



**General PARASOL Update  
Experiences and results of 10 Farms in the UK  
Innovis, December 2007**

### **PARASOL Farm 1: Isle of Bute**

*Hill Farm with 750 ewes and 250 head of cattle*

This was our first farm recruited. As there were suspicions of white drench resistance on this farm following some tests done a few years ago they were keen to take part.

Over the two seasons they have completed over 80 FEC counts. One change to the usual drenching program has been that the majority of adult ewes have not been given a pre tugging wormer since the start of the project. They were also pleased that they have been able to extend the drenching interval for lambs to between 8 and 9 weeks in most cases. In some cases this was due to the fact that 'Cydectin' has been the wormer used on the lambs this summer.

The results of the resistance test completed this year came as a surprise as the white drench (1 BZ) seemed to be effective this time round and it was the Levamisole group (2 LM) that showed some failure. However we must be wary when interpreting these results as there will be different species of worms present at different times of the year which is why the test done a few years ago could have given a different result. Resistance results aren't always as clear cut as they seem!!

This farm is also using the system to great effect to monitor the effectiveness of the treatment by checking egg counts 10 days after worming. This does not need to be done for every single group that is treated but they are finding it useful as a spot check at different times of the year when different wormers are used to ensure that the control programme is working.

**Quote from Farm 1:** *'I continue to find the system one of the most valuable tools on the farm'.*

### **PARASOL Farm 2: Lanarkshire**

*Hill farm with 2,100 ewes and 140 head of cattle.*

Over time this farm has started to use the system more to monitor different groups of sheep. Some very high counts were obtained from mule lambs in the autumn of 2006 and the farmer was surprised that *Nematodirus* was still present at this time of year.

The most interesting results have probably been from tests done on the ewes. In 2006 the ewes were tested in the autumn when they were usually treated with a pre tugging fluke and worm dose. The majority of the groups had low worm counts which meant they did not receive the wormer dose. However a few groups did have slightly higher FEC's and because these were also a bit lean they were wormed as normal. These were generally the hill ewes and they were leaner than usual after a bad spring. This is a great example of how you consider the FEC results together with other factors in making that all important treatment decision.

FEC was influential this spring to decide when to drench the ewes around the lambing period. For example a mob test was carried out at lambing on 600 blackface ewes that were lambing on some lower ground. The FEC result was surprisingly low and because the ewes also looked extremely fit the majority of them were not given their pre lambing wormer. About 25 of the leaner looking ewes were tested separately and a result of 255 epg was obtained which warranted their treatment. Therefore this farm saved drenching 575 of their ewes at lambing. It would have been interesting to test these ewes again 4 to 6 weeks after lambing to see if the counts had risen at all.



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### **PARASOL Farm 3: Northumberland**

*Lowland farm with 900 ewes and 100 head of cattle.*

This farm probably spent more on drench in the first year of FEC monitoring as more treatments than usual were needed for lambs in the autumn due to some very high counts. However FEC monitoring is not just about reducing drench use, it is a useful tool to detect problems when they are not expected. Monitoring meant that these lambs could be treated at an early stage before excessive damage and performance loss was seen.

Some extremely high worm burdens were also seen this spring which prompted an immediate treatment with *Nematodirus* being the main culprit.

The biggest saving this farm has seen is from the cattle enterprise and no young cattle have been wormed in the summer since the start of the project. This amounts to a big saving but care needs to be taken to watch out for any sign of lungworm as the FEC test won't pick this up.

There were suspicions of some white drench (1 BZ) resistance when doing some post treatment egg counts using the FECPAK. This was confirmed when we did the full drench resistance test as white drench only achieved a 79% reduction in egg count. Thankfully there seems to be no evidence of resistance to the Levamisole (2 LM) and macrocyclic lactone / avermectin (3 ML) groups.

### **PARASOL Farm 4: Yorkshire**

*Lowland farm with 750 ewes and 270 head of cattle*

- 90 FEC tests carried out in first 12 months of the study.
- Only purchased ewes were treated in Autumn 2006
- Average no. of drenches per lamb in 2005 = **4.2**
- Average no. of drenches per lamb in 2006 = **2.9**

This shows that since starting using the FECPAK in 2006 this farm was able to cut out over a whole drench per lamb (on average). We must bear in mind that this farm did not start monitoring FEC until the end of June 2006 and therefore all lambs had been dose twice already. Data collected to date in 2007 shows that the average number of doses per lamb may drop again this year.

