

Taking faecal samples for parasite testing

Why take faecal samples?

Faecal (dung) sampling can be done:

- Routinely, to monitor gut parasites on farm
- To diagnose a problem in sick animals or animals failing to thrive
- To check if worming treatment is needed for a group or not
- To test bought-in cattle before mixing with your herd
- To test how effectively an anthelmintic (wormer) product is working (drench test)

The following tests can be carried out on faecal samples. Note that these are different tests for each type of parasite and they may need to be requested specifically from the lab.

- **Faecal egg count (FEC)** to detect stomach or gut worm eggs
 - o Lab result given as a number of worm eggs per gram, e.g. 500 egg
 - o Can also be called Strongyle or Trichostrongyle egg count on the lab result
 - o Strongyloides, Coccidia, Nematodirus, and Moniezia (tape worm) can also be reported as part of this test if these species are seen
- **Fluke testing** to detect liver and rumen fluke eggs
 - o Lab result given as present/absent, or an indication of few/many
 - o A coproantigen test is also available to detect liver fluke
- **Testing for lungworm** (hoose) larvae detection
 - o Lab result given as present/absent

There is a delay between animals being infected by parasites and the presence of eggs or larvae in a faecal sample. The immature stages of the parasite can cause disease in the animal before eggs are shed and this is especially true for lungworm and fluke. Factors such as clinical signs or the age of the animals should be considered when interpreting the results of faecal egg counts and deciding if treatment is needed. Consult with your veterinary practitioner on the timing of sampling, whether treatment is advised and which anthelmintic to use, based on the results.

How to take the samples on farm

1. Contact the lab for a faecal sampling kit with containers/sampling pots.
2. Select 10-15 animals per management group for sampling.
3. Hold animals in a clean pen where possible and allow 1-2 hours for the animals to defecate. Alternately, to obtain freshly fallen samples, approaching a group of resting animals will often encourage them to pass faeces as they walk away.

It is essential to obtain samples from fresh (warm) faeces. Eggs in older dung may have hatched or dried out giving inaccurate results. For lungworm testing, it is important to get very freshly passed faeces if a rectal sample is not possible, as larvae in the grass can contaminate the sample over time.

4. Collect fresh dung samples from 10 different dung pats into individual sample containers. Take a small amount from multiple sites in each dung pat because the parasite eggs are unlikely to be distributed evenly throughout the dung.
5. Sample containers should have a screw cap lid. Containers can burst, so place them into a leakproof zipper storage bag with some absorbent material, such as paper towels, for sending to the lab.
6. Send the samples to the lab as soon as possible. Do not leave the samples in the sun and keep them cool, but do not freeze them. If there is a delay in sending them for many days, take new samples. Send samples at the beginning of the week - if they reach the laboratory late Friday afternoon they may not be processed until Monday, decreasing the accuracy of the test. Lungworm testing requires an overnight process so these must reach the laboratory by Thursday each week.
7. Include a laboratory submission form with the samples, including your details and which tests are needed. Indicate if the lab should test the samples individually or a pooled test (one test for the group).

A list of parasite testing laboratories can be found on the AHI website.

Drench testing to check if an anthelmintic is effective

A drench test involves doing a faecal egg count before and after dosing to check if the wormer is effective. Consult your vet or advisor to assist in interpreting the results and discussing control measures. A more detailed faecal egg count reduction test on individual samples may be needed.

1. Select 10-15 animals at random
2. Place a mark or record tag numbers to identify these animals
3. Collect individual dung samples
4. Dose animals with the chosen wormer
 - a. Calibrate dosing equipment
 - b. Dose according to the heaviest animal in the group
 - c. Ensure all animals are dosed correctly following the manufacturer's instructions
5. Send samples as soon as possible to the lab
6. **Retest the same animals by faecal sampling as above 7-14 days** later depending on the wormer used:
 - a. Group 2-LV products retest 7 days later
 - b. Group 1-BZ or group 3-ML products retest 14 days later

7. Calculate the percentage reduction as follows:

$$\frac{(\text{Egg count Test1} - \text{Egg count Test2}) \times 100}{\text{Egg count Test1}}$$

- Greater than 95% reduction = product working effectively
- Less than 95% reduction = product not working effectively

The initial egg count would need to be in excess of 200 epg to draw conclusions regarding product efficacy, if count is lower repeat at the next dosing interval.