



Plague locusts, wingless grasshoppers and livestock residues

Photo courtesy APLC
Australian plague locust swarm over cereal crop

Locust numbers can periodically build up and pose a significant threat to grain, horticultural crops and pastures. Wingless and small plague grasshoppers can also cause crop and pasture damage in some areas.

The most effective means of controlling these pests is to spray the juvenile (hopper) stages, either by air or ground rig, with an appropriate insecticide. However, the chemicals used have the potential to cause unacceptable residues in grazing livestock – residues that can cause problems for our export industry.

Locusts can migrate hundreds of kilometres. Depending on the nature and scale of locust activity, individual landholders, state and territory government authorities and the Australian Plague Locust Commission (APLC) all have responsibilities for the control of locusts.

Control authorities use trained ground and aerial operators to mix and apply control chemicals. Landholders must apply the same level of professional care.

National Vendor Declaration

It is essential that the National Vendor Declaration (NVD) is completed correctly, including the relevant question which relates to withholding periods (WHP).

The WHP question within the respective NVDs can be found as follows: for Cattle – Question 7, Sheep and Lambs – Question 5, Goats – Question 4, Bobby Calves – Question 3 and EU Cattle – Question 6. The NVD is underpinned by state and territory legislation. Penalties exist for providing false or misleading information. Producers who have observed export intervals are encouraged to make a statement to this effect, in answer to the Additional Information section of the declaration.

Producers who require additional information about WHPs should contact their local Department of Agriculture/ Primary Industries.

A threat to our export markets

In 2008–09, Australia exported 67% of its total beef production, with an export value of \$5 billion and 62% of its sheepmeat production, with an export value of \$1.46 billion.

This heavy reliance on export markets means Australia must guarantee the integrity of its products and their freedom from unacceptable chemical residues.

How do livestock become contaminated?

Livestock can be exposed to plague locust and wingless grasshopper control chemicals by:

- direct overspraying of livestock;
- grazing of pastures or crops that have been sprayed or onto which spray has drifted; and
- feeding fodder (hay, grain) that has been sprayed directly or exposed to spray drift.

What you should do

It is essential that producers obtain information about the chemicals which may be applied to control locusts, regardless of whether they are controlling the locusts themselves or control is being undertaken by an outside authority.



Photo courtesy APLC
Adult Australian plague locust

Key points

- Find out when spraying is likely to occur in your area.
- Check what chemicals control authorities are using and observe relevant Export Intervals (EI) (see tables).
- To prevent unacceptable residues in livestock at the time of sale, determine what chemicals are best suited to your enterprise when undertaking your own control spraying.
- Read and follow the label directions. Always:
 - use the correct treatment rate;
 - observe the harvest and grazing withholding periods (WHP) or alternative export intervals set out in the product label or Australian Pesticides and Veterinary Medicines Authority (APVMA) permit (see details with the tables for further information on meeting export market requirements).
- Confirm that all relevant Export Intervals (EIs) have been met before selling stock for slaughter – especially if meat may be destined for an overseas market (see the tables).
- Keep records of any spraying activity.
- Consult with neighbours about spraying (both yours and theirs) – particularly near property boundaries.
- Fill in the National Vendor Declaration (NVD) correctly. Penalties apply for providing false or misleading information on the NVD.
- If unsure, seek further advice from chemical manufacturers, chemical suppliers and state or territory departments of agriculture/ primary industries.

Chemicals registered to control locusts and/or wingless grasshoppers

Chemicals registered for the control of locusts and/or wingless grasshoppers contain different active ingredients and are marketed under a range of brand names. It is important for landholders and contractors applying insecticides to read the product label, confirm that the product is registered for the intended purpose and to identify the active ingredient in the product that is to be used. Use this information and the tables of EIs to check that use of the chemical is appropriate for your enterprise.

Chemicals applied to neighbouring land

Determine the active ingredient in any sprays applied on or adjacent to your land by control authorities or neighbours. Assess the likelihood of spray drift onto your pastures or feed crops. If they have been exposed to drift then manage them as if they have been treated intentionally.

Organophosphate and carbamate

insecticides – use chemicals from these groups wherever possible as they break down relatively quickly. Active ingredients in these groups include fenitrothion, chlorpyrifos, diazinon, maldison (malathion) and carbaryl. Fenitrothion and maldison pose the least risk of producing unacceptable residues in livestock, provided the required EI is observed.

Fipronil is also registered for Australian plague locust, migratory locust, spur throated locust and wingless grasshopper control. It persists on pasture and in animals for longer than fenitrothion but is applied at very low rates. A very small volume is required to make up a spray.

Plague locusts, wingless grasshoppers and livestock residues

Errors in mixing or application rates could cause residues in livestock even if the recommended EI is observed. Carefully read the label directions for use before mixing or applying a fipronil product.

Although fipronil is registered for use in some of our major export markets, residues in meat could put at risk the export meat trade due to differences in importing countries' residue standards.

Synthetic pyrethroid insecticides

Alpha-cypermethrin is registered for control of wingless grasshoppers in pasture situations. Alpha-cypermethrin can persist on pastures for relatively long periods. Observe the appropriate Export Interval (ESI or EGI) for livestock exposed to feeds treated with this chemical.

Other chemicals

The APVMA may consider industry requests for permits for the off-label use of other insecticides if there are no registered alternatives available. Any permits will include appropriate WHP directions and trade risk management advice.



Photo courtesy APLC
Australian plague locust swarm

Label withholding periods and recommended export intervals:

Harvesting of treated crops, including animal feeds:

- Observe the label WHP for all treated crops and pasture, including those that may have been subjected to spray drift.
- If crop or pasture is to be cut for stockfeed, observe the Export Animal Feed Interval (EAFI) recommended in the tables or, alternatively, do not sell stock that have been fed cut material for export slaughter until the relevant ESI has been observed.

