



Understanding Liver Flukes

Understand, prevent and cope with liver flukes in sheep. Learn more from veterinarian Dr. Aaron Tangeman.

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By Dr. Aaron Tangeman

Q: My neighbors gave us their daughter's pet sheep when they moved. One morning, we went out to do chores and found it dead. Its lower jaw appeared swollen. What could have happened to it?

A: If the sheep's veterinary and medical care history weren't made available to you, I can only offer a possibility for the sudden death of a sheep that otherwise seemed healthy.

Because of their grazing habits, animals are prone to ingesting and developing internal parasites. One parasite capable of causing sudden death in sheep is *fasciola hepatica*, also known as the common liver fluke. The leaf-shaped adult flukes can grow up to 30 mm long and 2-12 mm wide within the bile ducts.

Many species can be infected but the greatest economic impact for agricultural communities is often seen in cattle and sheep.

Infection by the common liver fluke, fasciolosis, can present in three forms: Chronic, which is often fatal in sheep, but rarely in cattle which can develop resistance. Subacute, which is mostly seen in sheep and is frequently fatal. Acute, which must be differentiated from "black disease," an infectious necrotic hepatitis caused by toxins produced by *Clostridium novyi*, type B.

Acute fasciolosis in sheep can cause death within six weeks of infection. Sheep may show a distended and painful abdomen, as well as anemia. Death can occur suddenly. Animals suffering subacute fasciolosis may survive significant liver damage slightly longer before succumbing to hemorrhage and anemia. Signs of chronic fasciolosis include: anemia, edema about the lower jaw (bottle jaw), decreased market weights, and unthriftiness. (Dairy cattle experience decreased milk production.) Chronic liver damage can compound over several years since sheep do not seem to develop a resistance to the infection.

Livestock producers properly instructed by their veterinarian in using the FAMACHA® system, originally designed to diagnose the presence of *haemonchus contortus* in sheep, can examine the lower eyelid of the sheep to determine the presence and severity of anemia. Grading eye color for the occurrence of anemia decreases the need for anthelmintics administration by limiting dosing only to animals demonstrating signs of infection. Diagnosis can be based upon fecal examination for the presence and egg count of a specific parasite. You should be aware that actual shedding of eggs may lag infection by up to 16 weeks.

The definitive diagnosis of fasciolosis is made by necropsy. Physical examination of the liver demonstrates adult flukes.

Consult your veterinarian to determine if your geographic location is at risk for fluke infestation. Management measures include providing clean food, pasture, and water sources. Consider raising a breed of sheep known for a better body score that may help withstand infection. Quarantine new arrivals to your farm.

Remember each "flukicide" is effective at differing stages of fluke development. Initially administer dewormers from two families of anthelmintics to new farm arrivals, in adequate dosages, to slow the development of resistance. You should avoid underdosing as it contributes to drug resistance.

Lastly, you may have to consider culling animals that require frequent treatment.

Dr. Aaron Tangeman received his Doctorate of Veterinary Medicine from the Ohio State University in 1998 and practices in Northeast Ohio.

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