



Technical Update

Farm Animal

Spring drenching is the key to a sustainable and profitable liver fluke control program.

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- From August to October, adult stage liver fluke predominate in livestock (both sheep and cattle).
- Treatment now reduces exposure of livestock to pasture contamination in late spring/summer which can provide significant production benefits.
- Rotation to a non-triclabendazole based drench in spring is recommended best practice as part of a resistance management program.

Why we treat for liver fluke.

- Fluke cause an estimated \$100 million dollars in production losses in sheep and cattle per year¹ throughout Australia, and an estimated 40 million sheep and 6 million cattle graze in fluke regions¹.
- In sheep, liver fluke infection has been shown to result in reduced wool production, lambing percentages and growth rates in lambs. It can also result in the death of acutely affected animals¹.
- In cattle, liver fluke infection has been shown to result in reduced fertility, milk production, feed conversion, carcass yield and reduced growth rates. Infections are usually subclinical and 8-9% reductions in weight gain can occur with no clinical signs of disease².

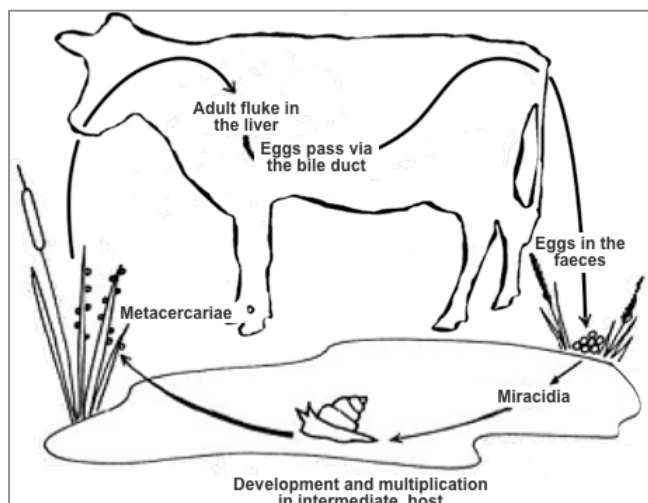


Figure 1. *Fasciola hepatica* (liver fluke) lifecycle (Source: Wormboss).

Key features of the liver fluke lifecycle.

Fasciola hepatica (liver fluke) is a trematode or flatworm that infects the liver of many mammals including sheep, cattle, horses, pigs, goats, alpacas, as well as native/feral animals (kangaroos, wombats and rabbits) and humans.

It has an indirect lifecycle, meaning it needs an intermediate host, in this case specific types of fresh water snails, to complete its lifecycle. Cold conditions over winter affect the development of both the fluke and its intermediate host and this has important implications for the control and prevention of disease.

Once the mean daily temperature drops below 10°C the fluke eggs cease to hatch, larval stages within the intermediate host (snails) cease development and the snails stop reproducing. This means no additional contamination of pasture with the infective stage (Metacercaria) of the liver fluke life-cycle will occur until seasonal conditions warm up again in late spring.

As a result there is reduced exposure of livestock to new infection over winter and into spring as autumn pasture contamination is either ingested or dies. The overall effect of this is that the majority of liver fluke in livestock have had time (8-10 weeks) to develop into the adult stage.

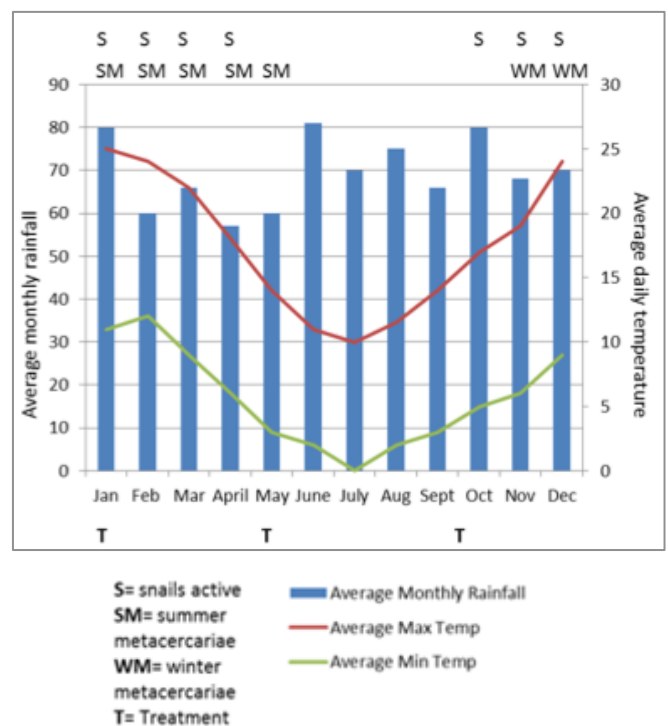


Figure 2. Pasture contamination with Metacercariae (Source: NSW DPI prime fact)¹.



