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Health Quiz

Liver Fluke Control in Sheep

Liver fluke infestation (fasciolosis) has always been a problem in the wetter western areas of the UK. More recently, liver fluke has been reported increasingly in eastern areas of the country due to the introduction of infested sheep. Slaughterhouse liver condemnations indicate that fasciolosis is widespread and increasing in frequency.

The causal parasite

Fasciola hepatica infects the liver in both cattle and sheep. For part of its life cycle it inhabits the snail, *Limnea truncatula*. This important stage of the parasite life cycle necessitates wet and warm conditions (above 7 - 10°C). Liver fluke causes 3 types of disease, acute, subacute and chronic. Essentially, late spring early/summer infestation of snails result in the autumn fluke challenge to sheep with immediate acute disease, subacute disease over the following weeks, or chronic disease apparent three months later depending upon the level of challenge.

Clinical presentation

Acute fasciolosis

Affected sheep die suddenly from haemorrhage and liver damage (Fig 1), with the first evidence of a problem being sudden deaths in previously healthy sheep from August to October (Fig 2). Inspection of others in the group reveals lethargy and reduced grazing activity. Gathering may prove difficult because sheep are reluctant to run caused by pain. Sudden deaths may occur up to 10% causing grave financial loss.

Subacute fasciolosis

The major presenting clinical findings are rapid loss of body condition and poor fleece quality despite adequate flock nutrition. Typically, some sheep present with severe depression, inappetance, weakness, and may be unable to stand. Losses typically occur from December onwards but may be much earlier (October) with severe challenge.

Chronic fasciolosis

The major presenting clinical findings are very poor body condition score and poor fleece quality and in many sheep, bottle jaw (Fig 3). Affected sheep may

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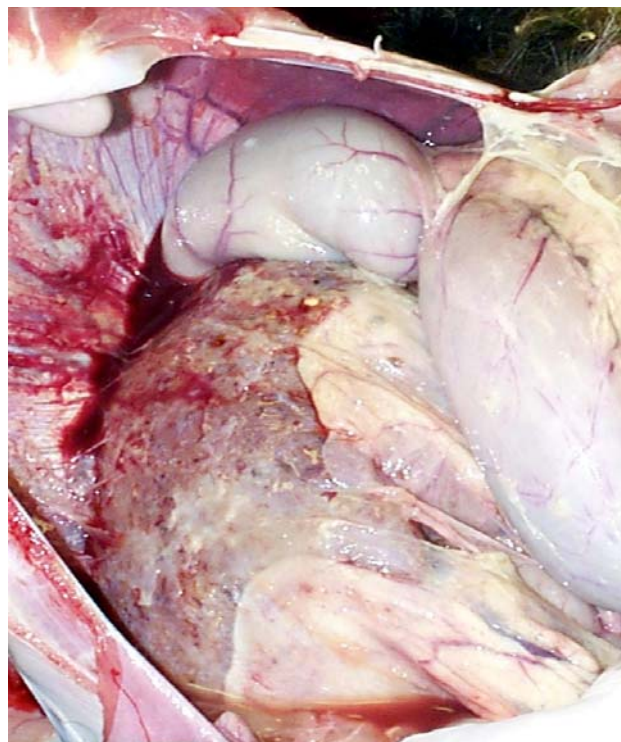


Fig. 1: Affected sheep die suddenly from haemorrhage and severe liver damage.



Fig. 2: The first evidence of a problem of acute fluke may be sudden death in previously healthy sheep from August to October.

die in an emaciated state especially when infestation is compounded by the metabolic demands of advanced pregnancy/early lactation. Loss of the ewe and her lamb(s) can severely affect farm profits

Other diseases to consider:

Other causes of sudden death your vet will consider include:

- Clostridial disease; pulpy kidney, blackleg, Black disease, braxy in unvaccinated stock
- Tick diseases as habitats often similar for both snails and ticks:
- Pasteurellosis or other septicaemic diseases
- Louping ill

Poor condition affecting many of your sheep may also result from:

- Inadequate flock nutrition
- Chronic parasitism including anthelmintic-resistant strains
- Virulent footrot
- Johne's disease
- Poor dentition especially cheek teeth,
- Chronic severe lameness.

Diagnosis

Acute/subacute fasciolosis

Diagnosis of acute/subacute fasciolosis is based upon the epidemiological data (high risk year), and veterinary investigation of blood samples which reveals raised liver enzymes. Immature flukes are demonstrated in the bile ducts and gall bladder at necropsy.

Chronic fasciolosis

Chronic fasciolosis is diagnosed by demonstration of fluke eggs in faecal samples. Mature flukes are demonstrated in the bile ducts and gall bladder at necropsy (Fig 4).

Treatment

Triclabendazole is highly effective at killing all stages of flukes responsible for acute fasciolosis. Drenched sheep should be moved to clean pasture or re-treated every three weeks for the next three months at least.

Nitroxynil and oxcyclosanide are less effective against immature flukes and should be used only in the treatment of subacute and chronic fasciolosis. Once again, treated sheep must be moved to clean pastures.

Improved nutrition is essential.

Management/Prevention/Control measures

Infestations are controlled by strategic drenching based upon advice written in the veterinary flock health plan. During low risk years triclabendazole is administered in advance of the predicted challenge during October and January, with another flukicide drug administered in May. In years when epidemiological data indicate a high risk of fasciolosis, additional triclabendazole treatments are



Fig. 3: The major presenting clinical findings of chronic fluke infestation are very poor body condition score and poor fleece quality, and in many sheep, bottle jaw



Fig. 4: Mature flukes are demonstrated in the bile ducts and gall bladder at necropsy.

given in November and February. While it may be possible to eradicate fluke from a property, there are considerable risks from not drenching as the appearance of clinical disease in a few sheep represents serious losses in the whole flock. In certain areas wildlife hosts may play an important role in the disease dynamics.

Fencing off snail habitats (Fig 5) is rarely practicable and in most situations is cost prohibitive as these are often extensive sheep enterprises. Drainage is cost prohibitive and many properties are subject to environmental controls.

This year there is a **high prevalence of liver fluke disease**, particularly in **Scotland, Wales and western England**. Although figures are not available to produce a **Northern Ireland** forecast, climate data also

suggest the risk of a high prevalence there. Conditions in the other regions suggest some cases of liver fluke disease may occur, albeit at a lower level. (see Parasite Forecast <http://www.nadis.org.uk> for the latest update)

Economic importance

Fasciolosis can have a serious financial impact on a

sheep farm with immediate losses of 5 to 10% caused by acute/subacute disease. Chronic disease could half profits by reducing lamb crop and increasing ewe mortality. Infestations are controlled by strategic drenching based upon veterinary advice. The role of health planning by the farmer's veterinary surgeon is essential to maintain profitability and prevent losses.



Fig. 5: Fencing off snail habitats is rarely practicable and in most situations is cost prohibitive as these are often extensive sheep enterprises.

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NADIS Health Bulletins are designed to improve farm income, animal health and welfare by promoting disease control and prevention.

Discuss how health planning can improve the profitability of your farm with your veterinary surgeon.

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