



Department of
**Primary Industries and
Regional Development**

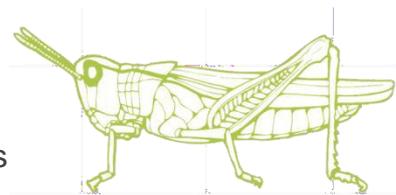
Australian plague locust (APL) Information kit

August 2021



Identification and biology

The Australian plague locust (*Chortoicetes terminifera*) is a native insect found throughout Australia. It usually inhabits pastoral regions in relatively low numbers, but with favourable weather conditions, numbers can increase greatly, and locusts can migrate into agricultural regions.



The immature or hopper stage locusts damage mainly pastures in farming areas and gardens and lawns in domestic areas. They tend to avoid established green crops, although the edges of crops can be damaged. Adult locusts can form swarms and fly into other areas, damaging pastures, ripening crops, grapevines, fruit trees and tree seedlings. If crops have completely dried off before locusts begin flying, the possibility of damage is considerably less.

Description

Adult Australian plague locusts are between 24 and 40 mm long. They vary in colour from light to dark shades of green to brown. Plague locusts have a dark blotch at the outer edge of the hind wing, and the inside of the hind legs are red in colour (Figure 1). Both adults and hoppers all have a distinctive cross on the thorax i.e. on their neck (Figure 2).



Figure 1 Adult locusts. Note the dark spot on the wing and red coloured inner hind legs



Figure 2 Arrow indicates X-shaped marking

Hoppers and locusts can be easily confused with other native grasshoppers.

Landholder Locust Control

Landholders are responsible for control of locusts on their property. The Department of Primary Industries and Regional Development is committed to provide timely and relevant information to landholders to assist them with decisions on control.

Monitoring

Prior to implementing control, it is a good idea to determine the density of the locusts on your property so that you can target areas that require spraying. The best time of day to monitor for locusts is from mid-morning and until mid-afternoon, as this is when they are most active.

Hoppers and adults

Take one A4 piece of paper, drop it on the ground. If it is windy, peg the paper down. Count how many hoppers land on it in 30 seconds. Multiply this number by 12, and this is the approximate number of hoppers per square metre. Repeat this three or four times in the paddock.

Newly hatched hoppers can be difficult to see with the naked eye. You can identify if you have the Australian plague locust on your property by using a sweep net. Sweep 5-10 cm off the ground and if there are any hoppers present, they should be easy to see in the net, easy to remove and identify.

Locust swarms

Walk 100 m into the paddock and count how many adult locusts are flying. Then at right angles to where you have walked, walk a further 20 m and continue to count flying locusts.

Egg beds

Locusts favour areas of compact, bare soil to lay eggs in. If you see locusts with their abdomens in the ground, this suggests females are laying eggs.

If the egg bed is on your property monitor it regularly during spring through to autumn, as this is when hatchings occur depending on conditions. Eggs may hatch simultaneously or if conditions for hatching are marginal, hatchings may occur over several weeks. Once eggs begin to hatch, monitor other areas on your property for locusts.

Reporting

- Landholders are encouraged to report where locusts are found via the department's [PestFax Reporter app](#). Visit www.agric.wa.gov.au and search 'Pestfax'.
- Information on locust identification, monitoring and control is available from www.agric.wa.gov.au/locusts or by phoning the Pest and Disease Information Service on 1800 084 881.

Management

Applying insecticide over entire paddocks may be necessary to prevent extensive damage from locusts. **To achieve effective control, the best time to apply an insecticide is when locusts are hoppers.** Treating small areas of dense masses of hoppers immediately after hatching can also be worthwhile but will only control a relatively small proportion of the total numbers within a paddock and may involve several sprays as hatching times are staggered.

If locust swarms do form, they should be controlled when they first fly into an area where their feeding will cause damage. It is important that you are aware of the likelihood of locusts flying onto your property and to stay vigilant.

Sprays must be applied directly onto the locusts and the vegetation on which they are feeding. **Barrier spraying to keep locusts out of an area is not effective.**

Pastures

Pastures that tend to remain greener longer such as lucerne and long-season annual pastures are at greater risk of attack. Consider monitoring these pastures first.

Implement control measures if pasture is valued at the cost of replacement feed for livestock and locust numbers exceed the following thresholds:

- 20 hoppers per square metre
- 10 adult locusts per square metre

Adult locusts may fly into a paddock and although their stay may be short, they can still consume a considerable amount of pasture. If there are **25 or more locusts in flight** this suggests high locust numbers. It may not be possible to effectively protect pasture in these situations, as locust swarms will need to be sprayed aerially within hours of them arriving. Monitor frequently from spring onwards, if large infestations are in your area.

Grain Crops

Crops such as wheat, barley, and particularly oats, are susceptible to damage from locusts. Established green crops tend to be avoided by hoppers, although the edges of crops can be damaged. However, crops that are beginning to dry off when locusts begin to fly are especially susceptible to damage. Monitor crop edges frequently from mid- October onwards, if large infestations are in or near your area.

Hopper and adult locust numbers should be closely monitored, and if any damage is seen, then spraying should start immediately.

Control

Only insecticides that are registered or have special permits for use against the Australian plague locust can be used.

It is important that directions relating to rates of application, safety issues, and withholding periods for harvest, grazing and slaughter of stock are followed. Also be aware that when applying insecticides, buffer zones should be observed around sensitive areas, such as dwellings and dams. Refer to the label for recommended buffer zones. Also consider the downwind buffer for high-risk sensitive areas, e.g. aquaculture facilities.

Grazing withholding periods

Withholding periods (WHP) that appear on the label for grazing apply only to domestic markets. If stock are destined for export, the Export Animal Feed Interval (EAFI), Export Slaughter Interval (ESI) and Export Grazing Interval (EGI) must be followed. For further information see www.safemeat.org.

If you are using any chemicals from the synthetic pyrethroid (SP) group (these include alpha-cypermethrin, beta-cyfluthrin, lambda-cyhalothrin and gamma-cyhalothrin) on drying pasture, be aware that EGI does not commence until the next break of the season. If stock are expected to be turned off before the break of the next season and alternative feed is unlikely to be available, then it is best not to use synthetic pyrethroids.

Tank mixing

Tank mixing insecticides registered for locust control with herbicides, will decrease the cost of the application. However, for incompatible mixes check the product label. If in doubt conduct a jar test i.e. in a screw top jar, add 500 mL of water and for every 1L/ha to be applied in the field add 10 mL of product. Cap the jar, shake well and leave overnight. Look for any chemical incompatibilities. Some settling of powdered products is normal, however, sediments should re-suspend in solution, once the jar is shaken.

Alternative to chemical control

A naturally occurring fungus, *Metarhizium anisopliae*, known commercially as Green Guard, has shown potential in the control of the Australian plague locust. This fungus is appropriate for use in sensitive areas and on organic farms. It is not suitable for use in tank mixes with other pesticides.

The fungus should be applied when the hoppers are in the early instars so there is time for it to kill a large proportion of the locusts. Unlike other pesticides it takes several days to have an effect.

Contact

- Department of Primary Industries and Regional Development - agric.wa.gov.au/locusts
- Local DPIRD offices throughout the State
- Pest and Disease Information Service (phone 1800 084 881 or email info@agric.wa.gov.au)
- Australian Pesticides and Veterinary Medicines Authority www.apvma.gov.au
- Safemeat (www.safemeat.com.au) A website with information on Export Slaughter Intervals, Export Grazing Intervals and Export Animal Feed Intervals

Important disclaimer

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