

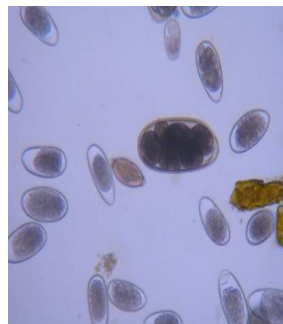
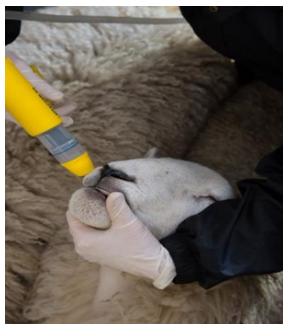
Sustainable Control of Parasites in Sheep

A Users Guide to the Sheep

Worming Treatment Check



Stay in Control of Worms



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Along with this guidebook you will need to contact a laboratory*. They will send you a kit containing materials required to collect and send faecal samples, along with pre-treatment and post treatment submission forms. These kits are designed so sheep farmers can take their own samples. This gives flexibility in timing so the test is carried out at the best time year.

**FOLLOW THE SAMPLING INSTRUCTIONS
CAREFULLY**

* There is a list of laboratories that can carry out this test on the [Defra website](#).

1. The Worming Treatment Check

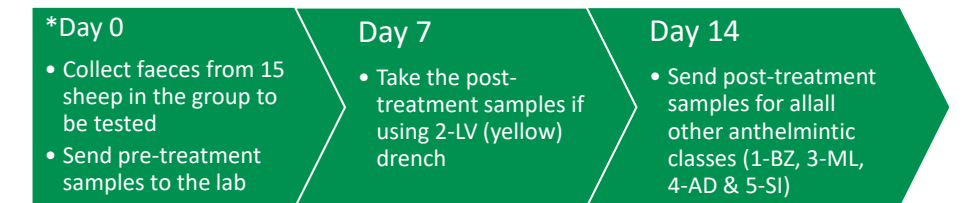
The worming treatment check is a test to determine if an anthelmintic (wormer) treatment has worked effectively. The Faecal Egg Count (FEC) is used to look for eggs produced by roundworms present in the sheep before, and then after an anthelmintic treatment. This check tells you how effective the treatment has been at reducing the roundworm population in the treated sheep.

What is a Faecal Egg Count (FEC)?

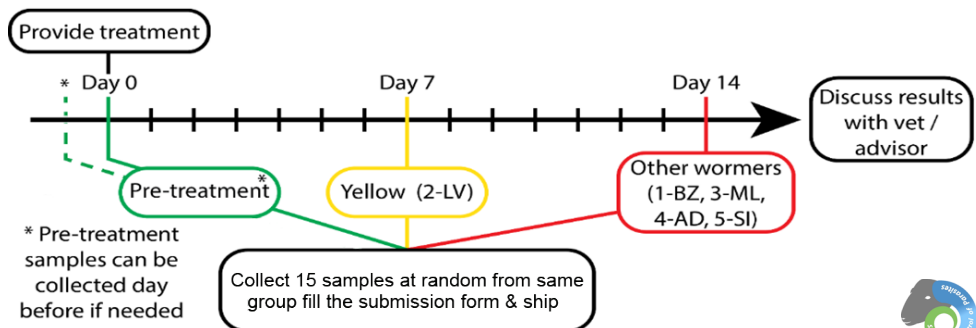
A FEC measures the number of roundworm eggs in the faeces. Eggs are separated from the faeces using a saturated sugar or salt solution so they can be counted under a microscope. The test gives you an eggs per gram (EPG) of faeces count which is an estimate of the number of adult, egg laying roundworms inside the sheep being tested. The FEC can be used in three ways.

1. Help determine if sheep need treating
2. Test if an anthelmintic treatment has effectively cleared the round worm infection
3. Monitor what roundworm eggs sheep are putting out on to pasture to give information on potential risk in the future

Worming Treatment Check Protocol



**To carry out the test there needs to be a high enough worm burden in the mob. Take some FEC samples running up to the test to make sure the FEC is at least 200 eggs per gram before you start.*



2. Collecting Faecal Samples

When should I sample?

Sheep can be sampled at various times, but a good starting point would be to take samples from lambs from mid-summer through to the early autumn, when you would normally expect them to have a worm burden high enough to require treatment.

