PRACTICE ABSTRACT: 12

Sustainable PARasite Control in Grazing Ruminants

What is the easiest way to detect anthelmintic resistance on my sheep/goat farm?

The objective is to detect the possible presence of anthelmintic resistance in a sheep/goat farm to any of the anthelmintic drugs on the market by the **Faecal Egg Count Reduction Test (FECRT)**.

The FECRT is based on the collection of faecal samples before and after administration of an anthelmintic treatment to measure the **Faecal Egg Count (FEC)**.

For the collection of faecal samples, follow the instructions provided in the Practice Abstract entitled, "**Are my animals infected by worms? Easy protocols to diagnose your animals and prevent possible production-limitations**".

Faecal sample collection

Collect individual rectal faecal samples (minimum 5 g, preferably 10 g) from a minimum number of **10 animals** per group.

For sheep and goats, animals of all ages may be used.

In order to identify animals with high egg counts 15 (or more) animals can be selected pre-treatment, with post-treatment sampling focused on the 10 animals with the highest egg counts.

Flocks should not have received anthelmintic treatments during the past six weeks (extended periods will apply if long-acting formulations have been applied).

Sampling

The same animals must be sampled pre- and post-treatment depending on the drugs tested:

- levamisole: 7 to 10 days
- benzimidazoles: 10 to 14 days
- ivermectin and other macrocyclic lactones: 14 to 17 days
- moxidectin: 17 to 21 days
- when testing in parallel two or more drugs in same flock: 14 days

Samples should best reach the lab at the day of sampling and be cooled to below 10°C during transport.

The samples can be stored for 5 days at +4-8 °C; if there is no possibility to analyse the samples within 5 days of sampling, keep the faecal samples in a vacuum packed plastic bag and store them up to three weeks in the fridge at +4-8 °C.

Treatment instructions

Particular attention should be paid to:

- ✓ avoid under dosing
- ✓ dose according to individual liveweight or
- ✓ dose according to the heaviest animal using scales.

FEC and FECRT

Instructions for the correct determination of the FEC and FECRT are described in the COMBAR guide below.

https://www.combar-ca.eu/sites/default/files/CA16230-COMBAR-FECRT-Protocol-sheep-and-goats-online-high_res.pdf

Anthelmintic treatment efficacy

Efficacy	Results
Reduced	FECR <95% and lower limit of the 95% Confidence Interval <90%
Doubtful	Either FECR <95% or lower limit of the 95% Confidence Interval <90%
Normal	FECR ≥95% and lower limit of the 95% Confidence Interval ≥90%

The result of the detection of anthelmintic resistance will allow to know with certainty which anthelmintic drug works best. Using an effective drug will not only improve animal health, but also improve production performance in terms of increased milk production or animal growth.

For more detail on using SPARC please visit: www.wormsparc.com

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