Control of biting insects on pigs

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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 the financial penalty may be as much as $34 per pig (depending on the current price per kg), as well as additional downgrades depending on the abattoir.

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.

Flies – includes Mosquitoes
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 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.

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

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

House and bush flies which do not bite can also be a major nuisance to pigs and should be controlled using the same techniques.

Treatment and Control
You need to be aware that chemical use in livestock is tightly regulated, and that laws vary between states. It is illegal to use treatments that are not registered for food-producing animals on pigs. It is also illegal to use products registered for pigs or other animals off-label without the written authorisation of your veterinarian.

Most successful results come from an integrated pest management approach to the problem. This means that chemical treatment of the pigs and sheds is just one control measure undertaken.

All flies are attracted to moist areas, rotting vegetation, feed or manure piles so good hygiene around pig housing is essential.

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.

Several products contain a number of repellants and insecticides, and are registered for direct application to pigs. These include: Inca Ban Fly insecticidal spray for animals (250 mL and 500 mL quantities); Musca Ban insecticidal spray (125mL, 500 mL and 5 L); Value Plus fly spray in the same quantities; Flygon insecticidal and repellent spray in the same quantities and Ecovet Insect Repellent (500mL)

Anecdotal reports suggest that use of equipment such as portable mist blowers to apply these products to the pigs at fortnightly intervals works well.

For pigs housed indoors the use of baits/larvicides (such as cyromazine, thiamethoxam) and residual insecticides on walls and surfaces where flies rest (such as maldison, diazinon, trichlorfon or dichlorvos) will all play a role.

Knockdown sprays almost always require that sheds be empty. Check the label before use.

It is important to use the products according to label directions and keep them well away from pig
feed and water sources to avoid chemical contamination and risk of chemical residue.

If you like to avoid the use of chemicals the old sticky paper traps in fly resting areas can be effective but ugly. Bait stations can work in some situations and there are various recipes for homemade baits available on-line.

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

Some products (Taktic Topline®) registered for use in pigs for the control of mange, when used at label dose rates and withholding periods for mange control, may provide some protection at the same time from biting flies.

Anecdotal evidence suggests that care should be taken when using backline products on outdoor pigs as the oily nature of some products can make young pigs and pale colored animals more susceptible to sunburn.

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.

Trials have been conducted demonstrating the efficacy of a product containing deltamethrin (Arrest Easy Dose ®) for fly and mosquito control on pigs. This is an off-label use so you would need written veterinary directions for its use with dose rates and withholding periods.

(Reference: Final Report 01V004 Testing the efficacy and residual activity of deltamethrin on pigs to prevent Mosquito and Fly Bites by PK Holyoake)

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 possibly pigs are most vulnerable to paralysis tick problems stretches almost the full length of the eastern Australian coastline and about 30 km inland along this distance.

Ticks are not very mobile and rely on passing animals for transport and feed. 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 even though their range inland is said to be only about 30km from the coast.

Treatment and Control

Monitor your pigs in the risky season – twice per day inspections may be necessary in peak tick season. This may sound extreme, but every dead piglet is a loss of approximately $60.

Several of the registered products listed above for fly control by direct application to pigs are also labeled 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, spray the tick with an insect repellent containing pyrethrin or a pyrethroid, twice at 10 minute intervals. The tick will drop off in 24 hours or at least be easier to remove. To remove the tick, twist the head anti-clockwise with tweezers (the feeding tube will be embedded in the skin with reverse hooks). Try not to squeeze the body of the tick as this could result in more toxins injected into the pig.

If ticks continue to be a big problem you may need to reconsider your management such that you change your farrowing schedule or you house susceptible pigs during high risk times.

Pour-on products such as Taktic Topline® which are registered for use in pigs for the control of mange may also provide some protection from ticks, as noted above in relation to biting fly control.

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

Off-label use of spray-type 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 if you wish to use products not labeled for control of ticks on pigs.

This is also necessary for accurate completion of your PigPass documentation and APIQ® records.
**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 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 any of these chemicals. PPE includes gloves, overalls, boots, and for some products respirators may be required. Refer to the product labels and MSDS for details.

**More Information**

AgNote DAI-267 2nd Edition September 2003
Paralysis Ticks

Primefact 84 January 2006 Three ticks of concern to NSW Stockowners.


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