 157 (4)(b) of the CAR 1988.

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low flying permit has been granted by CASA to the contract aerial operators to allow them to fly lower than 500 feet.

The CASA permit that enables the contractors engaged by the National Red Imported Fire Ant Eradication Program to carry out low flying activities states in the conditions of the permit[10] that:

> *'No aircraft shall be flown below 500 feet within 300 metres horizontally from any occupied vehicle, vessel or building, without the consent of the occupiers as appropriate'*

This means that an occupied vehicle, vessel or building, consent is required in order to conduct low flying activities. Further, the CASA permit is only in relation to operating helicopters over an area other than any city, town or populous area at heights lower than 500 feet[11].

This allows the helicopter to fly at an optimum height of approximately 50 feet to apply the bait treatment. However, the height varies due to the presence of hazards such as powerlines and other obstacles.

On the underside of the helicopters conducting treatment for the Program signage reading 'Fire Ant Control' can be clearly seen which identifies the purpose of the flight.

When a helicopter is journeying from the loading site (a site for refuelling and bait replenishment) to the treatment area, a helicopter will fly at 1000 feet or higher. The principle landing site is located at the Biosecurity Queensland site at Wacol. However, to improve the rate of effort and maximise aircraft use remote loading sites are identified as required in the vicinity of areas where the treatment is being conducted.

Prior to aerial treatment, written consent is obtained from the resident and at this time a request is made by the National Red Imported Fire Ant Eradication Program to the occupier to allow the helicopter to treat closer than the 300 metres horizontally from an occupied building which is a requirement of the Civil Aviation Order 20.21. The area not treated by the helicopter is known as the 'buffer zone' and this is subsequently treated by a ground team so as to obtain 100% coverage. The occupier of the property is advised verbally prior to the commencement of the treatment season and then again prior to the property being flown. In addition the aerial ground team erect roadside signage alerting residents and recreational users of areas being treated so that they are aware of the helicopter activity occurring.

Obligations

A person who is an occupier of a place may be obligated to take action as specified in the Authorisation in 3.6 below.

In addition to Program specific obligations in the Authorisation, under s 238 of the Act, occupiers of a place are obligated to comply with an authorised officer's direction issued under s 237 of the Act.

General powers of authorised officers

Nothing in the Program or its associated authorisation limits the powers of authorised officers under Chapter 10 of the Act.

2.4 Consultation

The local governments within the area to which the program relates have been consulted.

[10] Schedule 2(4) of the instrument made under Regulation 157(4)(b) of the CAR 1988.
[11] See section 157(1)(b) of the CAR 1988.

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3 Authorisation of a prevention and control 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 the Prevention and Control Program for Red Imported Fire Ants (Program) in Queensland, on the basis that:

- I am satisfied that red imported fire ants are in Queensland and pose a significant biosecurity risk in Queensland[12] ;
- I am satisfied that measures are required to prevent the establishment or spread in Queensland of red imported fire ants (biosecurity matter) that pose a significant biosecurity risk in Queensland .

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 red imported fire ants (*Solenopsis invicta*).

3.2 Purpose and scope of the program

The purpose of the Program is to:

- prevent the establishment or spread of red imported fire ants in Queensland that pose a significant biosecurity risk; and
- manage, reduce or eradicate any red imported fire ants in Queensland that could pose a significant biosecurity risk.

3.3 Area affected by the program

The Program will apply to the whole State of Queensland.

3.4 Powers of authorised officers

An authorised officer of the Program appointed under the Act, may enter a place—other than a residence[13]—without a warrant and without the occupier's consent within the State of Queensland under the Program[14]. An authorised officer appointed under the Act will also have the power to enter a place under the Program[15].

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 executive[16].

[12] Addresses s 235 (3)(b) of the Act.
[13] The Act defines a ***residence*** to mean a premises or a part of a premises that is a residence with the meaning of s 259(2) and (3).
[14] Under s 259 (General powers to enter places) of the Act.
[15] Under s 261 (Power to enter a place under biosecurity program) of the Act.
[16] Under s 255(3) (Powers of particular authorised officers limited) of the Act.

