

EPRICARE Pour-On – Indications

Cattle - For the treatment and control of adult and fourth larval stages (L4) of gastrointestinal nematodes (including inhibited immature *Ostertagia ostertagi* and *Cooperia* spp.), lungworm (*Dictyocaulus viviparus*), biting and sucking lice (*Damalinia bovis*, *Linognathus vituli*, *Haematopinus eurysternus* and *Solenopotes capillatus*), mange mites (*Chorioptes bovis* and *Sarcoptes scabiei*) and buffalo fly (*Haematobia irritans exigua*). EPRICARE Pour-On aids in control of cattle tick (*Boophilus microplus*).

WITHHOLDING PERIODS

CATTLE MILK: NIL

CATTLE MEAT: NIL

EXPORT SLAUGHTER INTERVAL (ESI): NIL

Dose Rate

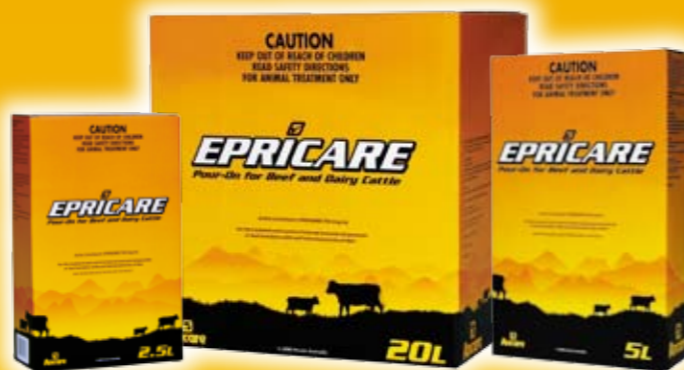
1mL for each 10 kg of liveweight.

Pack Sizes

Available in 2.5 Litre, 5 Litre and 20 Litre packs.

Both the 2.5L and 5L pack sizes are packaged in convenient backpacks for easy use.

Liveweight (kg)	Dose Volume (ml)	Doses per Pack		
		2.5L	5L	20L
Up to 50	5	500	1000	4000
51-75	7.5	333	666	2666
76-100	10	250	500	2000
101-125	12.5	200	400	1600
126-150	15	166	333	1333
151-175	17.5	142	285	1142
176-200	20	125	250	1000



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References

- 1 Gogolewski RP *et al.* (1997). *Vet Parasitol* 69:95-102
- 2 Gross SJ *et al.* (1999). *Vet Rec* 144 :581-587
- 3 Sanchez J *et al.* (2002). *Prev Vet Med* 56:165-177
- 4 McPherson WB *et al.* (1999). *Proc AAVP*. Abstr.28

EPRICARE®

Pour-On for Beef and Dairy Cattle

***Anytime, anywhere ...
it's got you covered***

EPRICARE®

Pour-On for Beef and Dairy Cattle

Active Constituent: EPRINOMECTIN 5mg/mL

For the treatment and control of internal and external parasites of beef and dairy cattle and internal parasites of deer.



Another smart solution from:



Get it from:



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EPRICARE Pour-On contains the active compound **eprinomectin**; the result of an exhaustive research and development program designed to deliver an active molecule superior to those used in earlier generation pour-ons. The eprinomectin molecule was selected after an initial screening of more than 500 compounds in the macrocyclic lactone (ML) family. Highlights of EPRICARE Pour-On are summarised below:

- EPRICARE Pour-On has outstanding activity against a wide range of internal parasites, including *Ostertagia ostertagi* (includes inhibited larvae), lungworm, and even consistently high activity against *Cooperia* spp.
- EPRICARE Pour-On has the potency to allow full claims against both adult & immature *Nematodirus helvetianus*.
- EPRICARE Pour-On is effective against biting and sucking lice, chorioptic and sarcoptic mange mites, buffalo fly and also aids in the control of cattle tick.
- EPRICARE Pour-On has zero meat withholding.
- EPRICARE Pour-On has zero milk withholding.
- EPRICARE Pour-On has the convenience of weatherproof topical application.



