Department of Agriculture

Farmnote

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Sheep worms – faecal worm egg counts

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Introduction

Worm control in sheep is becoming more complicated but there are tools that can help make it simpler. One such tool is a faecal worm egg count (WEC). A faecal worm egg count is simply a count of the number of worm eggs present in one gram of dung from a sheep. Dung samples can be collected directly from the rectum of individual sheep using a gloved finger or by the 'paddock method'. This involves collecting the fresh dung off the ground after a mob has been held quietly together in a paddock for 10 to 15 minutes.

A faecal WEC provides valuable information for achieving the best worm control and can be used for several purposes including assessing;

- drench effectiveness
- if the average worm burden in a mob is likely to cause production losses
- if the average worm burden in a mob is likely to cause significant pasture contamination
- individual sheep for selection for worm resistance

The results from samples collected from a number of individual sheep give an indication of the average worm burden in the whole mob. Currently, at least 10 samples are collected from each mob to ensure an accurate result but the number of samples may vary, so it is best to firstly check the requirements of the laboratory doing the faecal WECs.

Use of faecal worm egg counts

1. Drench effectiveness

Faecal WECs can done to identify if resistance to a particular drench is present. The first step is to ensure that there are sufficient eggs present to do the resistance test accurately. This involves sampling 10 sheep from the test mob and if the results show an average of at least 300 eggs per gram of faeces and a suitable range of worm species are present, then the resistance test can proceed. More details on how to conduct a drench resistance test are described in Farmnote 55/2002 Sheep worms – testing drench effectiveness and resistance.

Faecal worm egg counts can also be used to assess drench effectiveness after a treatment has been given. The first faecal WEC on the test mob should be done about a week before the drench is administered. This can be done by using the 'paddock method' to collect 10 individual fresh faecal samples from the test mob. If the count is too low, then a drench is not required. However, if the results indicate that a drench should be given, then a second paddock collection of 10 fresh faecal samples should be done 10 to 14 days after drenching. The effectiveness (expressed as a percentage) of the drench is calculated by comparing the post-treatment result with the pre-treatment result.

2. Monitoring for potential production loss

Faecal worm egg counts done during winter and spring are useful to determine if worm burdens are increasing to a point where they are likely to cause production losses. Monitoring burdens at this time provides information to help decide the best time to drench. It is best not to rely on signs of scouring or ill-thrift to indicate when a drench is needed, as production losses can occur before these clinical signs appear. Also by the time scouring and other signs are seen, worm burdens will be high and infected sheep would have already contaminated paddocks, leading to further worm problems.

Generally, a high average faecal WEC suggests that a drench is needed whereas a drench can be avoided or delayed if the count is low. The exact figures for these decisions vary depending on several factors including the time of year, seasonal conditions, geographical location and class of sheep. If in doubt, contact your local veterinarian or sheep adviser.

3. Monitoring for potential pasture contamination

Faecal worm egg counts done during autumn help determine if worm burdens are sufficient to cause significant worm larvae contamination of pastures. High contamination levels can lead to significant worm problems in the following winter or spring. A drench given at this time as indicated by the count, is one way to reduce the risk of winter/spring worm problems. The most important mobs to sample are weaners and hoggets as well as adult sheep that did not receive a drench before summer.

4. Selecting worm resistant sheep

Ram breeders who include worm resistance in their selection index, do faecal WEC in winter and spring on

the weaners and/or hogget breeding stock. Faecal WEC vary among sheep in the mob, with sheep of higher worm resistance showing a lower faecal WEC than less worm resistant sheep.

Collecting samples

Contact your local faecal worm egg counting service for advice on collection. The following guidelines provide general information about the process.

1. Decide which mobs to monitor.
2. Ensure sufficient sampling containers are available (such as small plastic jars or zip lock or plastic sandwich bags).
3. Sample early in the week to allow sufficient time for samples to arrive at the laboratory before the weekend.
4. Collect faeces from at least 10 animals (Please note – check with the laboratory first as they may require more than 10 samples) per mob either;
   - direct from the rectum with a gloved finger or
   - direct from the ground if fresh. Faeces collected in this way must have been passed within the last 10 to 15 minutes and still be intact and not squashed or contaminated with a large amount of soil or plant matter. To ensure this, hold the mob quietly together in the paddock for 10 to 15 minutes, then allow the sheep to walk away slowly, and collect the faecal samples off the ground.
5. For each animal, 5 to 10 separate pellets or equivalent is the minimum required. Faeces from each sheep must be submitted separately and not pooled together.
6. Refrigerate samples at 2 to 8oC. Do not freeze the samples.
7. Dispatch the samples as soon as possible. Do not store for more than two days in the refrigerator before dispatch. Dispatch samples in an esky with ice or a cold pack. Ensure that all air is excluded when collecting a sample as this helps to prevent eggs from hatching – if a plastic bag is used, expel all air and then seal. If a plastic jar is used ensure the lid is secured tightly.

Further information

Contact your local veterinarian or sheep adviser or Dr Rob Woodgate on 9892 8530.

Farmnote 51/2002 Sheep worm control in Western Australia

Farmnote 53/2002 Sheep worms – breeding worm resistant sheep

Farmnote 55/2002 Sheep worms – testing drench efficiency and resistance

Farmnote 57/2002 Sheep worms – Barber's pole worm

Factsheet 3/2002 Sheep worms – quarantine drench to combat resistance

Factsheet 4/2002 Sheep worms – 'summer-autumn' worm control

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