

## FREQUENTLY ASKED QUESTIONS

### Who is responsible for locust control?

It is the APLC's responsibility to control outbreaks likely to damage agricultural production in another state. The relevant state bodies are responsible for the control of locusts elsewhere. Landholders have a legal obligation to report and control locust outbreaks on their property.

### How does the APLC manage locust populations?

The APLC adheres to a strategy of preventive control. Currently, the main control agent used is the insecticide fenitrothion. Increasingly, fipronil is being used, particularly on large bands and swarms. In environmentally sensitive areas or on certified organic properties the fungus metarhizium is used. The APLC evaluates new locust control agents as they become available.

### Are the insecticides used to control locusts harmful to the environment?

The insecticides used for controlling locusts are toxins and must be handled carefully. There is no evidence that APLC control operations have long-term impacts on the environment. The APLC operates in an environmentally responsible manner and is conducting research to monitor any possible effects on non-target organisms. Currently, APLC environmental research is focussed on the effect of locust control agents on vertebrates (birds, mammals and reptiles).

### What are sublethal impacts on the environment?

This is an area of particular interest to the APLC due to the lack of information available and our very low application rates. Sublethal impacts can take the form of disruption to feeding habits, ability to maintain body temperature and/or disturbance of mating behaviour, without resulting in the death of an animal. The effects can last hours or months. The APLC is engaged in collaborative research to identify and minimise any effects our activities may have on non-target species.

### Do the insecticides used by the APLC persist in the environment or pose a residue risk to stock or grain?

The APLC applies very low doses of insecticide that degrade rapidly in the environment. To safeguard against the risk of insecticide residues in grain or stock in areas where locust control agents have been applied, strict withholding periods and/or slaughter intervals are imposed (see table). These allow time for the insecticides to break down to undetectable levels.

### How will I know if the APLC has sprayed on my property?

The APLC gains the landholder's permission before spraying. A representative of the APLC will contact you and run through a checklist of possible hazards on your property. They will inform you of the type of insecticide to be used and any withholding periods that may apply. If spraying does occur on your property you will be provided with a map showing the area sprayed and the amount of insecticide used.

### How can you help us?

Report all locust sightings. Phone 1800 635 962 (toll free)  
Fax 02 6272 5074 Email [apl@affa.gov.au](mailto:apl@affa.gov.au)  
Or contact your state Department of Agriculture or Rural Land Protection Board officer.

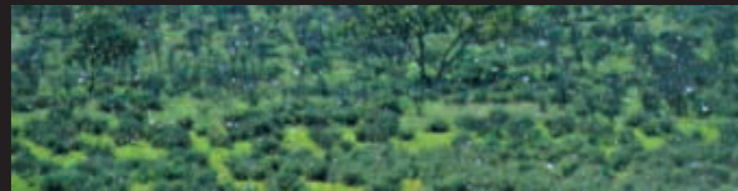
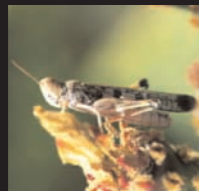
## FURTHER INFORMATION

Visit our website – [www.affa.gov.au/aplc](http://www.affa.gov.au/aplc)  
Locust information is available free of charge just contact the APLC with your request.

Photos by R Larcombe, T Wheller, LC and RF Cupper.



## The APLC and your Environment



## THE APLC AND YOUR ENVIRONMENT

The APLC follows a strategy of preventive locust control, by forecasting likely outbreaks and initiating early intervention. In recognising the sensitivity of the ecosystems in which it operates, the APLC is aware of its environmental, community and legislative responsibilities and continues collaborative research to minimise any detrimental impacts resulting from its activities.

