Liver Fluke Control in Sheep
Liver fluke is a serious parasite affecting all grazing animals.

Only one species of fluke infects UK livestock – *Fasciola hepatica*.

Liver fluke is not host specific.

Sheep do not develop immunity to fluke.
Liver Fluke Lifecycle

- Early Immature Fluke
- Infected cyst
- Cercariae
- Mud Snail Host
- Larvae
- Fluke eggs
- Adult Fluke
- Immature Fluke
Liver Fluke: Risk factors

The risk of fluke is influenced by the environment:

- Weather in the autumn of the previous year (Aug-Nov).
- Weather in the summer of the same year (May-June).
- Incidence of fluke in the previous season.
Liver Fluke: Danger Periods

Dangerous levels of infective cysts are found on the pasture:

- **April - June**: Over-wintered infection in the snail host. These cysts cause early autumn infection in stock.

- **August - November**: Over-wintered fluke eggs, or new fluke eggs shed in the spring. These cysts cause winter infection in stock.
Novartis collects data relevant to fluke incidence.

Rainfall and temperature data from the Met office.

Fluke incidence figures from SAC and VI Centres.

Fluke related liver condemnations from more than 30 abattoirs.

Find the Fluke Warning on: www.fluke-and-worms.co.uk
The Fluke Warning
Liver Fluke: The Disease

Acute Fluke

- Early immature fluke tunnelling through the liver tissue.
- Rapid loss of condition and sudden death.
Liver Fluke: The Disease

Sub-acute Fluke

- Immature fluke.
- Loss of condition.
Liver Fluke: The Disease

**Chronic Fluke**

- Adult fluke feeding in the bile ducts.

- Loss of condition, anaemia and bottle jaw.
Liver Fluke: The Costs

Abattoir data shows up to 26% of sheep livers were condemned due to fluke this season thus far (2005-2006).
Abattoir Liver Condemnations

2005 – 2006 Abattoir Liver Condemnations

% Liver Condemnation

Aug Sep Oct Nov Dec

UK National Average 05/06
England National Average
Scotland National Average
Wales National Average
National Average 04/05

0.00% 2.00% 4.00% 6.00% 8.00% 10.00% 12.00% 14.00%
Liver Fluke: The Losses

Sub-clinical Fluke in Sheep:
Just 50 fluke can cause significant production losses.

Ewes
- Live weight gain reduced by more than 10%.
- Multiple births reduced by 10%.
- Liver damage from fluke can also predispose to Black’s disease.
Liver Fluke: The Losses

Lambs

- Birth weight reduced by more than 5%.
- Lamb weight gain reduced by up to 30%.
Liver Fluke Control: Habitat

Reduce exposure to the snail host:

- Drainage – to eliminate the snail habitat.
- Molluscicides – to kill the intermediate snail host.
- Fence off snail habitats – to restrict access of stock to infected pasture.
- Withhold animals from the wettest fields during high risk periods.
Liver Fluke Control: Flukicides

Kill liver fluke as quickly and as early as possible:

- There are a range of flukicides on the market, with varying levels of efficacy.

- Only triclabendazole, the active ingredient in Fasinex, kills all 3 stages of liver fluke: early immature, immature and adult.

- All 3 stages of fluke cause damage - therefore the most effective flukicide will kill them all.

- Control of fluke is no control at all, if immature fluke remain.
### Sheep Flukicide Efficacy Chart

<table>
<thead>
<tr>
<th>Stage</th>
<th>Nitrooxynil</th>
<th>Closantel</th>
<th>Oxyclozanide</th>
<th>Albendazole</th>
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<tbody>
<tr>
<td>Early Immature</td>
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<tr>
<td>Immature</td>
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<tr>
<td>Adult</td>
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**Key:**
- Greater than or equal to 80% efficacy

![Liver Fluke Control: Flukicides](image-url)
Benefit of Killing all 3 Stages

Weight gain in sheep over a 18 week period infected with just 50 liver fluke

- Untreated: 37 kg
- Adult only: 40 kg
- Adult, Immature, Early Immature: 45 kg

5kg increase
3kg increase
Fasinex kills all three stages of fluke. So it needs fewer doses to achieve the same fluke kill as other flukicides.

- 1 dose Fasinex = At least 4 doses of albendazole or oxyclozanide.

- 1 dose Fasinex = Approximately 2 doses of closantel or nitrooxynil.
There are times of the year when it is ideal to treat against both liver fluke and worms.

Combinex is the UK’s No.1 combination fluke and worm treatment.

Combinex combines the power of Fasinex, to kill liver fluke, with levamisole - a fast-acting broad-spectrum wormer against stomach worms, gutworms and lungworms – including white-drench resistant worms.
**Autumn**
Treat affected stock pre-tupping with Combinex, to improve the condition and fertility of ewes. Don’t forget to treat the rams!

**Mid-Winter**
Treat with Fasinex, to remove fluke that have developed since the autumn treatment
Spring
Treat at lambing time with Combinex, to reduce pasture contamination with fluke and worm eggs

Summer
In high risk situations, treat with Combinex or Fasinex. Dose at 10-weekly intervals from Mar/Apr to Oct/Nov
Fluke Control with Fasinex and Combinex

Kills all 3 stages of fluke for fitter, healthier, better looking sheep.

Saves time, Saves money, Saves your flock from fluke and worms