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Sheep worms — 'summer-autumn' worm control

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Background

Resistance of sheep worms to drenches in Western Australia is rapidly reaching a crisis point. There are sheep worms on virtually all farms that are resistant to white (benzimidazole or BZ – e.g. *Valbazen, Panacur, Alben, Fenbendazole, Nemadet, Oxfen, Fencare*, etc.) and clear (levamisole or LV – e.g. *Nilverm, Levamisole, Ripercol*, etc.) drenches. Worms on about 75 per cent of farms show resistance to BZ/LV combination drenches (containing a white and clear drench, e.g. *Combi, Salvo, Scanda*, etc.).

Of most concern, resistance testing during 1999 showed indications of resistance on about 40 per cent of properties to the macrocyclic lactone group of drenches (the MLs – active ingredients of ivermectin, abamectin and moxidectin) in the brown stomach worm (*Ostertagia* sp.).

Unless current drenching practices change, drench resistance will continue to increase. As it is unlikely that new sheep drench groups will become available within the next few years, there is a real risk of running out of effective drench options. This would place profitable sheep production in some areas of WA under serious threat as a result of being unable to economically control sheep worms.

Summer drenching – a two-edged sword!

Research by the WA Department of Agriculture has shown that the traditional practice of summer drenching all of the sheep on a property can make drench resistance worse. Summer drenching provides extremely effective sheep worm control but it also places very high selection pressure on sheep worms for drench resistance. This is because the only worms left in the sheep after a summer drench are those that are resistant to the drench given. In areas with a hot, dry summer very few worm eggs and larvae survive on the pasture over summer and so most of the future worm population develops from eggs put out during the following autumn by the resistant worms surviving in the sheep. Consequently, there is an increased level of resistance in the worm population.

However, this research also showed that if summer drenching of all sheep on a property was simply abandoned, there is a serious risk of worm contamination levels building up dangerously during the autumn. This could result in major worm problems affecting sheep production and profitability during the following winter and spring.

What is the answer?

Since spring 2001, a major Departmental project has involved monthly monitoring of worm levels in weaners, ewes and dry sheep on 20 properties ('demo farms') throughout the State. The range of locations covers all of the major sheep producing regions (from Northampton and Moora in the north to Albany and Esperance in the south).

This project involves the collection of on-farm data to help plan an effective and sustainable sheep worm control program that will allow good worm control and productivity but will not put as much pressure on worms to select for drench resistance.

Results to date suggest the following approach:

Weaner sheep – On virtually every 'demo farm', due to rising faecal worm egg counts, the weaners had to receive a drench during summer. Given that weaners are highly susceptible to worms **it is suggested that all weaners receive a single, effective* 'summer' drench** after the pasture has dried off towards the end of spring or early summer.

Hogget sheep (up to about 18 months old) – these sheep are still relatively immature and are therefore prone to problems with worms. It is suggested that these be **monitored with a faecal worm egg count at the normal expected time of summer drenching** and if the result is greater than 200 eggs per gram (epg) on average they should **all get a single, effective* 'summer' drench** after the pasture has dried off.

If no summer drench is given to the hoggets it is critical that they are checked regularly. Sheep condition score and/or signs of scouring should be monitored during summer and autumn and faecal worm egg counts checked again no later than the first week of April. Sheep should be drenched if the results rise above 200 epg.

Mature ewes – More than one-third of the mobs of mature ewes checked on the 'demo farms' did not need a treatment during summer or early autumn. Therefore it is suggested that if ewes appear healthy (good condition and no scouring) at the normal expected time of summer drenching then farmers should refrain from giving all mobs of mature sheep a routine summer drench. Instead **do a faecal worm egg count monitor on a couple of the most 'at risk' mobs of mature ewes (such as the two or three-year-olds or mobs that are poorer and/or not doing as well as the rest) and use these results as a guide. If average levels are above 200 epg, then consider a single, effective* 'summer' drench for these sheep.**

Mobs that are not summer drenched should be monitored visually and faecal worm egg counts checked no later than the first week of April. Drench at this time if the result is greater than 200 epg.

- No mob of sheep on any of the 'demo farms' has yet needed a 'second summer drench' and this treatment should not be a routine practice. If a second summer drench is considered necessary on a property then faecal worm egg counts should be checked first to make sure that the drench is worthwhile.
- **'Extra' faecal worm egg counts are advisable if sheep or seasonal conditions are poor and following 'atypical' events such as summer rain or false breaks.**
- If barber's pole worm (*Haemonchus contortus*) is present on the farm then local advice should be sought to include barber's pole treatments in the program.

The continuing 'demo farm' monitoring has only been in progress for 12 months and these recommendations may be modified with further results so it is important to **remain vigilant and regularly monitor general sheep health** (including sheep condition score, the presence of scouring, etc.) while adjusting the worm control program. For the latest information on sustainable worm control, contact your local veterinarian or sheep consultant.

If in doubt at any stage then it is advisable to measure faecal worm egg counts and seek advice from your local veterinarian or sheep consultant. You can also contact the WormWise adviser at your local WA Department of Agriculture office.

* *A fully effective drench is one that has been shown to be more than 95 per cent effective (and preferably 100 per cent effective) in a drench resistance test carried out within the last couple of years.*

Other recommended reading

Farmnote 51/2002	Sheep control in Western Australia
Farmnote 53/2002	Sheep worms – breeding worm resistant sheep
Farmnote 54/2002	Sheep worms – worm egg counts
Farmnote 55/2002	Sheep worms – testing drench resistance and effectiveness
Farmnote 57/2002	Barber's pole worm in sheep
Factsheet 3/2002	Sheep worms – quarantine drench to combat resistance