Grazing treated areas (livestock for domestic consumption only):

- Observe the grazing WHP or withhold from slaughter period that is specified on the registered product label.
- Where possible avoid spraying areas in which livestock are grazing.
- If overspraying of livestock grazing pasture is unavoidable, withhold them from slaughter until either the EGI indicated in the tables is met or they are moved to clean feed and the ESI is met.

Grazing (livestock for export markets):

- The label WHP for grazing only applies to stock slaughtered for the domestic market. Some export markets apply different standards. To meet these standards check that Export Intervals (EIs) are available before selecting or applying chemicals and ensure that one or other of the EIs shown in the tables is observed before stock are sold or slaughtered.

Recommended export intervals for organophosphate or carbamate products registered for locust and/or wingless grasshopper control are:

Chemical	Export Animal Feed Interval EAFI(1)	Export Slaughter Interval ESI(2)	Export Grazing Interval EGI(3)
Fenitrothion	14 days	EGI applies	14 days
Chlorpyrifos (EC)	Not required	56 days	56 days
Diazinon	14 days	14 days	28 days
Carbaryl	7 days	EGI applies	7 days
Maldison	Label WHP applies 1 day	Label WHP applies 1 day	Label WHP applies 1 day

Recommended export intervals for fipronil products registered for locust and/or wingless grasshopper control are (1.25 grams active ingredient per hectare):

Chemical	Export Animal Feed Interval	Export Slaughter Interval	Export Grazing Interval
Fipronil ULV	14 days	14 days	21 days
Fipronil – 200 SC	14 days	14 days	21 days

Recommended export intervals for alpha-cypermethrin products registered only for wingless grasshopper control are:

Chemical	Export Animal Feed Interval	Export Slaughter Interval	Export Grazing Interval
Alpha-cypermethrin	No data available	42 days	56 days

Recommended export intervals for synthetic pyrethroid products permitted to be used for Australian plague locust control are:

Chemical	Export Slaughter Interval	Export Grazing Interval
Lambda-cyhalothrin	42 days	56 days
Gamma-cyhalothrin	42 days	56 days
Beta-cyfluthrin	42 days	56 days
Alpha-cypermethrin	42 days	56 days
Cypermethrin	63 days	No data available

Note the following definitions relating to Export Intervals:

1. Export Animal Feed Interval (EAFI)

The minimum period that must elapse between the application of a chemical and grazing or harvesting the crop/pasture for animal feed.

2. Export Slaughter Interval (ESI)

The minimum period that must elapse between removal of grazing livestock to

clean pasture or feed and slaughter, where the livestock have been grazing the crop/pasture prior to expiry of the export animal feed interval. See note on 'Interpretation of ESI and EGI'.

3. Export Grazing Interval (EGI)

The minimum period that must elapse between the application of a chemical and slaughter of the stock, where grazing has continued on the crop/pasture from the time the chemical was applied.

APVMA permits for locust control chemicals

The APVMA has issued permits PER 10927 and PER 10928 to allow the use of certain synthetic pyrethroid chemicals to control the Australian plague locust (*Chortoicetes terminifera*). These permits expire at the end of June 2011. The permits cover the use of the active ingredients: Lambda-cyhalothrin, Gamma-cyhalothrin, Beta-cyfluthrin, Alpha-cypermethrin and Cypermethrin. Each permit clearly states Export Interval advice for users.

In addition to complying with permit requirements livestock producers should observe either the Export Slaughter Interval **OR** the Export Grazing Interval before selling stock for export slaughter.

Caution: These chemicals will persist on dry pasture or forage and in cut fodder. Their use may pose a trade risk unless export intervals are adhered to. Anyone wishing to use these chemicals must first read the permit and the label (or have both read to them) and comply with all instructions and any conditions stated in the permit and label.

The APVMA has issued permits PER 11658 and PER 11843 which allow the use of maldison for control of Australian plague locust.

These permits expire at the end of October 2010. These permits do not contain Export

Interval advice, as instructions on the product labels relating to withholding periods are appropriate and must be followed.

Copies of the permits can be obtained from the APVMA web site www.apvma.gov.au/permits/search.php or may be available from locust control authorities.

Interpretation of ESI and EGI

Export Slaughter Interval (ESI)

Livestock should be placed on clean feed for the appropriate ESI prior to export slaughter – unless they have already met the recommended Export Grazing Interval for the chemical. This applies if they have been oversprayed or grazed on or fed treated crops/pastures, including treated feeds cut after the expiry of the label withholding period.

Export Grazing Interval (EGI):

Livestock that have been oversprayed or grazed on treated crops/pastures and that cannot be placed on clean feed should not be sold for export slaughter until the EGI has expired.

Cutting stockfeeds and dairy stock:

The label grazing and fodder/forage withholding period must be observed before:

- cutting treated pasture/crops for fodder;
- grazing treated crops/pastures by stock producing milk for human consumption.

Published February 2010



Photo courtesy APLC
Aerial control of locusts on extensive grazing land

Further information

SAFEMEAT is a national industry and government partnership. Its primary role is to oversee and promote sound management systems to deliver safe and hygienic product to the marketplace.

For further advice contact your state department of agriculture/primary industries or local shire or, in NSW, your local Livestock Health and Pest Authority.

Permit or other chemical details can be found on the web site of the Australian Pesticides and Veterinary Medicines Authority (APVMA): www.apvma.gov.au.

Locust specific information can also be found on the Australian Plague Locust Commission web site: www.daff.gov.au/aplc