

## You can only Manage what you Measure...

Dr Barry Coates



Or, "U moet meet om te weet". It's true. How can one make changes, adjust or improve if one doesn't have the facts to start off with? The same goes for sheep farming these days – because even though for many, farming is a passion, a lifestyle, and some even say an art, but the fact remains, it's essentially a science – especially these days when productivity and profit margins are key. This concept could not be truer than when it comes to **worms**....

In surveys done in almost all countries where sheep are farmed commercially, worms rank as the number one problem posed to sheep farmers. Here in South Africa, apart from predators and stock theft, the story is no different – worms are our number one problem! Therefore would it not make sense to know, firstly, exactly what worm species are the problem on your farm, and secondly, and more importantly, what dose remedy is the most effective at controlling these worms? **But** it must be said, the most frightening thing is that many farmers do not know exactly what the best dose remedy is. How do you decide what dose to use on your farm? What has 'worked' well for you in the past? Or what has 'worked' well for a neighbour maybe? Or even more frightening, what ever is on special at the local co-op for example?

I have been on many farms where the farmers believed that the dose that they were using was good enough and once we did a dose check (or drench test) we found that perhaps yes, the remedy was effective enough to prevent widespread death and disease but at what cost in terms of production loss?! On some farms I have also found that the remedies currently being used are almost completely ineffective, yet no losses are incurred – either great coincidence or wonderful luck! On the other side of the coin however, I have often come across farmers who believe that they are in dire straits and that "nothing works on the farm"! Then, after performing similar dose checks we found that there are still remedies that are very, very effective on the farm – some of which happened to be the cheapest formulations on the market!

*The point I'm trying to drive home is that farmers should do regular Faecal Egg Counts (FECs) (miseiertellings).*

In order to determine exactly how effective a certain dose remedy is on your farm one must do a Faecal Egg Count Reduction Test (FECRT) (*miseiertelling reduksietoets*). This sounds fancy and very expensive – in fact they are neither. **FECs and FECRTs are both extremely simple and very, very cheap!**

What exactly are FECs and **how** does one do it? A FEC is simply

a method by which the number of worm's eggs is counted in the dung. It is measured in Eggs Per Gram (-of dung) thus the result will be reported to you in e.p.g. This gives you an indication of how many female worms are inside your animals busy laying eggs which, in the case of wire worm (*haarwurm*) is up to 10 000 eggs per female worm per day!! That's a lot of wireworm eggs ending up on your pasture ready to infect, or further infect those beautiful, growing lambs!

The method is equally simple: Select a representative mixture of 15-20 animals per group; take 5-6 faecal pellets from each animal; put them in a sealable, airtight plastic bag, squeeze as much of the air out, then refrigerate/keep cool; get this sample to your local vet or vet lab as soon as you can (this timing is dependent on keeping the sample cool but more importantly, the less air in the bag the better!). When one does follow-up FECs, one must take dung samples from exactly the same 15-20 sheep as previously, therefore these sheep should have an additional ear tag. That describes **how** to do it.



Wire worm (haarwurm)



Worm larvae 'waiting to be taken to the host'



Microscope to count worm eggs

### When and Why would you do FECs?

The first instance would be to get an idea of the worm load currently in your animals, for example, doing a FEC 1-2 months before lambing will give you an excellent idea as to whether or not those ewes would need to be dosed just prior to lambing. If this FEC result is relatively low (i.e. less than approx. 300 e.p.g., in the case of wire worm) then dosing prior to lambing may not be necessary, but a FEC just after lambing is absolutely essential, when I'd suspect, dosing would be highly beneficial. Doing FECs in growing lambs is very important not only from a death or illness perspective but **most importantly from a growth and production perspective** – It has been shown that an FEC of 100 e.p.g. in growing lambs results in 30g less growth per day, and an egg count of 300 e.p.g. in growing lambs results in lambs that

weigh 2.5 kg less after only a 4 week period!!

The other very useful application of a FEC is to do it 10-14 days after you dosed them (remember to always use the same marker sheep per group) with whatever dose you would normally use. This is what's called a "drench check" or "dose test" – essentially an "after" picture. Ideally the FEC should be zero (0 e.p.g.) 10-14 days after dosing, if not, and the FEC is 200-300 e.p.g. for example, then it is important to do a FECRT which is essentially a "before" as well as "after" picture. A FECRT is done in exactly the same way as a FEC, one essentially just does it twice i.e. a FEC on the day of dosing and then another FEC 10-14 days later thereby enabling you to see what level of reduction occurred. Example: If a FEC on day of dosing was 1000 e.p.g., and then 10-14 days later a FEC of 150 e.p.g., then this means that the dose used was 85% effective.

This brings me to my last, probably most important point – knowing exactly (%) how effective your dose remedy is, is crucial for productivity levels. For example, if your dose is only 70% effective, you may not have sick, dying and dead animals (so you may believe that the dose is 'working'..) but you are incurring massive losses because you are essentially leaving behind 30% of the worms (in the case of a dose that is 70% effective)! The remaining worm load affects: a) the lamb's growth rate (as indicated earlier/above) by affecting the lamb's appetite and b) the ewe's milk production which results in lambs that are up to 5 kg lighter at weaning! Remember these are production losses

only; we aren't talking about sick animals or mortalities at all! In fact, in the absence of clinical disease or illness, using a "highly effective" dose versus a "satisfactory" dose resulted in a 2.8 kg difference between lambs. Can you see how important and valuable it is to see exactly how effective 'your dose' is?

By strict scientific definition, once a dose is less than 95% effective, resistance of the worms against that remedy is confirmed. However, from a practical point of view as long as the dose is at least 85% effective and it is dosed at the correct, strategic times then one can limit production losses massively. During high risk periods or periods of heavy worm load, it is important to strategically on a yearly basis use a dose that is as close to 99-100% effective as possible. And then during other risk periods use other, effective doses.

And here's the best news, you can have all this information available from a simple FEC for less than R 100! Better still, many veterinary pharmaceutical companies, in conjunction with your closest vet or vet lab, actually offer this value added service free of charge!

Happy farming! Lekker boer!  
Barry

References available from the author. Dr Barry Coates, BVSc,  
Professional Services Veterinarian, Novartis Animal Health, 011 9292 035,  
barry.coates@novartis.com, www.novartis.com