

# Control of biting insects on pigs and in piggeries

March 2022, Primefact PUB 22/159, Second edition  
Karl Adamson, Biosecurity and Food Safety, Queanbeyan NSW

## Introduction

Biting insects such as flies, mosquitoes, midges or sand flies and ticks can cause major economic loss to pig farmers.

Irritation from biting flies and mosquitoes can cause skin lesions or allergic-type reactions in pigs. Some pigs need to be skinned at the abattoir. A skin from a finisher pig can weigh 17 kg and attract both a financial penalty, as well as additional downgrades depending on the abattoir.

Biting insects can also vector exotic diseases like Japanese encephalitis and African swine fever.

Paralysis ticks can cause deaths among piglets and illness in older pigs housed outdoors resulting in major financial loss for the farmer.

This factsheet offers some guidelines for the control of biting insects on pigs, their housing, where direct animal contact may occur and external premises or areas where insects may breed or rest.



© Australian Pork Limited

## Flies – Including Mosquitos

The Dipteran biting flies of most significance to pig farmers are March flies (Family Tabanidae), stable flies (Family Muscidae), biting midges or sand flies (Family Ceratopogonidae) and mosquitoes (Family Culicidae).

Each type of fly or mosquito has its own specific habitat, but they share a similar life cycle – eggs, larvae or maggots, pupae and adult form. Mosquitoes go through four instars or moults in their larval stage before forming pupae.

Biting flies tend to be day-time feeders and most active on bright sunny days whereas mosquitoes tend to be night-time feeders.

Females are mostly the biters and they seek blood for breeding and egg production.

Flies multiply in warm, moist conditions. Late spring, summer and early autumn tend to be the problem periods. Populations can increase dramatically as seasonal conditions change.

House and bush flies can also be a major nuisance to pigs and should be controlled using the same techniques.



© Stephen L. Doggett, NSW Health Pathology



© Australian Pork Limited

## Best practice; Control

Treat the whole life cycle of the insect, controlling only adults is costly and ineffective. Chemical treatment of the pigs and their sheds is just one control measure that needs to be considered.

Good hygiene is essential. Remove or minimise moist areas, rotting vegetation, feed or manure piles which attract flies. Mosquitos breed in any standing water. Remove containers or rubbish that hold water and treat ponds, sewer lines and other water bodies with chemical products registered for mosquito larvae.

Clean water troughs and feed troughs to remove any build-up of manure, waste feed or sludge under or near the troughs. Keep pigs in dry, well- drained pens or paddocks if possible – biting flies, midges and mosquitoes are more common near swampy areas and creeks or dams.

## Treatment

Do not use chemicals in pig housing unless the label explicitly states that they can be used where *direct contact* with livestock is allowed or are registered for direct application to pigs.

It is illegal to use products registered for pigs or other animals off-label unless an Australian Pesticides and Veterinary Medicines Authority (APVMA) permit has been issued for this purpose. In certain limited circumstances a veterinarian may prescribe off label use of a veterinary medicine to treat livestock.

If you are selling into an export market check with your supplier to determine if the market has an established residue tolerance (MRL) for the product you want to use. Not all Australian registered

Control of biting insects on pigs and in piggeries

products have tolerances established in overseas markets.

Remember to record any chemical use in your PigPass documentation and application records.

## Direct Animal treatment

In NSW, ectoparasiticides that require dilution prior to use are classed as pesticides, not veterinary medicines.

Several products containing a number of repellents and insecticides, are registered for direct application to pigs. These include: [FLYBAN](#), [REPEL-X](#) and [MUSCA-BAN](#).

## Premises: Surfaces not in pig contact

It is important to use products according to label directions and keep them well away from pig feed, surfaces that pigs may contact and water sources to avoid chemical contamination and risk of chemical residues.

For pigs housed indoors use of larvicides (such as [Alodex](#)) can be effective on areas where flies are laying eggs.

Application of chemicals registered for use inside agricultural buildings and animal housing should be made using a low pressure wand only to areas where animals have no direct access to treated surfaces.

Focus on areas where flies and mosquitos rest.

## Premises: Surfaces in pig contact

Knockdown Ultra Low Volume (ULV) sprays and thermal fogging is very effecting for area control of insects. But should be used with caution around food producing animals.

Use indoors requires that sheds be empty of animals and it is very difficult to control where these chemicals deposit residues. If in doubt do not use these chemicals in or near animal housing where animals may contact spray deposits.

Products containing natural pyrethrins and piperonyl butoxide such as [PY-BO](#), [PY-ZAP](#) and [Stryker](#) are effective for use in animal housing where pigs may contact residues.

Always check the label before use.

## Non-Chemical Options

Traps and sticky paper are available commercially and are effective in resting areas. Bait stations can work in some situations and there are various recipes for homemade baits available on-line. Don't use *prohibited/restricted animal material* in traps.

