

FREQUENTLY ASKED QUESTIONS

Who is responsible for locust control?

It is the APLC's responsibility to control outbreaks of the Australian plague locust that have the potential to damage agricultural production in more than one member state (New South Wales, Queensland, South Australia and Victoria). 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 mainly in rangeland areas. In environmentally sensitive areas or on certified organic properties, the fungus *Metarhizium* is used.

Are the locust control agents used by the APLC harmful to the environment?

The agents 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 both vertebrates (birds, mammals and reptiles) and invertebrates.

What are sublethal effects on the environment?

This is an area of particular interest to the APLC due to the lack of information available and our very low control agent application rates. Sublethal impacts can take the form of disruption to feeding habits, ability to maintain body temperature or locomotory function and/or disturbance of mating behaviour. This can ultimately affect population size by reducing the breeding output of

a population without necessarily killing the animal originally exposed to the pesticide. The effects can last hours or months. The APLC is engaged in on-going 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 aplcdaff@daff.gov.au or contact your state Department of Agriculture or Rural Lands Protection Board office.

FURTHER INFORMATION

Visit our website – www.daff.gov.au/aplc
Locust information is available free of charge, just contact the APLC with your request.



Australian Government

Department of Agriculture, Fisheries and Forestry
Australian Plague Locust Commission



The APLC and your Environment



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



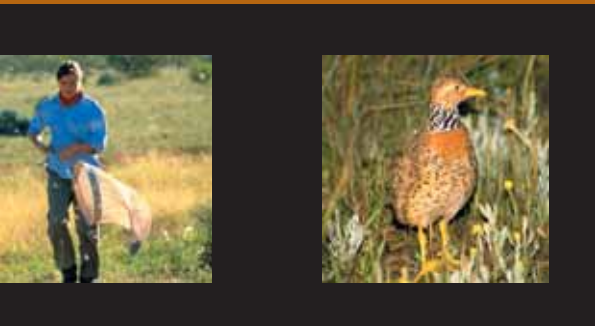
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THE APLC AND YOUR ENVIRONMENT

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 undertakes collaborative research and monitoring programs 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 3 control agents: fenitrothion, fipronil and Metarhizium (Green Guard™). All these control agents are approved for use against locusts by the Australian Pesticides and Veterinary Medicines Authority (APVMA).



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 low 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 1500 metre down wind buffer zones (no-spray areas) around dwellings, dams, waterways and identified environmentally sensitive areas.

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 downwind buffer zones are used to minimise this risk.

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 detectable residues and is approved for use on organic properties (NASAA, BFA certified). The fungus selectively infects locusts and grasshoppers and is mainly used by the APLC against infestations on organic properties and in environmentally sensitive areas.

The APLC is engaged in research to quantify and minimise sublethal impacts of fipronil and fenitrothion on wildlife. In addition, the APLC also has a program of research to identify and, where appropriate, test potential new control agents particularly those which show promise in terms of minimising potential detrimental effects. For example, at present the APLC plans to evaluate an insect growth regulator (IGR) which has a 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.

APLC CONTROL AGENTS COMPARISON

	Fenitrothion	Fipronil	Metarhizium
RISK TO WILDLIFE¹			
Mammals	Low	Low	Low
Birds	Moderate	Low	Low
Fish	Low	Low	Low
Aquatic Arthropods	Moderate	Low	Low
Reptiles/Unknown Amphibian	Unknown	Unknown	Low
Bees	High	High	Low
WITHHOLDING PERIODS			
Livestock ²	14 days	21 days EGI	Nil
Harvesting ³	14 days	14 days	Nil
RISK TO HUMAN HEALTH⁴	Moderately Hazardous	Unlikely	Unlikely
SPEED OF ACTION	Fast 2-3 days	Moderate 2-7 days	Slow 7-14 days
PERSISTENCE	Low	Moderate	Low

1. As detailed in Food and Agriculture Organisation (FAO) Pesticide Group Report of Eighth Meeting, Oct 1999. Risk when applied at the APVMA approved product formulation and dose. Based 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. EGI is export grazing interval. For further information on livestock withholding refer to the SAFEMEAT brochure "Plague locusts, wingless grasshoppers and livestock residues" available from the APLC web site.

3. Period that must elapse between application and harvesting.

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