



# Cattle Producer's Handbook

Animal Health Section

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## Liver Fluke Prevention for Cattle

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Liver flukes are considered to be an important parasite of cattle grazing in the northwestern coastal area of the United States, especially in lowlands and river bottom pasture areas. The presence of liver flukes in this part of the country has been well documented, although the amount of economic loss caused by flukes, in terms of lost production, has never been properly identified.

Since these parasites invade a vital organ, however, their overall importance to an infected animal is seldom questioned. The main area of concern to most producers raising cattle on fluke-infested pastures is how can these parasites best be controlled.

The common liver fluke, *Fasciola hepatica*, is the main fluke found in cattle in the Northwest. The life cycle of the common fluke has been well studied and in general terms is fairly predictable. The first ingredient necessary to allow the flukes to survive is the presence of an intermediate snail host (only *Lymnaea* snails are susceptible) along with sufficient moisture during most of the year to sustain the snail's presence.

The pattern of infection appears to coincide with the snail's life cycle as well as the fluke's life cycle. The combined cycle begins with the presence of a mature fluke in a parasitized animal, laying eggs that pass out in the manure, hatch, and infect a snail (if present). As winter approaches, these infected snails excavate into the mud and hibernate underground for the winter. In the spring, as the soil temperature rises, the snails emerge, release the immature flukes that encyst on the vegetation along the water area.

As the spring moisture recedes the encysted flukes become available to the cattle as they graze near the water areas. As summer approaches and the water areas dry up, most fluke transmission stops. The ingested immature

flukes, however, continue development to maturity in the animal's body. This process of maturity development takes approximately 3 months before developing to adult flukes, which begin to lay eggs starting the transmission cycle all over again.

Since live fluke transmission occurs only in the wet areas of a pasture in fluke endemic regions, keeping cattle away from these areas when possible is the best method of control. Most cattle producers cannot afford to do this, therefore, treatment of liver flukes at a strategic time when the flukes are first susceptible to treatment but before these flukes have matured and begun laying eggs is the next best method of control.

Strategic control of the common liver fluke is possible by timing treatment to break the life cycle and eliminate the flukes before they mature fully and shed eggs back on the pasture (Fig. 1). Strategic treatment, therefore, is designed to both treat existing infections as well as to prevent future transmission of the parasite.

After the recent introduction of effective flukicides on the cattle market, producers have spent millions of dollars to control the common fluke with questionable results. Flukes appear to be as prevalent and economically important today as they were 10 years ago.

The reason for this continuing problem is that most of the "de-fluking" effort has been applied at the wrong time of year. Because "de-fluking" is often combined with the treatment of other parasites, these products are traditionally given in late fall when most producers are treating their cattle for stomach and intestinal worms. Late fall is too late in the season for effective liver fluke control. Unfortunately, the best time to strategically kill liver flukes is not the same as it is for other types of parasites.