STRATEGIC CONTROL OF LIVER FLUKE IN CATTLE

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Overview of liver fluke in Australia

- Liver fluke (*Fasciola hepatica*) is found in higher rainfall (>600 mm per year) areas of NSW, VIC, TAS and small areas of QLD and SA.
- Liver fluke are transmitted by pond snails from the *Lymnaea* family which live in slow-moving streams of water, including springs, marshes and irrigation channels.
- The successful life cycle of *Fasciola hepatica* relies on mean temperatures above 10°C and wet environments that facilitate the activity of the pond snail and the establishment of infective metacercariae on the grass.
- Fluke organisms are highly prolific with one single adult capable of producing up to 50,000 eggs per day.
- Dry conditions can lead cattle to graze areas favoured by the intermediate host increasing the risk of liver fluke infection.

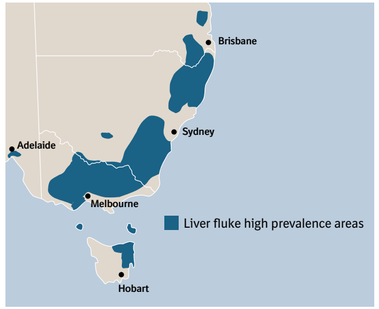


Figure 1: Liver fluke high prevalence areas in Australia.

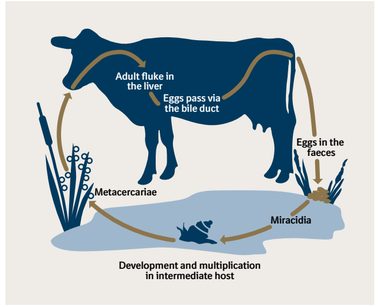
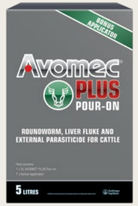


Figure 2: The lifecycle of *Fasciola hepatica*.

Strategic Liver Fluke Control

In order to implement a successful strategic control of liver fluke it is important to treat cattle at the right time. The following tables show recommended products and treatment times.*

Recommended Treatment Program for Beef Cattle



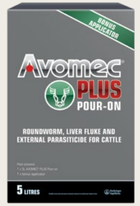
1st Treatment

APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR

- ✔ Most important treatment to take advantage of declining exposure to reinfection
- ✔ To control early immature, immature and adult flukes
- ✔ Reduce further pasture contamination

2nd Treatment

- ✔ Preventative treatment
- ✔ To control adult flukes that survived summer/ autumn
- ✔ Reduce pasture contamination



Additional Treatment

- ✔ Added treatment on farms with high levels of fluke disease
- ✔ After spring and early summer rain
- ✔ Young stock highly susceptible

Recommended Treatment Program for Dairy Cattle

1st Treatment

MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB

- ✔ Control of adult fluke causing liver damage
- ✔ Reduce pasture contamination and further infection
- ✔ Alternative to triclabendazole based fluke programs
- ✔ Nil milk withhold

2nd Treatment

- ✔ Control of adult fluke causing liver damage
- ✔ Reduce pasture contamination and further infection
- ✔ Alternative to triclabendazole based fluke programs
- ✔ Nil milk withhold

Additional Treatment

- ✔ Added treatment on farms/ regions with high levels of fluke disease
- ✔ Reduce pasture contamination and further infection
- ✔ Nil milk withhold

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Impact of liver fluke on animal health and production

Liver fluke cause two types of disease in cattle:

1) sudden onset, and
2) long term infection.

The type of disease depends on the number of fluke ingested and the class of stock.

Sudden onset disease

- Sudden outbreaks are common in young stock infected with a large number of parasites over a short period. The level of infection determines the severity of the problem and ultimately the response to treatment.
- Migrating immature flukes cause liver damage resulting in blood loss, abdominal pain, and jaundice. Severe cases might lead to sudden death while in less severe cases there may not be obvious clinical signs and death usually occurs within 8-10 weeks post-infection if left untreated.
- Severe cases rarely respond to treatment, as the liver damage is too widespread and irreparable, while less severe cases will respond to treatment if detected early in the course of the disease.

Long term disease

- Most common form of the disease in cattle and the main cause of economic losses in affected beef and dairy farms.
- Adult fluke migrate to the bile ducts where they ingest blood causing anaemia together with inflammation and thickening of the ducts.
- Clinical signs include pale mucous membranes (white gums), reduced appetite, bottle jaw and lethargy.

Productivity impact

- A recent study confirmed that cattle infected with liver fluke take on average 10 days longer to reach slaughter weight when compared with uninfected cattle.[1]
- Reduced weight gains ranging from 8% (low infection) to 28% (moderate infection) in beef cattle have been reported.[2]
- Several studies have reported milk production losses due to liver fluke ranging from 3% to 10%.[3]
- Reduced reproductive performance in dairy cattle with lower calving rates in infected heifers (40%) vs treated heifers (87%).[4]

Don't let liver fluke take away your profits, treat your cattle with Avomec Plus or Ivomec Plus.

*Avomec Plus is not suitable for lactating cows.

For further information, contact your local rural store or call Boehringer Ingelheim Customer Service on 1800 808 691.

References: 1. Mazeri, S., et al., *Estimation of the impact of Fasciola hepatica infection on time taken for UK beef cattle to reach slaughter weight.* Scientific Reports, 2017: p. 1-15. **2.** Cawdery, M.J., et al., *Production effects of liver fluke in cattle. I. The effects of infection on liveweight gain, feed intake and food conversion efficiency in beef cattle.* Br Vet J, 1977. 133(2): p. 145-59. **3.** Charlier, J., et al., *Recent advances in the diagnosis, impact on production and prediction of Fasciola hepatica in cattle.* Parasitology, 2014. 141(3): p. 326-35. **4.** Oakley, G.A., B. Owen, and N.H. Knapp, *Production effects of subclinical liver fluke infection in growing dairy heifers.* Vet Rec, 1979. 104(22): p. 503-7.

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