

# Golden opportunity for liver fluke

This month is a golden opportunity to revise parts of the complicated life cycle and medical treatment of the tenacious trematode liver fluke (*Fasciola hepatica*), **Richard Knight** advises



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With only four different medicines available to treat the condition in sheep, the devil is in the detail of the life cycle, on-farm conditions and the efficacy of products against the stage of fluke we are expecting them to treat.

If timing errors creep in at every stage of the process, then the recommended treatment has a limited chance of success but a high expectation placed on it.

Let's look at the medicines, put most of the trade names aside and focus on the active ingredients. They are oral albendazole, oral ricobendazole (which is albendazole oxide), oral tri-

clabendazole, oral closantel and injectable nitroxylin.

The first two, albendazole and ricobendazole, are effective against adult flukes and eggs only, so are useful in treating sub-acute and chronic fasciolosis, as well as reducing pasture contamination with eggs.

Triclabendazole is effective against immature and adult flukes (Fasinex is the only product to claim effectiveness from two days after emergence of immature flukes), while closantel and nitroxylin are effective against later immature flukes and adults.

The datasheet for Flukiver (closantel) gives us a table showing limited effectiveness from three-week immatures to good kill rates of eight-

week immatures. The time taken to maturity in the end host can vary between eight and 12 weeks, so this is where the first error can creep in. At best a product that will kill adult flukes is used eight weeks after the infection could have started; at worst the flukes will mature four weeks later and the product may be less than 90% effective, which means that liver damage will still occur.

At the very worst the animal could be treated 12 weeks after the first risk and suffers a heavy burden of infection, where liver damage has been occurring unchecked before treatment.

If a product such as ricobendazole or triclabendazole is used, which requires

processing by the liver to work properly, then an apparent treatment failure may be observed. Also, the infection pressure on sheep is not static, but continuous and dynamic, meaning that all through the fluke maturing process, more infection can be picked up at different rates. It is safer to assume that an animal has fluke of a certain stage of progression and every stage behind that too, until a reduction in mean environmental temperature to below 10C causes the life cycle to cease, either through until next spring when the temperature increases, or to

a warm autumnal spell. This may occur through to the end of October.

I hope you're keeping up! Yes, it's involved, but by reading, re-reading and revising again and again, more folk will get up to speed and give better quality advice.

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