



Liver fluke monitoring and control

Liver fluke is a major problem for the sheep industry. Although traditionally considered to be an issue in the western parts of the UK it is now seen in every region, although the wetter, acidic soils are more likely to be associated with severe liver fluke disease. Liver fluke disease (fasciolosis) takes 3 forms in sheep:

- Acute fluke due to the destructive effect of the immature stages of the parasite on the tissue of the liver, often leading to sudden deaths, generally in late summer / autumn.
- Subacute fluke due to the combined effects of immature and adult fluke leading to anaemia and rapid weight loss in affected sheep generally in autumn / winter.
- Chronic fluke due to effects of adult fluke leading to anaemia, weight loss and resulting poor milk yields in affected ewes impacting on lamb survival occurring in winter and spring.

Devising an effective control strategy for fluke must be based on a detailed knowledge of many factors including the flock history, location, weather and grazing patterns. HiHealth Flockcare members will be able to work together with their own vet and our vets to devise a strategy tailored to their situation.

Although there are a range of flukicide medicines available to combat fasciolosis they differ in their activity in terms of the age of liver fluke parasites they will kill, and so they need to be used tactically at the appropriate time to best effect. This is especially important as resistance of the parasite to the drug triclabendazole increases. Triclabendazole (TCBZ) is the only drug active against the earliest immature stages of the parasite which can cause such massive losses in years when weather conditions favour the parasite. In general terms a flukicide active against immatures is needed from late summer to early winter, but once temperatures drop and new infections are no longer acquired then drugs active against late immatures and adults can be used. In the springtime it is recommended to use a flukicide active against only adults to prevent over usage of triclabendazole.

Laboratory testing can prove very useful in monitoring exposure to liver fluke, to diagnose disease and determine the need to treat and crucially to determine the efficacy of treatments.

HiHealth Flockcare offers a range of testing for fasciolosis, but we also recognise the importance of post-mortem examination to investigate unexplained deaths where fluke may be the cause. We would encourage farmers to get their vet to examine deadstock and we can offer advice on the pathology seen and any testing that might be worthwhile to establish the cause of death whether fluke is present or not.

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The liver fluke uses a snail as an intermediate host and so temperature and rainfall are key to understanding the risk of liver fluke disease. However individual farms have their own microclimates and monitoring for fluke exposure by blood testing growing lambs from mid-Summer can be very effective in determining the challenge and any requirement to treat on a farm. This can be done by using a test that detects antibodies generated by sheep that have been exposed to fluke. Often this is done from around weaning when sampling to check trace element status is carried out. HiHealth Flockcare members can benefit from an 'add-on' to the trace element package for growing lambs, whereby liver fluke serology testing is undertaken on blood samples submitted from 6 lambs in addition to testing for copper, cobalt and selenium.

Detection of eggs in dung samples is only useful in subacute and chronic disease when adult fluke are present. In acute fluke disease no eggs will be present in dung samples. We offer examination of dung samples for fluke eggs in individual samples and in pooled samples, although in the case of pooled testing it is preferable to receive individual samples for pooling at the lab rather than pooled on farm. This is crucial when investigation of possible tricloabendazole resistance is needed. A protocol for faecal egg count reduction test can be discussed if indicated to investigate suspected lack of efficacy of tricloabendazole. We also offer a test that can detect the presence of fluke via a specific protein present in dung samples that can be used on smaller quantities of faeces than traditional egg examination and has been shown to allow detection slightly earlier than examination for eggs. This coproantigen ELISA test can also be used to assess whether treatment has been effective when used after treatment with tricloabendazole.

The impact of fasciolosis on some flocks in some years has been devastating and the movement of sheep through trading risks introducing tricloabendazole resistant parasites to new areas. Treatment of purchased sheep while in quarantine is key to controlling this. Although there are farms in some areas of the country with no snail habitat and so no risk of liver fluke establishing, other farms, even those who know fluke is a problem in their area, do not want to run the risk of buying in resistant fluke. Quarantine treatment therefore aims to kill all fluke present and this may require repeated treatments or use of different drugs at appropriate intervals where TCBZ resistant fluke are suspected. Some flukicides can have adverse effects on sheep if used at incorrect doses so it is advisable to discuss any treatment plan with your vet and the HiHealth Flockcare team.

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