

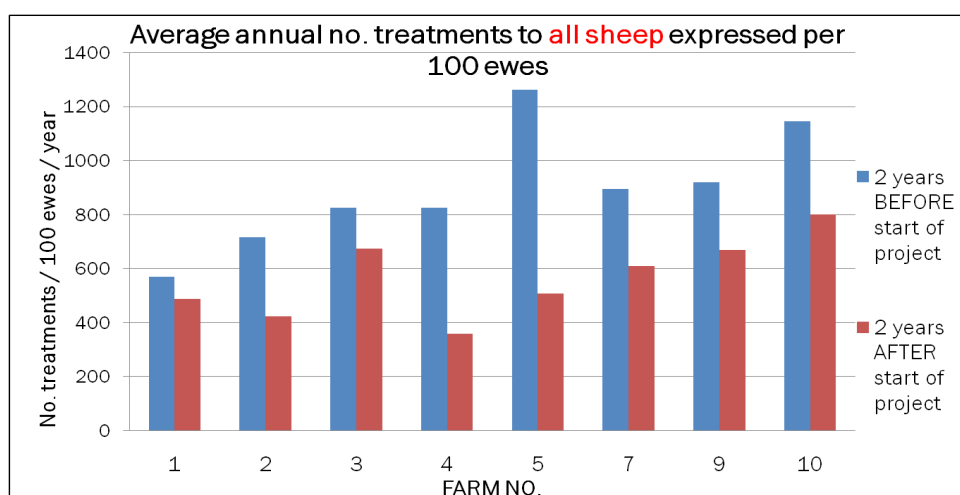
# On-Farm Faecal Egg Counting

## Research Highlights Benefits For Farmers

Results from new EU-funded research show that, with the right equipment and guidance, farmers can accurately carry out faecal egg counts, giving them a better understanding of the roundworm problems on their farm and helping them to target treatment when it is needed. The reduced reliance on anthelmintics should also help delay wormer resistance on their properties.

The European Union funded the PARASOL (PARASite SOLutions) international research project to address growing concerns about current practices in the management of internal parasites in ruminants. The project has run over three years involving seven EU countries as well as Morocco and South Africa.

One part of the project run in the UK by Innovis assessed the impact of on farm faecal egg counting. The eight farms in the project were geographically dispersed in the UK and included a range of farm types from hill to lowland. Using the FECPAK system farmers participating in the project showed an average 35% reduction in wormer treatments (see graph) with no reported negative effects on the performance of lambs. Farmers reported the FECPAK system was quick and easy to use. Verification tests also showed the farmers to be accurate.



Average annual reduction in no. of treatments per farm = 3,825 (Range from 481 to 10,810)

### Financial benefit

As well as reducing treatments which should help delay resistance the project also demonstrated a financial benefit to farmers which was quite considerable in some cases. The table below only shows savings on wormer costs. In some cases there were also substantial labour savings with less time spent dosing far out weighing the time spent testing.

Farm Code	No Ewes	Financial saving from reduction in purchases of anthelmintics		
		Total annual saving	Annual saving per adult ewe	Percentage reduction in cost
1	581	£ 56.23	£ 0.10	12%
2	2150	£ 1,224.54	£ 0.57	42%
3	905	£ 251.58	£ 0.28	22%
4	663	£ 490.99	£ 0.74	56%
5	1435	£ 1,897.28	£ 1.32	64%
7	620	£ 534.81	£ 0.86	46%
9	1193	£ 434.48	£ 0.36	31%
10	1101	£ 420.96	£ 0.38	25%
<b>AVERAGE OVER 8 FARMS</b>		<b>£ 663.86</b>	<b>£ 0.58</b>	<b>37%</b>

\*Annual change in figures is calculated by comparing the average figure for the 2 years before start of project with the average figure over the 2 years after the start of the project.

For Northumberland sheep and beef farmer Alan Cowan, it was the ability to see more clearly what was going on that made the difference to him.

