

Farmnote

Control of body lice (*Bovicola ovis*) on some new breeds of sheep

Roy Butler, District Veterinary Officer, Merredin

Note: For brevity, the term “new breeds” is used in this Farmnote, though it is not strictly correct. The sheep breeds referred to are those that shed their fleeces and/or have fleeces that are wholly or partly kemp or hair. Some of these sheep have coloured fleeces. The Dohne Merino and the South African Meat Merino (SAMM) are relatively new to Australia, but are not included because they are wool growing, non-shedding Merino sheep.

What are the implications for lice control if sheep shed their fleeces naturally each year, or grow fleeces that are not predominantly wool? Breeds like this in Australia (Table 1) are often collectively called the ‘new’, ‘alternative’ or ‘exotic’ sheep breeds. Most of these breeds are no longer particularly new to Australia and they are no more alternative than any other breeds. They are exotic, but so are all the sheep in Australia. Most of these breeds originate from Africa or the Middle East. The Wiltshire Horn and Wiltipoll breeds shed their fleeces annually, but they are not regarded as new breeds; they originate from England and Australia respectively.

Claims have been made that external parasites do not establish on some new sheep breeds and anecdotal evidence does suggest that lice are rarely detected on these breeds and their crosses in Western Australia.

The fleeces and skins of some are quite different from those of a Merino, so perhaps the new breeds are poor hosts for external parasites. It is probable, however, that external parasites will survive on some individuals.

Why treat new breeds for lice?

The direct cost of lice infestation of sheep may be small if their fleeces have little or no market value, but effective lice treatments will probably be required for other reasons, such as the following:

- If there are wool producing sheep on the same farm as louse infested, non-wool producing sheep, then treatment of the latter to protect the former will be essential.

- Any neighbours with wool producing flocks will have understandable concerns about the risk of spread of lice infestation to their own sheep.
- Damage to potentially valuable sheepskins and to fences and other structures, caused by sheep rubbing, can be difficult to quantify but may be important.
- Lice can cause a skin allergic response, resulting in a type of skin damage called cockle. This is only apparent when skins are processed. Cockle can reduce the value of high-grade skins, such as those that the new breeds are expected to produce.

Breed	Fleece type and colour	Fleece shed annually?
Afrikaner	Hairy, kemp free; white (in Australia)	Yes
Awassi	Double coated, containing hair, heterotype, wool and kemp fibres; often coloured	No
Damara	Outer kempy coat, inner layer of wool; range of colours	Yes
Dorper	Wool and kemp; black head with white body, or all white (White Dorper)	Yes
Karakul	Double coated; black at birth, greyer with age	No
Namaqua	Hair; coloured	Yes
Van Rooy (White Persian)	Hair; all white	Yes
Wiltipoll	Double coated; white	Yes
Wiltshire Horn	Double coated; white	Yes

Lice treatment of new breeds – some issues

- When any sheep rub or chew at their fleeces, lice infestation is just one of a number of possible causes. Other parasites may be responsible, such as itch mites or even fly strike. Grass seeds, photosensitisation of the face and ears following some plant poisonings, or sunburn on the back post-shearing may all cause rubbing or the appearance of fleece derangement. Sheep that shed their fleeces annually tend to rub when their fleeces are being shed in spring and summer. Some exotic diseases, such as scrapie,

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sheep pox, lumpy skin disease and Aujeszky's disease, may cause sheep to rub or chew their fleeces, among other signs. So before assuming that itchy, rubbing sheep of any breed are lousy, inspect them carefully and seek expert help if you are uncertain.

- All the chemicals registered for the control of lice on sheep have been developed, tested and registered in the expectation that they will be used on wool-growing sheep that are shorn annually. There has been no research in Australia into the efficacy of chemical treatments of lice on new sheep breeds.
- The recommendations for treatment of new sheep breeds are therefore the same as those for wool sheep. Any product that is registered for lice treatment of sheep may be used, according to label instructions, on new breeds. None of the registered treatments, whether for long wool or off-shears use, has a label claim for eradication of lice, although eradication may be achieved, especially with off-shears treatment.
- The spread of chemical over the skin from a pour-on or spray-on treatment may occur differently on some new breeds compared with wool sheep, due to lower levels of lanolin in the former. Treatment efficacy may not necessarily be reduced, though, and it is even possible that these treatments may be more successful, on average, against lice on new breeds than on wool sheep.
- The persistence of insecticides may be reduced compared with wool sheep, because some new breeds have less lanolin in their fleeces. None of the insecticides used for sheep lice treatment kills louse eggs and so insecticides must remain at effective levels long enough to kill lice that hatch from eggs. If you decide to re-treat sheep in case chemical persistence is inadequate, then the second treatment should be given not less than 10 days nor more than 30 days after the first treatment. This interval allows time for all eggs to hatch but not time for adult lice to start egg laying.
- Itch mites (*Psorergates ovis*) live under the skin surface and may cause sheep to chew and rub their fleeces. If uncontrolled, itch mite infestation may cause economic losses, particularly in Merino sheep. The prevalence and importance of itch mites in new breeds in Australia is unknown. Unless itch mite infestation is diagnosed, there is no point in treating new sheep breeds for itch mite. Macrocylic lactone drenches, used against worms, will also control itch mite.
- The choice of which lice treatment to use for wool sheep can be influenced by concerns about chemical residues in wool. If sheep are not shorn and the fleeces not sold or processed, then there need be little concern about wool withholding periods when choosing chemicals. On the other hand, meat withholding periods and occupational health and safety recommendations will need to be observed. If the sheep are dairy animals, any milk withholding period must also be observed.

Off-shears lice treatment of new breeds

We recommend this option. Although the sheep may not require shearing, and their fleeces may have little or no value, treatment off-shears will give the best chance of lice eradication. Shearing itself will markedly reduce lice numbers. Off-shears treatments should be applied according to label directions. That is, backline treatments should be applied within 24 hours or 7 days, depending on the product used, and dips within 6 weeks after shearing, but preferably within 2-3 weeks.

There are numerous products registered for lice treatment of sheep off-shears, and many factors to take into account when deciding which product to use. As well as cost per dose, also consider the possibility of lice resistance to the chemical, operator risk, meat (and possibly fleece and milk) withholding periods, ease of application, stress to sheep and operator during treatment, and the risk of other problems or diseases associated with particular treatment methods.

Long wool lice treatment of new breeds (without first shearing them)

We do not recommend this option. It is better to wait and treat off-shears. If sheep are treated in long wool and not subsequently shorn and re-treated, the best that can be hoped for is that lice numbers will be suppressed at a low, tolerable level. None of the chemicals registered for use on sheep with long wool (more than six weeks since shearing) will reliably eradicate lice. If eradication is your ultimate goal, this option will cost more because a second treatment will still be needed off-shears. It also carries the risk of selecting lice for chemical resistance, leaving chemical residues in meat or fleece and exposing workers to the hazards of chemical use.

Biosecurity reminder

When purchasing any sheep, ask the vendor for a Sheep Health Statement which covers lice, ovine Johne's disease, footrot, ovine brucellosis, drenching and vaccination history.

Livestock, machinery, fodder and people can introduce animal and plant diseases, weed seeds and pests. Develop a biosecurity plan for your farm to reduce the risk of these problems.

References

- Note: 101 Commonly used chemicals to treat sheep lice and blowflies
- Factsheet 102/2005 Sheep louse and blowfly insect growth regulator treatments
- Factsheet 10/2004 Sheep louse control for ewes and lambs
- Farmnote 13/2004 Steps to minimise chemical use through integrated pest management