As the project has progressed this farmer has become more confident in using the microscope and the time spent testing has reduced from 45 minutes per test when he began to 20 minutes per test. As you can see testing is done regularly but the time spent testing is outweighed by the savings in drench and labour.

Some mob testing post treatment has indicated the presence of resistance to the white drench group (1 -BZ). We have been unable to confirm this with the full resistance test as the farmer could not find a mob of lambs in the autumn with an egg count which was high enough. Indeed it seems that this farm is where we have tended to find the lowest burdens all year round.

### **PARASOL Farm 5: Cumbria**

*Hill, Upland and Lowland farm with 1500 ewes and 90 head of cattle*

Due to the three different enterprises and sheep systems on this property and the fact that the land is quite spread out, this farmer found it difficult to find time to monitor FEC. However the limited testing that was done in the first year had shown some benefits:-

- Lambs were tested when weaned and taken off the fell – no eggs were seen so they weren't treated. These lambs would normally all have been dosed under the old routine worming policy.
- 580 Swaledale ewes were tested pre tupping when they would usually have been dosed. A zero egg count was recorded therefore they were not treated. However they were nervous of getting poor conception rates because they hadn't been routinely dosed, but the ewes scanned at 190% which was far higher than usual so this has given them confidence in the decision not to worm.
- In January, mule ewes are usually wormed as they are housed but these were not treated this year following a low FEC result. The advice was to test them again as they lamb and were turned out – again these ewes were not treated at lambing due to a low count. Five weeks after lambing the FEC counts had risen to 300 epg which wasn't extremely high but they would have been contaminating the best pastures and as the ewes were being handled anyway it was decided to drench them. In contrast the pure Swaledale ewes needed to be dosed at turnout.

We decided to make it slightly easier for this farmer this year by just concentrating on the upland farm to start with. Even though we would like to see more testing done on this farm there has definitely been a change of attitude to worm control. More testing has been done since January as they have become more confident and proficient in using the FECPAK.

### **PARASOL Farm 6: Worcestershire**

*Lowland farm with 1,000 ewes and an arable enterprise.*

As well as the sheep enterprise there are approximately 400 acres of arable on this farm. Unfortunately the heavy workload for the arable enterprise clashes with the main sheep work in the summer. Therefore this is one of the farms that have struggled to fit the FEC monitoring in with the other management on the farm. As labour is limited it is felt that there is not much opportunity to be flexible with lamb wormer treatments. For example if there is an opportunity to do sheep work then lambs may get wormed when they are handled as there may be no opportunity to work with them again for the following 2 to 3 weeks.

Some FEC tests have been done. They felt it was useful in the autumn of 2006 when they were not happy with lamb performance and a mob sample indicated a high worm burden and they were surprised that *Nematodirus* was still so dominant in the count. This helped determine what the problem with the lambs was and they treated accordingly.

We failed to visit the farm to carry out the drench resistance test this year as the lambs were treated with Cydectin in the middle of August and therefore we could not start the test until the middle of October. However egg counts were not high enough in the middle of October to warrant the test and they were moved on to stubble crops without a drench.

Part of this PARASOL project is to evaluate how monitoring FEC fits in with other farm activities and we have deliberately tried to pick farms with different situations and enterprises.

### **PARASOL Farm 7: Somerset**

*Lowland and upland farm with 1,000 ewes and 325 head of cattle.*

- Data from 80 FEC results to date
- Change to ewe treatment around lambing
  - Normal practice would be treating 6 weeks post lambing.
  - This year most ewes treated at lambing following FEC monitoring.
- Big differences in worm burdens between lamb groups on different parts of the farm
- Some groups of lambs only needed drenching once up to 1<sup>st</sup> September this year. Some have needed 3 drenches before that date.
- This farm has identified certain fields that seem to be heavily infected and will be trying to alter management to deal with that.