“Although saving on drench costs is a benefit, the greatest advantage I have seen is that I now have confidence in only worming when it’s needed and I can hopefully delay the development of resistance to the levamisole and ML groups on my farm”

### Farmer survey results

A survey was also completed by 49 existing FECPAK users and results supported the main project findings

- 74% of respondents had decreased the number of treatments to lambs (between 20% and 75% decrease)
- 67% had changed the timing of treatments to lambs
- 41% of FECPAK users had changed their worming policy for adult ewes at mating AND at lambing
- 91% claimed to have a better understanding of the parasite situation on their farms
- 79% of clients said that using regular faecal egg counting had been of financial benefit to their business

### FOCUS ON LAMBS

On average the number of FEC tests done per year per farm was between 30 and 40 tests which shows how easily farmers fitted regular FEC testing in to their day to day routine. The majority of these were used to monitor FEC in lambs and all 8 farmers involved in the project decreased the number of lamb doses.

On some farms where the decrease in doses wasn’t huge the benefit of monitoring was still seen as there was a change to the timing of treatments. Indeed the 3 years of results have shown that historically these farmers would often treat when it wasn’t needed and they wouldn’t be treating on some occasions where it was needed.

### When to monitor?

The farmers in the project started monitoring FEC when lambs were 6 to 8 weeks of age. Care needs to be taken when using FEC to determine the timing of the first dose as *Nematodirus* can cause damage before they lay eggs. Even though some farmers administered a blanket treatment as a first dose others successfully used FEC to get the timing of this dose right with the first dose stretched to when lambs were 9/10 weeks old in some cases. The secret is to use other factors such as condition and clinical signs, alongside the FEC results when deciding on a treatment and this is especially true if *Nematodirus* is a risk to young lambs. Once the lambs become older more reliance can be put upon the FEC results. If a group of lambs were tested and a low FEC recorded a sample would be tested again in 10 to 20 days time to monitor when egg counts were rising.

### Farmers experience.

- The research highlighted the value of monitoring different mobs of lambs as each mob will have different parasite problems. The extract of data in the table below shows the differences between 3 different groups of lambs on similar dates on one farm.

DATE	Group Name/	No. in group	Average EPG	Treated
19/06/2008	lambs Close	200	90	N
21/06/2008	Home Farm Twins	190	480	Y
21/06/2008	Singles	58	180	N

- Farmers also altered the timings of treatments in response to FEC results and used other factors as well as FEC to decide when a group of animal needs to be wormed e.g. body condition and growth rates.
- Timing of treatments was also influenced by other management tasks, for instance treating animals when shearing to minimise handling and labour costs
- A number of farmers reported the discovery of unexpected worm burdens e.g. in ewe lamb replacements in mid winter and finding *Nematodirus* throughout the season
- No negative effects to animal performance were reported as a result of reducing treatments

## Detecting Drench Resistance

Several of the farmers used FEC to monitor the efficacy of treatments by testing a group of lambs a specified number of days after treating and a number became suspicious that they had a problem with drench resistance. A more detailed FEC reduction test was carried out and discovered that **all 8 farmers had been using a wormer that wasn't fully effective**. Even though white drench (1 BZ) resistance was most common there was also evidence of levamisole (2 LM) and ivermectin (3 ML) resistance.

Three of the farms claim to have seen an improvement in animal performance after changing to a more effective wormer which shows the value of monitoring and the potential cost of resistance.

**“After finding we had extensive white wormer resistance we changed wormer group this year and our lambs have looked far better. We haven't used any creep feed and we are drawing lambs just as quick as ever. This has saved us £1500 in creep feed alone!!”**

*Ed Smith, PARASOL farmer, Leicestershire.*

For Eurion Thomas, Operations Manager for Innovis, the most exciting part of the results are in the observations of farmers who took part. “Farmers found it empowering to be capable of calculating faecal egg counts themselves on-farm by using the right equipment and having the right guidance. Using the FECPAK system they are able to do the testing themselves and get immediate results rather than guessing at what is happening or, even worse, doing nothing. It can require a change in mindset but there are plenty of European farmers who are looking at smarter ways to farm. This system puts practical tools in the hands of farmers.”

‘I find it quite easy to pick up samples as I'm shepherding and with time I have become more confident in using the microscope. I will certainly continue to use FECPAK once this project has finished as it has more than paid for itself’

Clive Rowland, PARASOL farmer, Yorkshire

Later on in the year we will focus on how the PARASOL farmers have changed their dosing strategy for adult sheep.

**For more information contact Innovis**

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