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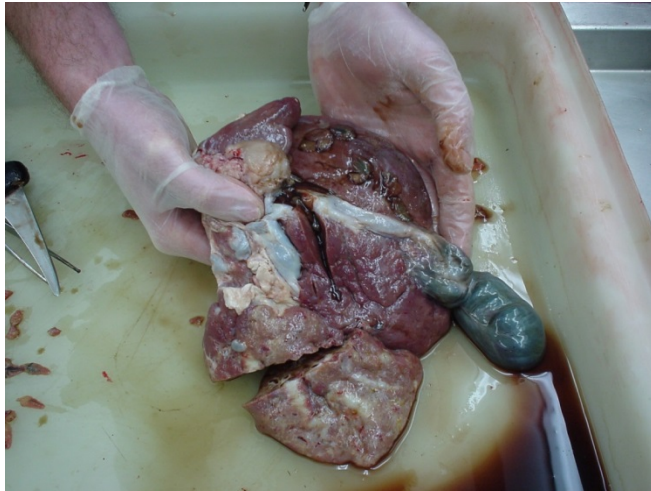


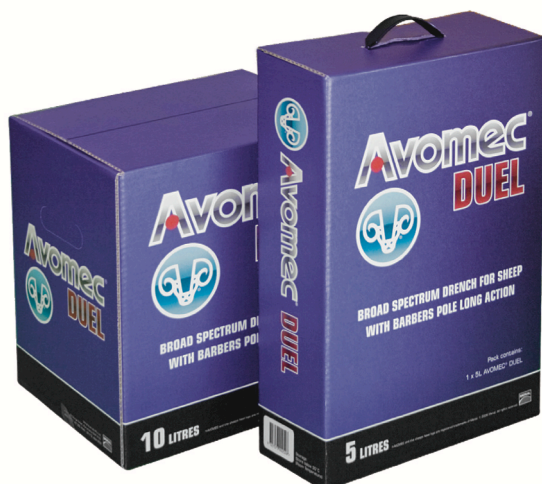
Figure 3. Chronic liver fluke damage (VHR).

Spring control measures for fluke.

The key principles of liver fluke control are:

- Strategic use of drenches based on parasite epidemiology (host, parasite and environmental factors).
- Grazing management to minimize the exposure of stock to infection.

In early spring there is less risk of reinfection from pasture, and the fluke that have survived within livestock are likely to be at the adult stage. Therefore treatment of all stock at this time with an adulticide has the multiple benefit of removing resident liver fluke infection, preventing pasture contamination with eggs at a time when fluke development and snail activity is about to recommence and rotating away from triclabendazole based drenches to manage resistance development.



The use of a flukicide that specifically targets adult fluke (such as clorsulon in IVOMECS® Plus[^] for cattle, or closantel in AVOMECS® Duel^{*} for sheep) between August and October is recommended best practice resistance management on all farms with a known fluke problem.

Drenching with these products in spring will[#]:

- Kill adult fluke to reduce fluke burdens and pasture contamination in late spring and summer thereby improving the productivity of infected livestock.
- Provide the additional production benefit of timely spring roundworm control.
- Permit rotation of active ingredients away from triclabendazole thereby reducing selection pressure on this important active.



For further information please contact your Boehringer Ingelheim Territory Manager or call our Technical Hotline on 1800 808 691 or visit www.merial.com.au

References:

1. Boray *et al.* (2007) NSW DPI prime facts - Liver fluke disease in sheep and cattle
2. Hope-Cawdrey *et al.* (1997) Production effects on liver fluke in cattle

^{*}AVOMECS® Duel contains abamectin and closantel

[^]IVOMECS® Plus contains ivermectin and clorsulon

[#]See product labels for full claim details and instructions

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