Formulation

The active molecule, eprinomectin, was selected for its potency and safety. A key characteristic of the molecule is that it has a very low level of partitioning into the milk of treated animals. As minor formulation changes can have a major impact on the efficacy of ML compounds, a vehicle for eprinomectin was developed that would ensure retention, or even extension of the positive qualities of the molecule. The formulation selected has the following characteristics:

- Weatherproof
 - Not affected by rain
 - User friendly in temperature extremes, cold and hot
 - Retains full efficacy when used in cattle exposed to the sun
- Effective in long-haired and short-haired cattle
- Easy to apply
- No "runoff" – the dose stays on the animal
- Odourless
- Non-flammable
- User safety: no special requirements for use of clumsy protective masks, gloves and aprons
- High levels of efficacy against endo- and ectoparasites

The final formulation together with the properties of the eprinomectin molecule has resulted in EPRICARE Pour-On – a quality pour-on product that is highly effective against a broad spectrum of parasites, and is safe and convenient to use.

Efficacy

Following the initial screening that highlighted the potency of eprinomectin, 18 dose selection studies were conducted against a wide range of the important endo- and ectoparasites of cattle.

Efficacy against worms (gastrointestinal parasites and lungworm)

Forty-two controlled studies were conducted to confirm the efficacy of EPRICARE Pour-On against gastrointestinal and lung worms, confirming its broad spectrum of activity.

Table 1: Worm species and percentage efficacy of EPRICARE Pour-On in trials to establish therapeutic efficacy

Worm	Species	EPRICARE Pour-On Efficacy	
		Adults	Fourth stage larvae
Gastrointestinal worm			
Small brown stomach worm	<i>Ostertagia ostertagi</i>	>99%	>99%
	<i>O. ostertagi</i> inhibited 4 th stage larvae		>99%
Brown stomach worm	<i>Ostertagia lyrata</i>	>99%	Not tested
Small intestinal worm	<i>Cooperia oncophora</i>	>99%	>100%
	<i>Cooperia punctata</i>	>99%	>99%
	<i>Cooperia pectinata</i>	>99%	>99%
	<i>Cooperia surnabada</i>	>99%	>99%
Barbers pole worm	<i>Haemonchus placei</i>	>99%	>99%
Stomach hair worm	<i>Trichostrongylus axei</i>	>99%	>99%
Intestinal hair worm	<i>Trichostrongylus colubriformis</i>	>99%	>99%
Thin necked intestinal worm	<i>Nematodirus helvetianus</i>	>99%	>99%
Nodule worm	<i>Oesophagostomum radiatum</i>	>99%	>99%
Whip worm	<i>Trichuris</i> spp.	>97%	Not tested
Hook worm	<i>Bunostomum phlebotomum</i>	>99%	>100%
Lungworm			
	<i>Dictyoaulus viviparus</i>	>99%	>99%

The unprecedented potency of EPRICARE Pour-On is shown in established claims against both adult and immature stages of ***Nematodirus helvetianus***. Consistently high efficacy is also shown against ***Cooperia* species** which are dose-limiting parasites for other ML endectocides.



Hookworm Small intestinal worm Small brown stomach worm Nodule worm

Persistent efficacy against worms

At the recommended dose rate, Epricare Pour-on prevents reinfection of cattle with gastrointestinal parasites for up to 28 days, as detailed in Table 2.

Table 2: Worm species and persistent efficacy of EPRICARE Pour-On

Gastrointestinal worm		EPRICARE Pour-On prevents reinfection for:
Small brown stomach worm	<i>Ostertagia ostertagi</i>	Up to 28 days
	<i>Ostertagia</i> spp.	Up to 28 days
Brown stomach worm	<i>Ostertagia lyrata</i>	Up to 28 days
	<i>Ostertagia leptospicularis</i>	Up to 28 days
Small intestinal worm	<i>Cooperia oncophora</i>	Up to 28 days
	<i>Cooperia punctata</i>	Up to 28 days
	<i>Cooperia</i> spp.	Up to 28 days
	<i>Cooperia surnabada</i>	Up to 28 days
Thin necked intestinal worm	<i>Nematodirus helvetianus</i>	Up to 28 days
Nodule worm	<i>Oesophagostomum radiatum</i>	Up to 28 days
Stomach hair worm	<i>Trichostrongylus axei</i>	21 days
Intestinal hair worm	<i>Trichostrongylus colubriformis</i>	21 days
	<i>Trichostrongylus</i> spp.	21 days
Barbers pole worm	<i>Haemonchus placei</i>	21 days
Lungworm		
	<i>Dictyoaulus viviparus</i>	28 days

