

Plague locusts, wingless grasshoppers and livestock residues

Photo courtesy APLC

Locust numbers can periodically build up and pose a significant threat to grain, horticultural crops and pastures. Wingless 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 where the locust activity is occurring, the Australian Plague Locust Commission (APLC), government authorities and individual landholders all have responsibilities for control of locusts.

Control authorities use trained ground and aerial operators to apply and mix 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 Question 7 of the cattle NVD or Question 5 of the sheep NVD, which relate to WHPs. 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, at Question 9 of the cattle NVD or Question 7 of the sheep NVD.

A threat to our export markets

In 2003, Australia exported more than 62% of its total beef production, with an export value of \$3.6 billion and 50% of its sheepmeat exports, at an export value of \$974 million.

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

Much of the locust spraying is done by control authorities, such as the APLC, state and territory departments etc. It is essential that producers get information about the chemicals these authorities are using as well as making decisions about what chemicals to use if undertaking locust control themselves.

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 table overleaf).
- 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:
 - use the correct treatment rate;
 - observe the harvest and grazing withholding periods (WHP).
- In addition, observe the appropriate EI before selling stock for slaughter and especially where meat could be destined for an overseas market (see table overleaf).
- Keep records of any spraying activity.
- Inform your neighbours of any spraying undertaken.
- 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 or primary industries.



Photo courtesy APLC

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 overleaf 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.

Organophosphorus 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 and carbaryl. Fenitrothion poses 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.

Errors in mixing or application rates could cause residues in livestock even if the recommended EI is observed. Carefully read the label use directions 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 country's 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.

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Other chemicals

The Australian Pesticides and Veterinary Medicines Authority (APVMA) has also issued a limited research permit for trial work with diflubenzuron in controlling locusts on native pastures. The permit approval is for research undertaken by the APLC only. Where research conducted by the APLC may be undertaken on your property, to ensure compliance with domestic and overseas MRLs, observe the 21-day ESI indicated in the table overleaf.

Depending on how the plague locust risk evolves, 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.



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 overleaf 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 WHPs 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 grazing livestock is unavoidable, withhold them from slaughter until either the ESI or EGI indicated in the table overleaf 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 ensure that one or other of the EIs shown in the tables are observed before stock are sold or slaughtered (see table overleaf).

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)	10 days	21 days	28 days
Diazinon	14 days	14 days	28 days
Carbaryl	7 days	EGI applies	7 day

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

Chemical	Export Animal Feed Interval	Export Slaughter Interval	Export Grazing Interval
Plague locust control (1.25 grams active ingredient per hectare)			
Fipronil ULV	14 days	14 days	21 day
Fipronil – 200 SC	14 days	14 days	21 days
Wingless grasshopper control (2.5 grams active ingredient per hectare)			
Fipronil – 200 SC	14 days	21 days	49 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 diflubenzuron products approved under APVMA permit for use by the APLC, for plague locust control are:

Chemical	Export Animal Feed Interval	Export Slaughter Interval	Export Grazing Interval
Diflubenzuron	No data available	21 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.



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 or primary industries or local shire or, in NSW, your local Rural Lands Protection Board. Information can also be found on the Australian Plague Locust Commission web site:

www.daff.gov.au/aplc