



Trematodes/Liver Flukes - INTERPRETATION GUIDE

An often-overlooked parasitic risk

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In addition to the condemnation of affected livers at slaughter, liver flukes can cause subclinical performance losses, including reduced milk production and fertility, slower growth, and lower feed efficiency, sometimes even when the parasite burden is low.

Fasciola hepatica

In Canada, *Fasciola hepatica* has a limited geographic distribution, but outbreaks have been documented, particularly in the Quebec City region. Risk is closely associated with wet environments that support snails of the family Lymnaeidae, the intermediate hosts required for its life cycle. After multiplying within the snail, cercariae (motile larval stages of trematodes) emerge and encyst on vegetation as metacercariae, the infective larval stage, which cattle ingest while grazing. Once ingested, the immature flukes emerge from their cysts in the intestine, penetrate the intestinal wall, migrate through the abdominal cavity, and penetrate the liver capsule. They then migrate through the liver parenchyma for approximately six weeks before reaching the bile ducts, where they mature into adults. In cattle, infection is generally chronic: adult flukes are blood-feeding and cause liver fibrosis and calcification of the bile ducts. Tissue damage caused by migrating immature flukes can create anaerobic conditions that favor the multiplication of *Clostridium novyi*, the causative agent of infectious necrotic hepatitis, which can result in sudden death.

Albendazole is the only product licensed in Canada against adult *F. hepatica*.

Fascioloides magna

Fascioloides magna is a giant North American fluke whose reservoir hosts include wild cervids such as white-tailed deer. Cattle become infected when they share wet pasture with these animals and act as accidental dead-end hosts, in which the parasite cannot complete its life cycle. Larval development is particularly slow, with a prepatent period of at least 30 weeks. In cattle, the immune system produces a strong encapsulation response in the liver parenchyma, forming thick, fibrous pseudocysts in which the flukes are sequestered in a black, viscous fluid. These cysts do not communicate with the bile ducts, so the eggs remain trapped and are not shed. *F. magna* is minimally pathogenic in cattle, and infection is generally asymptomatic. At slaughter, *F. magna* infection is characterized by typical liver lesions and primarily results in economic losses associated with condemnation of affected livers.

A positive PCR result confirms the detection of parasite DNA in feces, but a negative result does not rule out liver fluke infection. For *F. hepatica*, detection may be limited during the prepatent period or when parasite burdens are low. This limitation is particularly important for *F. magna* in cattle, in which the absence of egg shedding can make fecal detection difficult.

For more information

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