## THE CONTROL AGENTS

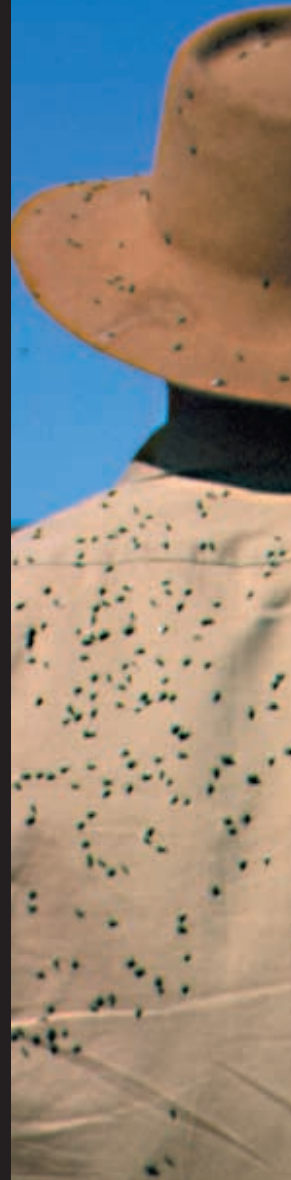
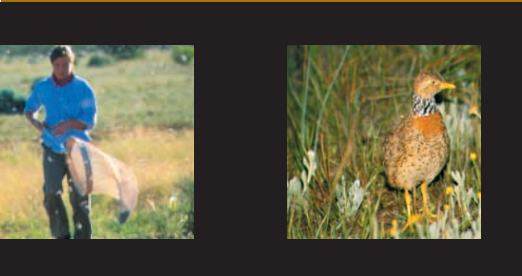
The APLC uses aerial spraying to control locust infestations deemed to be a threat to agricultural production. This involves using ULV (ultra-low volume) spray equipment and the wind to distribute small droplets of control agent over the target area. The APLC uses 4 control agents: fenitrothion, fipronil, Metarhizium (Green Guard™) and an insect growth regulator. The National Registration Authority (NRA) approves all control agents used by the APLC.

**Fenitrothion:** This compound is an organophosphorous insecticide that acts on the locust's nervous system. It is the most commonly used chemical due to its cost, availability and speed of action. Fenitrothion has been known to affect some bird and small mammal species elsewhere in the world as well as being acutely toxic to aquatic life, however this potential hazard is offset by the low operational dose used by the APLC. The APLC minimises the risks posed by fenitrothion by maintaining down wind buffer zones (no-spray areas) around dwellings, dams, waterways and other environmentally sensitive areas. The APLC is engaged in research to quantify and minimise sublethal impacts of fenitrothion on wildlife.

**Fipronil:** A member of the phenyl pyrazole class of insecticides, fipronil also acts on the locust's nervous system. It has a longer residual life than fenitrothion. This means that a sprayed area can have a noticeable effect on a locust population up to 10 days after the initial treatment. Because of this fipronil is effective as a barrier treatment, where treated and untreated swaths alternate. Persistence also means fipronil has the potential to be harmful to non-target wildlife. The APLC uses fipronil at doses of less than 1g ai/ha. At this low dose fipronil proves to be a safe and effective control agent. The chemical compound is potentially harmful to aquatic ecosystems and buffer zones are used to minimise risk. The APLC is engaged in research to quantify and minimise sublethal impacts of fipronil on wildlife.

**Insect Growth Regulator (IGR):** Still in the trial stage at the time of printing. IGRs are part of the benzoyl urea class of insecticides. IGRs impede the locust's ability to progress to the next stage of development. They have very low toxicity to non-target wildlife and a relatively long residual life. This means an IGR has potential as an effective barrier treatment with minimal consequences to the environment.

**Metarhizium:** A naturally occurring fungus that infects the locust, Metarhizium is a biological control agent known commercially as Green Guard™. It has no withholding periods, no residues and it is approved for use on organic properties (NASAA, BFA certified). The fungus selectively infects locusts and grasshoppers. Metarhizium is mainly used on organic properties and in environmentally sensitive areas. Testing in a variety of conditions is continuing with the aim of more widespread use.



## APLC CONTROL AGENTS COMPARISON

	Fenitrothion	Fipronil	Metarhizium	IGR –Diflubenzuron
<b>RISK TO WILDLIFE<sup>1</sup></b>				
Mammals	Low	Low	Low	Low
Birds	Moderate	Low	Low	Low
Fish	Low	Low	Low	Low
Aquatic Arthropods	Moderate	Low	Low	High
Reptiles/ Amphibian	Unknown	Unknown	Low	Unknown
Bees	High	High	Low	Low-Mod
<b>WITHHOLDING PERIODS</b>				
Livestock <sup>2</sup>	14 days	21 days ESI	Nil	21 days ESI
Harvesting <sup>3</sup>	14 days	14 days	Nil	Nil
<b>RISK TO HUMAN HEALTH<sup>4</sup></b>	Moderately Hazardous	Unlikely	Unlikely	Unlikely
<b>SPEED OF ACTION</b>	Fast 2-3 days	Moderate 2-7 days	Slow 7-14 days	Slow 4-10 days
<b>PERSISTENCE</b>	Low	Moderate	Low-Mod	Moderate

1. As detailed in Food and Agriculture Organisation (FAO) Pesticide Group Report of Eighth Meeting, Oct 1999. Risk when applied at the NRA approved product formulation and dose and formulated primarily on overseas data.

2. Period that must elapse for stock grazing on sprayed pasture. Also applies to kangaroo and feral animal harvesting for human consumption. ESI is export slaughter interval.

3. Period that must elapse between application and harvesting.

4. Taken from World Health Organisation (WHO) toxicity class of active ingredients.