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An authorised officer has general powers after entering a place to do any of the following[17]:

General powers in the Act	Measures an authorised officer may take under the Program
Search any part of the place	Undertaking preventative treatment and/or treatment[18] on places to destroy red imported fire ants on the land or in red imported fire ant carriers; or requiring an owner to destroy red imported fire ants. Treatment is distributed aerially by helicopter, by field teams on foot with fertiliser spreaders, blower trucks, all-terrain vehicles. Destroying a red imported fire ant carrier undertaken by an authorised officer or an owner if the authorised officer believes it poses a significant biosecurity risk. Searching a place to check for the presence or absence of red imported fire ants, undertaken by odour detection dogs and/or authorised officers. Inspections, examinations and filming may be undertaken to assist with tracing of red imported fire ant carriers to and from a place. Taking a sample of suspicious ants for analysis to determine whether the ants are red imported fire ants. Placing a flag(s) in the ground on a place to identify a red imported fire ant mound. Taking an image of a red imported fire ant mound(s) and the general vicinity. Taking GPS coordinates to ensure accuracy of location details of red imported fire ant mound(s).
Inspect[19], examine[20] or film[21] any part of the place or anything at the place	
Take for examination a thing, or a sample of or from a thing, at the place	
Place an identifying mark in or on anything at the place	
Place a sign or notice at the place	
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	
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 this division	
Destroy biosecurity matter or a carrier if— • The authorised officer believes on reasonable grounds the biosecurity matter or carrier poses a significant biosecurity risk; and • 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	
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	
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.	

[17] See section 296 (General powers) of the Act.
[18] The Program applies treatment for two reasons—destruction of existing red imported fire ant mounds (infestation) and as a preventative measure using a broadcast bait. When a red imported fire ant mound has been positively identified on a site, a pest management technician (appointed as an authorised officer under the Act) delivers a liquid pesticide (fibronil) by direct nest injection (DNI) into a mound. At the same time a broadcast bait is applied around a mound to a specified distance. The broadcast bait treatments applied by the National Red Imported Fire Ant Eradication Program are predominantly made up of an insect growth regulator (crushed corn impregnated with soybean oil and an insect growth regulator, either s-methoprene or pyriproxyfen). In high risk areas such as schools or parks pesticide bait may be used by the Program as this will destroy the ants faster than an insect growth regulator—however this is rarely used.
[19] Section 296(5) defines ***inspect***, a thing, to include open the thing and examine its contents.
[20] Section 296(5) defines ***examine*** to include analyse, test, account, measure, weigh, grade, gauge and identify.
[21] Section 296(5) defines ***film*** to include photograph, videotape and record an image in another way.

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Pursuant to section 237 of the Act an authorised officer may also give a direction to an occupier of a place located in an area to which the Program applies to take reasonable steps to:

- remove or eradicate red imported fire ants as reasonably necessary to achieve the purposes of the Program, or
- destroy red imported fire ants or a carrier of red imported fire ants, if that authorised officer believes on reasonable grounds that they pose a significant biosecurity risk.

A penalty applies for failing to comply with a direction issued under this section.

3.5 Aerial operations

An authorised officer may carry out, or direct another person to carry out, the aerial control measure for red imported fire ants in relation to a place. Under a prevention and control program these measures include preventative bait treatment and treatment on red imported fire ants infested properties.

3.6 Obligations imposed on a person under the Program

A person who is an occupier of a place to which the Program relates may be required to:

- refrain from disturbing or irrigating areas that have been treated by the National Red Imported Fire Ant Eradication Program so as to maximise efficacy of the bait;
- remove any thing on a place that would obstruct an authorised officer undertaking the activities as required to eradicate red imported fire ants. This may include mowing/slashing an area prior to bait treatment being applied;
- help the authorised officer in the execution of their powers.

A person of whom a *help requirement* has been made must comply with the requirement unless the person has a reasonable excuse.

3.7 Commencement and duration of the Program

The Program will begin on 1 July 2016 and will continue to operate until there are no National Red Imported Fire Ant Eradication Programs operating in Queensland.

The duration of the Program is considered to be reasonably necessary to achieve the Program's purpose.

3.8 Consultation with relevant parties

As required by the Act[22], I, Dr Beth Woods, the chief executive of the Department of Agriculture and Fisheries have consulted, prior to the authorisation of the Program, with the local governments within the State of Queensland, which are the local governments for the areas to which the Program applies.

3.9 Notification of relevant parties of requirements

As required by the Act[23], I will give public notice of the Program 14 days before it 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's 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 regional offices[24]. 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.

[22] See section 239 (Consultation about proposed biosecurity program) of the Act.
[23] See section 240 (Notice of proposed biosecurity program) of the Act.
[24] See section 241 (Access to authorisation) of the Act.

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