Dung beetles and parasitic wasps may also play a role, but excessive use of chemicals will limit their effectiveness.

Where using oil-based pour-on products be aware that young pigs and pale coloured animals may be more susceptible to sunburn following treatment.

If you are facing an animal welfare issue as a result of biting insects, talk to your vet. They may be able to prescribe the use of other products, which you must then use strictly according to the vet's written directions, including withholding periods before sale of the pigs. Detection of residues resulting from off-label chemical use would be a punishable offence for both you and the vet and may impact export trade markets.

## Ticks

The paralysis tick can cause some problems in pigs raised outdoors in coastal NSW. Anecdotal reports suggest that the pigs most at risk are young piglets with softer skin. It is possible that adult pigs may get ticks in the soft skin areas behind the ears and around the vulva on the sow.

The paralysis tick (*Ixodes Holocyclus*) occurs in the more humid coastal areas. The area where humans, dogs, cats and pigs are most vulnerable to paralysis tick problems stretches almost the full length of the east Australian coastline and about 30 km inland along this distance.

Ticks are not very mobile and rely on passing animals for transport and food.

They are primarily carried and spread by native animals. The ticks climb up grass and other vegetation and catch onto passing animals. All stages of the paralysis tick produce paralysis toxin but only adult females which have fed for 4 days or more produce enough toxin to cause paralysis.

The tick is most active in the spring/summer/autumn period, and anyone east of the Great Dividing Range should be on the lookout for these ticks.

## Treatment and Control

Monitor your pigs in the risky seasons – twice per day inspections may be necessary in peak tick season. This may sound extreme, but every dead piglet is lost income.

Several of the registered products listed above for fly control by direct application to pigs are also labelled for use for protection against ticks.

Ensure all susceptible pigs are in clean paddocks free of scrub and long grass to reduce the risk of exposure to ticks.

If you find a tick on a pig, remove it with a pair of fine tweezers or a tick hook (the feeding tube will remain embedded in the skin). Try not to squeeze the body of the tick as this could result in more toxins injected into the pig. Rub the area with a topical disinfectant (alcohol, or iodine) to prevent infection.

Where you find one tick there are often more, so check the animal carefully and treat the herd with a registered repellent.

If ticks continue to be a problem, you may need to reconsider your animal management i.e. changing your farrowing schedule or housing susceptible pigs during high risk times.

Pour-on products such as [TAKTIC TOPLINE](#) or [TAKTIC EC](#)® which are registered for use in pigs for the control of mange also provide some protection from ticks. Off-label use of pesticides is illegal under the Pesticides Act 1999, and off-label use of any animal treatment without written veterinary directions is also illegal. You should get written veterinary directions for this use or check if an APVMA permit is current.

As before, care should be taken with young pigs and pale coloured pigs in outdoor herds as the oily nature of some backline products can leave the pigs more susceptible to sunburn.

## Safe Chemical Use

Farmers are reminded that safe use of these products requires strict adherence to label directions for dose rates and withholding periods (WHP).

Remember to ask your supplier for a copy of the Material Safety Data Sheet (MSDS) for each product to remain in compliance with SafeWork regulations and be aware of any potential environmental impacts that may result from misuse or spillage. Plan to minimise the risk.

Remember to use personal protective equipment (PPE) when using chemicals as directed on each product label.

## More Information

- [Japanese encephalitis in Pigs](#)
- Farm Biosecurity – [Controlling mosquitoes around piggeries](#)
  - Guide to [Integrated Mosquito Management Principles for Piggeries](#)
  - Factsheet on [Controlling Mosquitoes Around Piggeries](#)
- [Australian Pork Limited: Factsheet on Japanese encephalitis, a mosquito vectored disease](#)
- [Primefact 1372 5<sup>th</sup> Edn, May 2020 Paralysis Ticks and Cattle](#)
- [Primefact 84, 3<sup>rd</sup> Edn, March 2020 Ticks of concern to NSW Stockowners](#)

## Acknowledgements

Original Author: Jayce Morgan, Livestock Officer Pigs (Retired), Tamworth, NSW with thanks to Lee Cook, Amanda Lee, and Trish Holyoake for editorial input and technical advice to the first edition.

PUB 22/159

---

© State of New South Wales through Regional NSW 2022. The information contained in this publication is based on knowledge and understanding at the time of writing (March 2022). However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the Department of Regional NSW or the user's independent adviser.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (March 2022). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user's independent adviser.

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product name does not imply endorsement by the Department of Primary Industries over any equivalent product from another manufacturer.

**Always read the label** Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this publication. Published by the Department of Primary Industries, a part of the Department of Trade and Investment, Regional Infrastructure and Services.

---