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Fascioliasis (liver fluke) in cattle

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This year’s liver fluke forecast remains for a high risk of liver fluke disease across most of the country. (NADIS Parasite Forecast – see latest update at www.nadis.org.uk ). The forecast is based on “Mt values”, which are calculated to take into account levels of rainfall and potential evaporation to give an estimate of ground moisture. This is adjusted using the number of wet days in the month. Mt figures suggest a very high risk of disease in all of Scotland, Wales, north-western and south-western England. Northern Ireland may well be similar although no Mt forecast is produced as detailed data are not available. North-east England, the Midlands and southern England are also expected to experience significant liver fluke disease this year, while it is likely that the occasional case may be encountered in East Anglia.

Fasciolosis is a common parasitic disease of sheep and cattle in many countries worldwide caused by Fasciola hepatica. Infection is more commonly encountered in beef cows grazing poor wet pasture (Fig 1) but disease can be seen in dairy cattle especially after summering cattle, most likely bulling heifers, away from home on contaminated pastures. In spring-calving beef cows, liver fluke exacerbates the metabolic demands of advanced pregnancy in cattle on marginal winter rations resulting in the birth of weakly calves to cows with little milk. Severely affected cows become weak, and may be unable to stand due to emaciation. Such debility may cause an increased incidence of metabolic and infectious diseases at calving. Twin-bearing cows show the most severe signs due to the high demands of two foetuses. Autumn-calving cows will not milk well with weight loss leading to fertility problems. In dairy cattle, infection results in reduced milk yield and milk quality, loss of body condition and poor fertility performance despite adequate nutrition.

Cause

Fasciola hepatica has the liver as its site of infection in both cattle and sheep. During the spring/early
summer months the intermediate stages infect snails which need moisture and an environmental temperature above 10°C. In the late summer/autumn, challenge to cattle causes disease several months later with the severity depending upon the level of challenge.

**Clinical signs**
During a wet summer such as 2007, grazing cattle ingest the intermediate stages of the fluke from contaminated pasture with invasion of the liver causing disease during the winter months. The major presenting clinical findings are persistent diarrhoea and chronic weight loss with resultant poor body condition score despite an adequate ration. While “bottle-jaw” is a common manifestation in sheep, it is rarely seen in cattle. Anaemia may result in severe infections.

**Differential diagnoses**
Differential diagnoses of fluke in cattle (diarrhoea and weight loss) your vet will consider could include:
- Poor nutrition (whole group/herd problem)
- Johne’s disease (several cows in the group/herd)
- Salmonellosis (several cows in the group/herd)
- Parasitic gastroenteritis (whole group/herd problem)

**Welfare implications**
Debility, possibly leading to recumbency in heavily-pregnant cows, is a serious welfare concern.

**Brief outline diagnosis and treatment**
Diagnosis of fasciolosis during the early stages of disease is based upon the epidemiological data (high risk year) and raised liver enzymes in blood samples collected by your veterinary surgeon. Chronic fasciolosis is diagnosed by demonstration of fluke eggs in faecal samples although these may be scarce and difficult to find. There are specific antibody tests for liver fluke infestation but these are much more expensive.

Triclabendazole is effective at killing all stages of flukes. Nitroxynil and oxyclosanide are less effective against immature flukes and should be used in the treatment of chronic fasciolosis (adult flukes). Treated cattle should be moved to clean pastures wherever possible.

Improved nutrition of affected cattle is essential. Significant improvement of body condition score is unlikely because of the increasing demands of pregnancy when fasciolosis is diagnosed during the late winter ie the last few months of pregnancy in spring-calving cows.

**Management/Prevention/Control measures**
In areas with endemic fasciolosis, control is founded upon strategic flukacide treatments as detailed in the veterinary herd health plan. During low risk years treatment is given to at risk cattle in January. In years when epidemiological data indicate a high risk of fasciolosis (2007), additional triclabendazole treatments may be necessary in October/November.

Fencing off snail habitats is rarely practicable and in most situations is cost prohibitive as these are often extensive beef cattle enterprises. Drainage is cost prohibitive and many properties are subject to environmental controls.

Fasciolosis in cattle can result after infested sheep are brought onto a farm to over-winter contaminating pasture and infesting snails with subsequent challenge to the home herd the following summer/autumn. Problems may also arise after a succession of wet summers which allow snail numbers to increase dramatically providing an abundance of intermediate hosts for the developing fluke stages.
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Health Quiz

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Discuss how health planning can improve the profitability of your farm with your veterinary surgeon.
NADIS is supported by BPEX, EBLEX, HCC, QMS, Elanco Animal Health, Merial Animal Health and MLC.