

**DECEMBER 22**

As we have had one of the hottest and driest summers on record we are expecting a lower than normal, or possibly a delayed, liver fluke season. This year in particular, there is a risk that you may be treating your animals unnecessarily or at the wrong stage of disease causing unnecessary financial loss.

### Fluke Life Cycle

It is important to remember the life cycle of the liver fluke and the necessity of the mud snail as an intermediate host. The mud snail requires muddy conditions making wet areas or areas of poor drainage a particular risk.

The liver fluke eggs are laid onto the pasture by the sheep. Larvae then hatch onto the pasture and actively seek the mud snail. Without the mud snail these larvae will die off. The larvae develop within and multiply inside the snail to form cysts which are passed onto the pasture, and are grazed by cattle and sheep. Once ingested, the immature fluke migrate to the liver and develop into adult fluke. The whole cycle takes roughly 18-20 weeks.



**Figure 1: Liver Fluke Life Cycle, ©NADIS**

### Meetings coming up...

Medicine Handling course,  
Thursday 26th Jan 23 @ the  
Practice 11am to 1pm



As the liver fluke cycle requires the mud snail it makes this parasite very weather dependent. As we are all aware, this summer has been particularly dry and hot, reducing the mud snail numbers so the overall risk of liver fluke will be low (if you have a dry farm). However on farms that usually suffer from fluke (i.e those beside rivers, ponds, wet ground) there is the possibility of a delayed fluke season going into the autumn and winter.

### Testing

This year, testing will be extremely useful to monitor both liver fluke burden and what stage the fluke are present in your sheep (an important aspect to consider when treating). As vets we can offer a range of tests to detect different stages of liver fluke. It is important to bear in mind the history of the sheep when deciding a test; **have they been in a field in which fluke has been a problem before? Or, have the lambs been in a dry field not grazed by ewes previously?**

### Blood sampling:

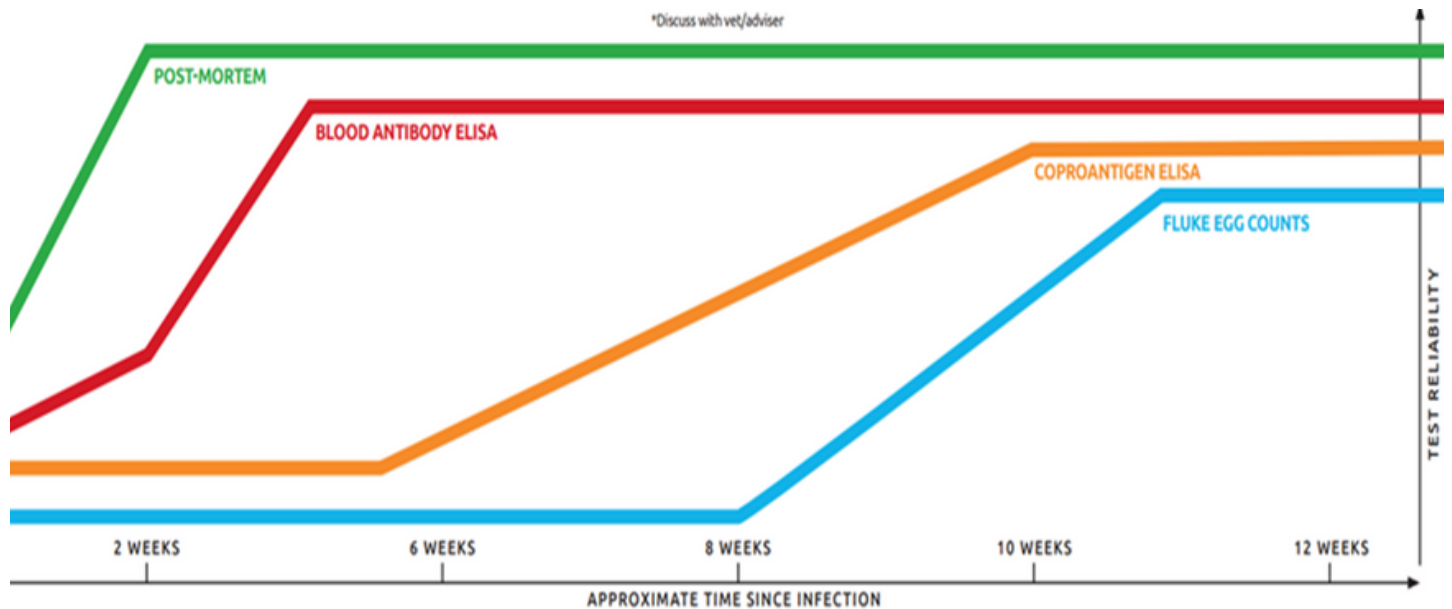
Can be done on first season grazing animals (e.g weaned lambs) to detect acute disease risk. This test measures the level of antibodies in the sheep and can detect infections 2-4 weeks post infection. It is important to note that antibodies can remain high for several months following a successful treatment.

