

Frequently asked questions about liver fluke

1. What is liver fluke?

Liver fluke is an internal parasite that can infect and damage the livers and reduce the overall productivity of sheep, cattle, horses, pigs, goats, alpacas and deer; even humans can be infected by liver fluke.

2. Where is liver fluke most prevalent?

Nationally, up to 40 million sheep and 6 million cattle graze pastures where liver fluke commonly occurs, predominantly across south-eastern Australia around shallow, slow moving water courses, marshy areas, springs, irrigation channels and soaks where the parasite's intermediate host snail breeds.

These areas are typically found where annual mean rainfall is about 600 millimetres or where irrigation supplements annual rainfall of around 400mm. Importantly, Western Australia proactively manages its fluke-free status.

3. How does liver fluke infect animals?

The liver fluke's lifecycle (see diagram) is dependent on a specific aquatic lymnaeid snail that breeds in waterways.

During the warmer months, when mean temperatures increase to above 10 degrees Celsius, liver fluke eggs hatch when separated from faecal material in wet areas. The released larvae invades the snail, multiplying and developing into a tadpole-like form that leaves the snail and swims until it attaches to vegetation where it takes the form of an infective cyst. Depending on conditions, this process can take between two and three months.

Animals are at most risk of ingesting the infective cyst when grazing around waterways. At this stage immature fluke parasites hatch in the small intestine and then penetrate the abdominal cavity. The flukes travel to the animal's liver where they burrow through the tissue before entering the bile ducts, a process which takes about 12 to 14 weeks in cattle, and between eight and 10 weeks in sheep. Here they become adult fluke where they lay eggs that are expelled through faeces to restart the life cycle. Each adult fluke can lay up to 50,000 eggs per day, rapidly contaminating pastures. Adult fluke have a long life and can remain in the liver, laying eggs, until the animal dies or has been successfully treated.

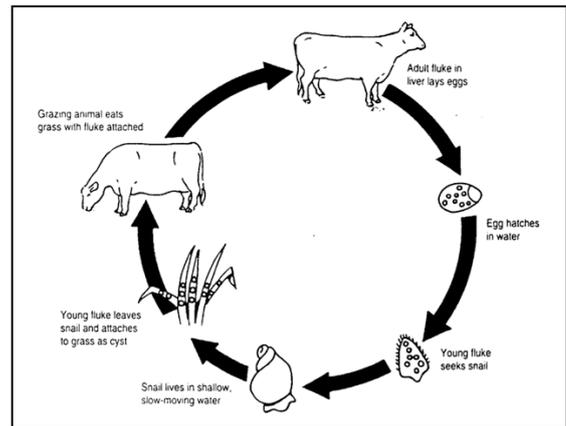


Diagram 1: Liver fluke life cycle. Source: Victorian Department of Primary Industries, AgNote, February 2007

4. What damage does liver fluke cause?

During early stage infection, when fluke are classified as early immature and are burrowing through the liver, affected animals may not display obvious symptoms, but production losses can be severe. When fluke reach adulthood in the bile ducts production losses can be manifested by symptoms including bottle jaw, anaemia and weakness. In unvaccinated stock black disease, which is associated with liver damage resulting from fluke, can cause sudden death.

The level of damage caused to an animal depends on the fluke burden in its liver and the stage of infection.

Sheep are more susceptible to acute (sudden onset) disease, which occurs when they have large numbers of immature fluke – a situation usually seen during autumn. The effects cause haemorrhaging and damage to the liver structure, which can result in reduced wool quality and production, and reduced lambing percentages and growth rates in lambs.

In **beef cattle**, chronic, longer term disease is more common, with the main effects being low weight gain in young cattle, decreased milk production and finally the condemnation of infected livers at slaughter. According to Meat and Livestock Australia, liver fluke can reduce cattle weight gains by 0.7 to 1.2 kilograms per week depending on the size of the fluke burden.

In **dairy cattle**, a heavy fluke burden can cause a loss of up to 300 litres of milk per cow per lactation.

In comparison to control strategies for other internal parasites, it is recommended a zero tolerance approach be taken once results prove positive for liver fluke, because even light burdens cause significant damage, particularly in younger stock, which are more vulnerable to the parasite.

It is also important to test purchased stock to mitigate the risk of contaminating fluke-free areas.

For further information please contact Sally Edgar, OneProfile Communications, on 02 8915 9900 or 0425 247 133.