To make the most of the WTC you should monitor the FEC of the group of lambs ahead of starting the test to make sure it is high enough to warrant treatment.

Sheep should be healthy and have had full access to pasture and/or feed before sampling, otherwise the FEC will be difficult to interpret. The group sampled should have not received any anthelmintic treatment in the previous 4 weeks.

When should I avoid sampling?

Do not be tempted to carry out this test too early in the year. This is because *Nematodirus* is likely to be the dominant type of worm in April/May and this worm is not the target of this test. DO NOT take samples from ewes.

What equipment do I need?

Disposable gloves and the sampling kit provided by the lab which will contain plastic containers or bags. A scoop or spoon to pick up samples.

How do I collect the right samples?

Individual samples can be collected directly from the field. To do this you can either run the sheep into a small pen or corner of the field for a few minutes. Alternatively you can take samples while shepherding taking fresh samples as they are dropped.

Collection guidelines:

1. Only take samples randomly from freshly deposited faeces (ideally still warm). See the picture guide on the next page.
2. Collect at least 5 grams of faeces or around 7 faecal pellets per individual sample. The more the better!
3. Put each sample in to a separate container or bag so that when they are received at the Lab they can weigh out the same amount from each sheep sampled to maximise the accuracy of the FEC result.
4. Take samples from a minimum of 10 different animals, preferably 15. You do not need to mark the animals.
5. Try to avoid collecting any faeces that are in direct contact with the soil because soil may contain a lot of nematode eggs. Also avoid collecting grass and stones as this can change the sample weight when weighed out at the lab.

Sending samples:

1. Record the date of collection and fill out the submission form, including as much background information as you can because this will help your vet interpret the results.
2. If using bags for samples make sure you squeeze all the air from them.
3. If possible post samples to the lab on the day of collection. DO NOT post on a Friday.
4. If not sent immediately, they can be stored hygienically for a day or two in a refrigerator or cool box.



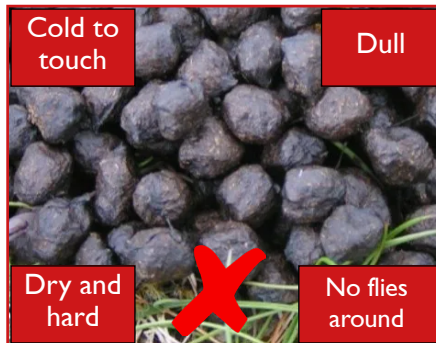
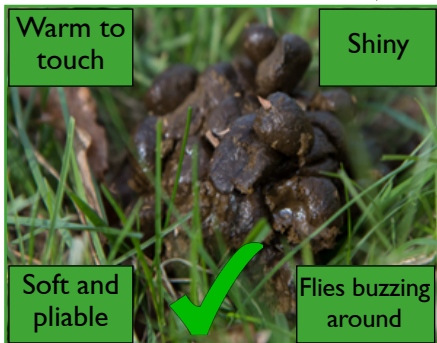
3. Taking Good Faecal Samples

You (or your vet) need to contact a laboratory listed on the Defra website and ask them to send you sampling kits.



Decide which flock of sheep* you will sample and the wormer group to be used.

**A flock of lambs in late spring/summer will give the best results.*



Take 15 fresh samples at random and place one in each of the bags/pots provided

Complete the submission form.
Note the date for the Post-treatment samples on your calendar



4. Q & A Section

What is a Worming Treatment Check?

A Worming Treatment Check does exactly what it says: it assesses how effective a worming treatment has been in the treated sheep. Faecal samples are taken for a faecal egg count (FEC) at the time of treatment, and then again at a set number of days after treatment. If the result shows that the egg count has been reduced by less than 90%, it indicates the treatment was not fully effective and may suggest resistance. For example, where the pre-treatment count was 500 eggs per gram (epg) you are looking for a post treatment count of 50 epg or less if it has been effective. If done well it gives a good indication of whether or not a wormer group is working effectively on a farm at the time of year it was carried out.

What will I gain from using this test?

Effective anthelmintic treatments improve the performance of sheep. A test performed correctly provides an understanding of how an anthelmintic is working. Test results can give you an early 'heads up' of falling efficacy, allowing you to **Stay in Control** and implement changes earlier rather than later. For sheep farmers who have not done any testing before, the Animal Health and Welfare Pathway provides a good entry point towards understanding the situation on your farm. If you are already testing, it is an extra free test to allow you to expand your knowledge by testing a different wormer group or the same group at a different time of year.