## Faecal sample:

Fluke egg counts are the cheapest test that can be used to test for the presence of adult fluke (only adults will produce the eggs). As such this test becomes useful around 10-12 weeks post initial exposure and can be done on pooled samples (multiple animals from the same group). Although faecal samples are one of the easiest ways to test for fluke, there is a possibility of false negatives (if only immature fluke are present). Because of this it is usually recommended to retest negative animals 3-4 weeks later in case the adult fluke hadn't developed by the initial test.

In recent years, there has been increased use of the **coproantigen faecal test**. This is slightly more sensitive compared to the fluke egg count however doesn't work well on pooled samples. This test detects fluke infections 2-3 weeks earlier than the fluke egg count, and requires a small amount of faeces.

The best diagnostic test we currently have is **post mortem**. This gives us a definitive diagnosis as fluke can be detected after 2 weeks of infection. If you have any fallen stock, it is always worthwhile checking the liver– either getting the knackerman or yourself to cut into it and if any concerns you could always send us a picture! Alternatively, we offer a set sheep post mortem price which can be used to screen for liver fluke, plus look at other diseases such as Pasteurella or other iceberg diseases. This proactive approach has become more common as a valuable screening tool, not only for fluke but for other production limiting diseases.



TEST	SAMPLING	DIAGNOSTIC VALUE	DRAWBACKS
<b>BLOOD ANTIBODY ELISA</b>	Regular blood sampling. Use first season grazing animals (lambs and/or calves) as "sentinels", 10 animals per risk group (consider on-farm risks eg. grazing).	Measure of acute disease risk. Increasing antibody levels identify when active infection is occurring for targeted treatment.	Careful test interpretation is required to avoid premature treatment. Test results for sentinel animals indicate risk status for their group only. Antibody levels can remain high even after successful treatment and in previously exposed older animals.
<b>COPROANTIGEN ELISA</b>	Dung, individual (avoid using pooled if possible).	Mid- to late stage infection.	Low sensitivity in cattle and in pooled samples. If result negative, advise re-test in ~4 weeks.
<b>FLUKE EGG COUNTS</b>	Dung, individual and pooled.	Definitive diagnosis when adult parasites present.	Test sensitivity may be low, especially in cattle. If result negative, advise re-test in 4-8 weeks
<b>POST-MORTEM</b>	Fallen stock	Definitive diagnosis (all stages of infection).	Abattoir returns are useful, but should not be considered equivalent to veterinary post-mortem in terms of reliability.

## Liver Fluke Treatment

As mentioned above, using the correct drug for the correct fluke stage is extremely important in order to prevent resistance and to ensure successful treatment. Listed below are the various drugs which we can use.

The top 2 drugs (e.g Endospec ©) will only treat adult fluke so can be used from 10 weeks post infection. The middle 2 (closantel and nitroxylin) will treat slightly younger fluke, however only the bottom drug, triclabendazole will treat immature and mature fluke. It is important to mention there is already resistance to triclabendazole in South West Scotland so this should be used cautiously.

If you have any concerns or questions regarding what treatment to use please contact us at the office.

As you can see liver fluke detection and treatment is very complex compared to other parasites- if you need any advice or have any questions please contact your farm vet, or else please ring the office on 01666 823035

**Efficacy of flukicides available for use in sheep in the UK against susceptible fluke populations**

Active Ingredient	Age of fluke in weeks (% kill rate)														Optimum time of year to use
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Albendazole										50-70%		80-99%			Spring / summer
Oxyclozanide										50-70%		80-99%			Spring / summer
Nitroxylin							50-90%			91-99%					Late autumn / winter
Closantel				23-73%		91%		91-95%			97-100%				Autumn
Triclabendazole (assuming a fully susceptible population)	90-99%	99-99.9%												Autumn	

Table adapted from Fairweather and Boray, 1999

## No Spectam, no problems!

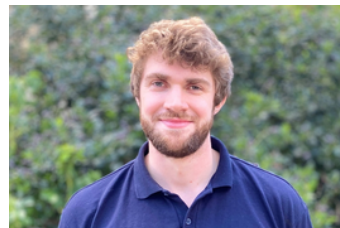
As we head into winter and prepare for lambing, it is important to remember that **Spectam has been discontinued**. As per last year, paying close attention to ewe body condition score, ewe nutrition, lambing hygiene and colostrum quality will give the lamb the best start to life. We highly recommend pre-lambing blood samples on your ewes plus testing colostrum to ensure each lamb receives the best start possible .

We are currently also looking into alternatives to Spectam (antimicrobial treatments such as Monoshield and non-antimicrobial treatments for example Provita Jump Start) which should only be used in high-risk lambs or at risk farms.

# #ColostrumIsGold

Save the date! Lambing course When: 30/1/23 Venue: to be confirmed

*Wishing you all a  
Merry  
Christmas*

All the best,  
Keir

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T: 01666 823035 Option "1" for visits or enquiries, "2" for medicines or shop, "3" for TB testing