Books, Book Reviews, Extracts

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Sheep CRC Update seminars held in eight locations across Australia between February and May 2010 provided a valuable summary of progress achieved by the Sheep CRC and our Participants in our first three years of operation. The Sheep CRC publication '2010 Sheep Focus' captures key messages and results presented in the seminars in a form that provides an easy reference document. It should be cited as:

Sheep CRC/Brown Besier – *2010 Sheep Focus – Worm management*

WORM MANAGEMENT

Efficient & sustainable control of worms

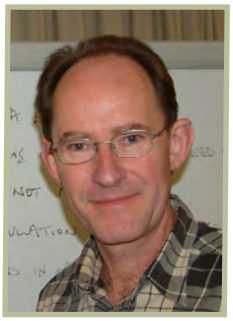

Photo: Sheep CRC

Dr Brown Besier, Project Leader, Parasite Management

Drench resistance is now very common across Australia, with resistance to several drench groups on many farms and some having no effective drenches. With new drench types to arrive soon in the marketplace, new practices are needed to limit future drench resistance.

The new drenches monepantel (brand-name 'Zolvix', from Novartis), and derqantel/abamectin ('Startect', from Pfizer) are still undergoing registration in Australia and are likely to be considerably more expensive than other short-acting drenches. They are highly effective against all major roundworms and have different modes of action to current drenches.

While new drenches will be of major benefit, the development of resistance to them is a real risk. Sheep CRC findings will help producers to slow the rate of development of drench resistance to these and any other drenches.

The development of drench resistance can be reduced by the correct choice and use of drenches, using drenches only when they are required, and importantly, by having worms in 'refugia'. Refugia refers to a source of non-resistant (drench-susceptible) worms, either as worms in undrenched sheep or as larvae on the pasture. These dilute the population of resistant worms and therefore keep them in a minority. This marks a major change from the theory and practice of trying to totally eliminate worms.

In areas of southern Australia with hot, dry summers, resistance may increase if all sheep are drenched at this time. During summer there are few worms in refugia, and resistant worms that survive in the sheep following treatment are the major source of worm larvae on pasture in the next winter, hence increasing the level of drench resistance on the farm.

To avoid increasing drench resistance a source of refugia should be identified. Where summer conditions are typically hot and dry, some mature sheep or entire mobs should be left undrenched and treatments given—if necessary—in autumn. Once winter pasture conditions favour the development of larvae, worm eggs from the undrenched sheep will dilute the smaller number of resistant worms from the drenched sheep.

Photo: Sheep CRC

ABOVE: Regular monitoring with egg counts, or the Haemonchus Dipstick test (in predominantly Barbers Pole worm areas), prevents unnecessary drenching

The Sheep CRC's Targeted Treatment research program aims to develop guidelines regarding the percentage of a mob to drench and how to choose them in a practical way, based on a mob egg count and average mob condition score.

In areas where Haemonchus (Barber's Pole worm) is the major worm threat, partial drenching of

the mob is not recommended. An integrated program including use of effective drenches, regular worm monitoring (including use of the new Haemonchus Dipstick test), use of a drench decision aid (to be released by the Sheep CRC later in 2010), grazing management, and worm-resistant sires, forms the basis of the proven Targeted Treatment program.

Photo: Sheep CRC

LEFT: Producer, Michael Mayled, Guyra, has already saved unnecessary drenches by using the Haemonchus Dipstick Test

In the colder Northern Tablelands of NSW, the program suits a spring lambing time and involves preventing contamination of lambing paddocks during March and April (by spelling, grazing with cattle, or with sheep in the two weeks after they have received an effective drench). In the period from May through August, the paddock can be grazed in any way as the conditions are too cold for development of Barber's Pole worms. In other Barber's Pole worm regions, the aim is to achieve a period of 6 months before lambing with little worm contamination of the lambing paddocks. The basis of this recommendation is that Barber's Pole worms are unlikely to develop unless minimum and maximum temperatures exceed 10°C and 18°C respectively.

In both northern and southern areas, it is recommended that a drench resistance test is undertaken each 2–3 years.

It is also recommended that flocks are monitored regularly (such as prior to shearing, lambing, marking and weaning), as well as at other high risk times, rather than routinely drenching. The worm resistance of the flock can be increased by breeding with more worm-resistant sires.

Photo: Sheep CRC

ABOVE: How effective are drenches on your property?

In areas where dags commonly occur, these are almost always due to worms, either as high worm burdens in worm-susceptible sheep, or from a hypersensitivity response to ingested larvae (mostly in winter rainfall regions, in older sheep). A worm egg count should be conducted on scouring adult sheep before deciding to drench. If only small numbers of adult sheep scour, consider culling them as the likelihood of scouring is genetically determined.

More information:
WormBoss
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