How do I interpret the results?

Interpreting results correctly is important and while this test is only a start, the outcome provides you with a valuable opportunity to talk about product choices and management options to reduce and/or target anthelmintic treatments with your vet or adviser. You will find information on the SCOPS website (scops.org.uk), including a decision support tree as a guide to use in your discussions.

If the result shows the treatment reduced egg counts by less than 90% effective and you are confident the treatment was administered correctly, then resistance is suspected and you need to consider further testing to help you decide how, or if, you are going to use that product in the future.



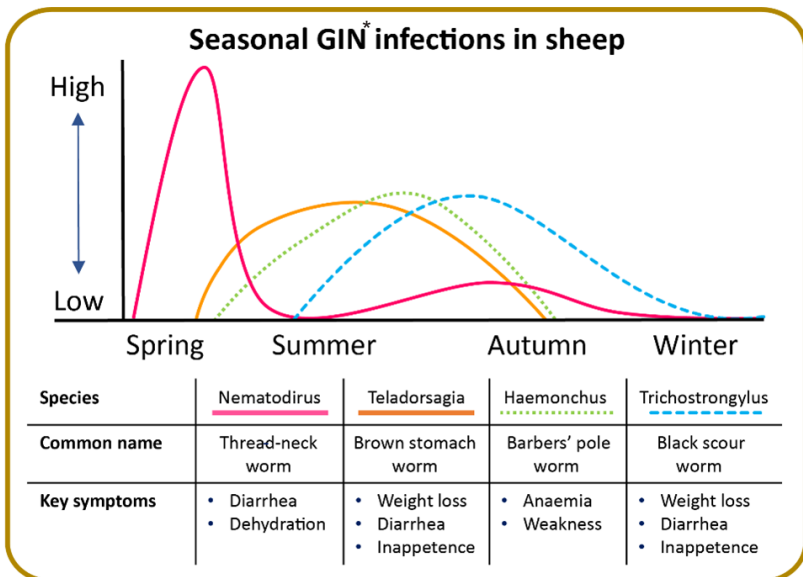
Is resistance the only reason for a low efficacy result?

NO, there are a number of reasons why a treatment may not have been effective. The presence of resistant worms is one of them, but a dose rate that is too low, inaccurate or poorly calibrated equipment, poor technique or incorrect product choice are others. This means it is really important to complete the background information on the submission form and try to make the treatment given as accurate as possible.

What will the test NOT tell me?

One test will only give you information on the class of wormer tested at that point in time. The main roundworm species affecting sheep change over the seasons (see below) so this is only a snapshot of efficacy for the predominant species at the time the test was done. For example, a white wormer (I-BZ) may work very effectively in the spring against *Nematodirus*, but in summer as the other roundworm types take over it may be less effective. Similarly, a test done in the early summer may have a very different result in the autumn. Do not assume you can no longer use that wormer group at all until you have tested at different times in the seasons.

Different worm types are prevalent at different times of the year. Below is a chart of more damaging species in the U.K. and when they are more likely to occur. Please bear in mind that this shows the general trend – roundworms are influenced by climate and therefore timings vary throughout the country.



*GIN – gastrointestinal nematodes



What do I do next?

The single test as part of the Health and Welfare Pathway is only an entry point to a journey towards understanding the efficacy of different anthelmintic groups at various times during the season. In order to get the bigger picture more testing is going to be needed, but remember the benefits of detecting suspected resistance early.

- Improved productivity
- Improved health and welfare of stock
- Improving useful life of products
- Reduced costs associated with re-treatments,

It will not only improve lamb performance by avoiding ineffective wormers, but you will probably be able to continue using some groups, albeit with greater care, helping to future proof your worm control, which is beneficial to both the sheep and your pocket.

Finally, don't forget that while wormers are important, they are only one of the tools available to you for worm control. Part of the Annual Review should look at how you can reduce your reliance on these medicines. This can be done by using grazing management, targeting those sheep that need to be treated rather than blanket treatments, looking at adopting improved genetics and understanding the powerful effect of nutrition and body condition on the sheep's ability to withstand a worm challenge.

