

TECHNICAL BRIEF

ICON^F INJECTION

For the treatment & control of internal & external parasites of cattle, including adult liver flukes

Active Constituent: 10g/L Ivermectin & 100g/L Clorsulon

Introduction

ICON-F is a well proven injectable combination of ivermectin and clorsulon. By combining these two ingredients ICON-F delivers activity against a broad range of internal and external parasites, including adult liver fluke. Within a planned programme of parasite control the primary role of ICON-F is to provide a strategic liver-fluke treatment at a time of the year (usually around Autumn/Early Winter) when liver fluke infection is present or most likely.

Liver Fluke Background:

Fasciola hepatica is the only species of liver fluke found in cattle in New Zealand. Since its introduction in the 19th century distribution has become widespread. In fact there are now very few regions in the country where liver fluke has not been reported at some time or another. As this is the case it cannot be assumed that liver fluke will not be present in a particular area or on a particular property.

The Liver Fluke Life Cycle:

Liver fluke have a complex life-cycle relying on a intermediate snail host (of the *Lymnaea* genus) typically found in damp or swampy environments.

The life cycle commences when a female lays eggs in the liver of an infected cow. Immature eggs are discharged in the biliary ducts and taken out in the faeces. At suitable temperatures, a miracidium (free-living stage) develops within the egg, hatches and migrates in thin films of moisture, actively seeking the *Lymnaea* snail host. Miracidia can only survive for a few hours outside the snail. Within the snail they undergo two further developmental

stages, including multiplication, eventually becoming infective cercariae, which emerge from the snail when the temperature and moisture levels are suitable. The cercariae migrate onto wet herbage, encysting as metacercariae, the highly resilient infective stage of the liver fluke. Following ingestion, the young flukes migrate to the liver, through which they tunnel, causing considerable tissue damage. The infection is patent about 10-12 weeks after the metacercariae are ingested. The whole cycle takes 18-20 weeks.



Effect on production:

The major concern with liver fluke is the loss of production as a result of liver damage. This loss often goes unnoticed initially but shows up as decreased weight gain, lowered milk production and reduced feed conversion. Other visible symptoms can include “bottle jaw” (submandibular oedema), diarrhoea or constipation. The negative impact of liver fluke can persist for long periods if not treated. Acute ‘fasciolasis’ is mainly seen in calves, while Chronic fasciolasis is mainly seen in adult cattle.

Treatment with ICON-F:

The ICON-F dose rate is 1mL per 50kg (0.2mg ivermectin and 2mg clorsulon / kg bodyweight) by SUBCUTANEOUS INJECTION in the anterior half of the neck.

After subcutaneous injection maximum plasma levels of Ivermectin are reached 1-2 days after treatment while maximum plasma levels of clorsulon are reached about 6-8 hours after treatment. Ivermectin works by blocking the transmission of electrical activity in invertebrate nerve and muscle cells in parasites while Clorsulon works by inhibiting various enzymes involved in the glycolytic process of flukes, i.e. it makes it impossible for the flukes to obtain energy from glucose.

When to use ICON-F

Cattle tend to acquire infections of liver fluke when grazing irrigated or swampy areas in summer (in drought conditions animals are even more likely to graze these areas). The most appropriate time for liver fluke treatment/s is from autumn to early winter (April-June). This helps prevent productivity loss over the succeeding winter. If untreated, infected cattle can permit fluke to complete their life cycle and shed eggs back onto the pasture thereby posing a threat to animals the next summer.

The relatively short meat and milk withholding period of ICON-F also allows the product to be used in dairy cows at drying-off.

It is important to note however that ICON-F is efficacious against adult liver fluke. In some cases an additional treatment a month or two following the infection period may be warranted to eliminate the existing parasite burden.

How does ICON-F fit into an overall cattle treatment plan⁽¹⁾

	Young Beef or Dairy Replacements	Adult Dairy Cattle (all injection plan)	Adult Dairy Cattle (mixed treatment plan)
Preceding Treatments	CORPORAL Oral drench from weaning followed by BOSS Pour-on or Injection		
Autumn Fluke Treatment	ICON-F	ICON-F at drying-off	NEXEPRIN MICROJECT post calving/ pre-mating
Successive Treatments	Continue with routine BOSS Pour-on or BOSS Injection treatments as required	ICON-F at drying-off	REFLEX, EPRISURE or NEXEPRIN MICROJECT post calving/ per-mating
	Cattle over 18 months of age may be treated with NEXEPRIN Microject		

(1) Seek veterinary assistance with establishment and monitoring of the plan. Follow good treatment practices and use refugia where practical.

ICON-F Label claims:

ICON-F provides effective treatment and control of the following parasites of cattle:

- Gastrointestinal roundworms: For the control of sensitive adult and immature *Ostertagia ostertagi* (including fourth stage larvae), *O. lyrata*, *Trichostrongylus axei*, *T. colubriformis*, *Cooperia oncophora*, *C. punctate*, *Bunostomum phlebotomum*, *Oesophagostomum radiatum* and adult stages of *Nematodirus helvetianus*, *N. spathiger* and *Trichuris spp.*
- Lungworms: adult and fourth stage larvae *Dictyocaulus viviparus*
- Liver Fluke: *Fasciola hepatica* (adult)
- Sucking Lice: *Linognathus vituli*, *Haematopinus eurysternus*, *Solenoptes capillarus*
- Mites: *Psoroptes spp.*

Persistent Activity:

- *Ostertagia spp* – 14 days
- *Cooperia* – 7 days
- *Dictyocaulus viviparus* & *Oesophagostomum radiatum* – 21 days

ICON-F Injection also aids in the control of:

- Biting Lice: *Bovicola bovis*
- Mites: *Chorioptes bovis*

ICON-F Withholding Times:

MEAT: 28 days. MILK: 14 days. Where i/m injection may have occurred, animals producing meat or offal for human consumption must not be sold for slaughter during or within 91 days of treatment.

Storage:

Store below 25°C. Protect from light.



CORPORAL®, BOSS®, EPRISURE™, ICON-F, NEXEPRIN®, MICROJECT™ and REFLEX® are registered trademarks of Alleva Animal Health Limited. Approved under the ACVM Act 1997, Nos. A11042, A10830, A10817, A11052, A11186, A10854, A10666. See www.foodsafety.govt.nz for registration conditions.