The resistance tests done on this farm was slightly concerning with failure to both the white (1 BZ) and Levamisole (2 LM) groups. The farm was already suspicious of the white drench but only getting an 85% reduction from using Levamisole had surprised them as up until this year they didn't think they had used a drench from this family in the last 12 – 15 years. Our assumption is that the resistant worms were probably brought in with purchased replacement ewes which is a useful reminder for you all to maintain your quarantine drenches.

### **PARASOL Farm 8: Pembrokeshire**

*Lowland farm with 520 ewes and 160 head of cattle.*

Only a limited number of samples were tested early in the project as results from two verification tests did not give the farmer confidence that they were using the system correctly. The verification tests showed that the farmer had missed a large number of eggs. However on visiting the farmer and going through the tests again with him I could not see where they were going wrong and they spotted every single egg that was there. Their technique and competence throughout the procedure was fine. The difference between our and their counts in the verification test was a bit of a mystery. The only reason we could now think of was that the saline solution they were using at the time was not mixed correctly.

If the saline is not made up correctly then the eggs will not float to the surface in the slide. There are instructions in the handbook and on the side of the bottle to tell you how to check the strength of the saline. You will also see further guidance in the tutorial DVD (see below).

With confidence now restored this farm has started using the system on a more regular basis.

One note I would like to make here is that this farm were still using **Cydectin** as a first drench for lambs and many of you have depended on this product as a lamb drench. On this farm a group of lambs were tested 4 weeks after a Cydectin drench and they had a surprising count of about 300egg. This proves that Cydectin will not have the same persistency against all worms and is therefore not always the best choice for young lambs. This is especially true if *Nematodirus* is present.



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### **PARASOL Farm 9: Clwyd**

*Upland farm with 1250 ewes*

This farmer lost a bit of confidence in the science behind FEC testing at the beginning of the project due to not treating ewes pretupping following low FEC results. Scanning percentages had dropped and the drop was quite significant in some groups. There were also several ewes that were not thriving and were scouring right through the winter. There was obviously the suspicion that this was down to not routinely giving the pre tugging wormer. More tests were done by the vet but they could not find a cause. In the end the vet recommended to give a wormer and a coccidiosis dose and the ewes did recover after this. After seeking advice from a number of experts we do have doubts that this was a roundworm issue. If roundworms were causing this damage they would have been laying eggs which would have been picked up in one of the numerous FEC tests that were done. And this certainly does not reflect what we have found on other farms. The situation is being monitored again this autumn and winter to see if we get the same problem.

Even though there was this slight loss of confidence the FECPAK has been used on lambs this summer and FEC monitoring has meant that a few groups were able to go for two months between drenches.

The resistance test that was carried out in October showed that the white drench group (1 BZ) only gave a 60% reduction in egg count.

### **PARASOL Farm 10: Leicestershire**

*Lowland farm with 850 ewes.*

*QUOTE FROM JAN 07:-* "The ewe lambs before Christmas looked stale and weren't performing. We tested a mob sample and it showed a very high egg count, this gave us the confidence to treat for worms."

This is a slightly different scenario to the other farms as we have two neighbouring farmers who are sharing a FECPAK. The project is based on results found from this farm but the majority of the testing is carried out by the neighbour. They confessed that they have not fully utilised FEC monitoring on the farm as they should have. Over this summer about half a dozen samples were collected from the farm we are studying, but these were usually samples that were collected as they were routinely wormed anyway and were just checked that evening. They have not changed this policy as they generally found that the worming was needed due to high counts through the summer.

The resistance test we carried out in September did show a very worrying result for the white drench group (1 BZ). The egg counts on this farm actually went up dramatically between treatment and the post treatment test which showed that the white drench had practically no effect at all. This summer a white drench was used for the lambs and this is probably the reason why the egg counts were always high when they were routinely wormed. E.g. the worms that survived the last drench would be contributing to the high egg counts and if an effective drench was used then we may have seen much lower counts and could have gained some savings in drench usage.

It will be interesting to see if there is a change in worm control policy next season in light of this knowledge of total white drench failure. Care needs to be taken from now on to ensure that the other two drench families remain effective.