Efficacy against ectoparasites

In over 20 studies, EPRICARE Pour-On was assessed for efficacy against lice and mites. Naturally infested animals were allocated to receive EPRICARE Pour-On or were kept as untreated controls. High efficacy against these ectoparasites (>99% achieved in less than 14 days from time of treatment) was demonstrated for eight weeks following treatment with EPRICARE Pour-On.

Table 3: EPRICARE Pour-On is effective against the following ectoparasites:

Ectoparasite	Species name
Lice	
Biting louse	<i>Bovicola (Damalinia) bovis</i>
Long nosed sucking louse	<i>Linognathus vituli</i>
Short nosed sucking louse	<i>Haematopinus eurysternus</i>
Little sucking louse	<i>Solenopotes capillatus</i>
Mites	
Mange mite	<i>Chorioptes bovis</i>
Sarcoptic mange mite	<i>Sarcoptes scabiei</i> var. <i>bovis</i>
Buffalo fly	
	<i>Haematobia irritans exigua</i>

EPRICARE Pour-On also aids in control of Cattle Tick (*Boophilus microplus*) but is not recommended for use in strategic control programs.

Operator safety and ease of application

The formulation of EPRICARE Pour-On was carefully designed to maximise user convenience. It flows easily from the applicator in a range of environmental conditions, including extremely cold temperatures. It is **odourless** and **non-flammable**. **No special handler protection is required**. EPRICARE Pour-On remains on treated cattle so that full efficacy is maintained, regardless of hair coat and whether cattle are indoors or outdoors.

EPRICARE Pour On – the proven WEATHERPROOF endectocide

Inclement weather is irrelevant; EPRICARE Pour-On is effective whether cattle are wet at the time of treatment or exposed to rain after treatment¹. In a study to determine the impact of rain on treatment efficacy, cattle were subjected to a simulated heavy rain shower. For one group, the "rain" was applied prior to treatment so that cattle were wet when EPRICARE Pour-On was applied. Other cattle were subject to heavy "rain" 1 hour, 3 hours or 6 hours after treatment. There was no impact of rain on efficacy.

No effect of hair length on efficacy

To assess whether different hair coat thickness could affect the efficacy of EPRICARE Pour-On, a study was conducted using long-coated Welsh-black calves. There were no significant differences in adult worm numbers between treated animals which had been clipped and those which had not. The length of hair at the application site had no effect on the efficacy of EPRICARE Pour-On.

Safety

The wide margin of safety of EPRICARE Pour-On was confirmed by repeated treatments of cattle at multiples of the therapeutic dose of 1X, 3X or 5X at 7-day intervals without any side effects being observed. In safety studies on breeding bulls no adverse health effects or sperm abnormalities were observed at a 3X dose. In safety studies on cows, a 3X dose administered before mating, during pregnancy or during lactation until calf weaning demonstrated that EPRICARE Pour-On is safe to use in breeding cows.

Productivity benefits

Studies have shown that treatment of dairy cows during the dry and/or at parturition with effective anthelmintics results in significant increases in milk production (median increase 0.63kg/day)². Treatment of dairy cows near calving with topical eprinomectin has been shown to result in:

- higher pregnancy rates
- reduced calving to conception intervals, and
- fewer services per conception.^{3,4}

ZERO MILK and ZERO MEAT withholding periods

An important selection criterion for eprinomectin was its ability to partition away from milk. This property, coupled with the high safety profile of eprinomectin, supports a **zero milk** withholding period for lactating dairy cows. Milk from cattle may be used for human consumption at any time following treatment with EPRICARE Pour-On. The safety and pharmacokinetic profile of eprinomectin also allows for a **zero meat** withholding period.

