

# Eprizero<sup>®</sup>

(eprinomectin)

**POUR-ON** for Beef and Dairy Cattle

**99.9%  
Effective**

against the  
major species  
and stages of  
parasites

**ZERO**  
days meat  
withdrawal

**SAME**  
active ingredient  
and dosing  
regimen as  
**Eprinex<sup>®</sup>**  
(eprinomectin)

**ZERO**  
milk  
discard



**PROTECT HERD  
PERFORMANCE**  
FROM 39 PARASITE SPECIES

**IMPORTANT SAFETY INFORMATION:** No meat or milk withdrawal is required when used according to label. Do not use in calves intended for veal or unapproved animal species as severe adverse reactions, including fatalities in dogs, may result.



# Eprizero<sup>®</sup> (eprinomectin)

**POUR-ON** for Beef and Dairy Cattle

Eprizero<sup>®</sup> Pour-On for treatment and control of 39 species and stages of parasites.



Eprizero<sup>®</sup> (eprinomectin) Pour-On contains the same active ingredient as Eprinex<sup>®</sup> (eprinomectin) Pour-On, utilizing identical dosing regimens.

Eprizero<sup>®</sup> Pour-On provides excellent broad-spectrum treatment and control against internal and external parasites, and return on investment, in a convenient pour-on formulation.



## DRIVE RETURN ON INVESTMENT

Research confirms treatment for parasites with eprinomectin can increase milk yield by 2.07 lbs per cow per day.<sup>1</sup>



## BROAD-SPECTRUM TREATMENT

99.9% effective against the major species and stages of parasites



## SHORTER CALVING INTERVAL

Following treatment for parasites with eprinomectin, both heifers and dairy cows show improved fertility, i.e. 58% v 38% conception rate at first service.<sup>2</sup>



**ZERO  
MILK  
DISCARD**

**ZERO  
MEAT  
WITHDRAWAL**

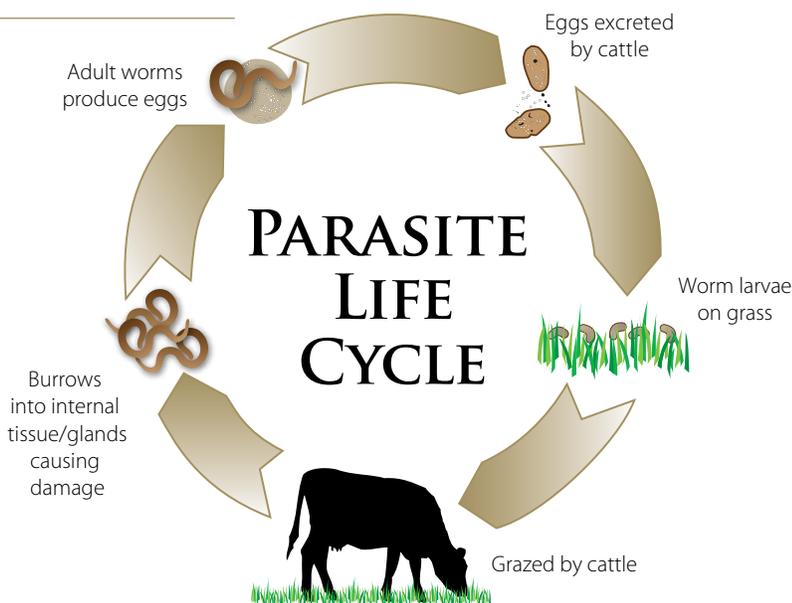


# STOPS PARASITES AT THEIR SOURCE FOR LONGER CONTROL AND SAFETY

Studies have shown eprinomectin kept efficacy levels higher than 90% from 2 up to 28 days<sup>3</sup> versus competitive pour-on parasite treatments.

## PUT EPRIZERO® POUR-ON TO WORK TODAY

Additionally, research shows that the active ingredient in Eprizero® Pour-On outperformed Cydectin® (moxidectin), Ivomec® (ivermectin) and Dectomax® (doramectin) in head-to-head university studies.<sup>3</sup>



INTERNAL PARASITES		EXTERNAL PARASITES
<small>A=ADULT STAGE L4=LARVAL STAGE</small>		
Brown stomach worm <i>Ostertagia ostertagi</i>	A, L4	<b>LICE</b>
Brown stomach worm (inhibited)	L4	Biting louse <i>Damalinia bovis</i>
Barbers pole worm <i>Haemonchus placei</i>	A, L4	Short-nosed cattle louse <i>Haematopinus eurysternus</i>
Black scour worm <i>Trichostrongylus colubriformis</i>	A, L4	Long-nosed cattle louse <i>Linognathus vituli</i>
Thread-necked intestinal worm <i>Nematodirus helvetianus</i>	A, L4	Small blue louse <i>Solenopotes capillatus</i>
Intestinal threadworm <i>Strongyloides papillosus</i>	A	<b>GRUBS</b>
Nodular worm <i>Oesophagostomum radiatum</i>	A, L4	Northern cattle grub 1/2/3 instar <i>Hypoderma bovis</i>
Whipworm <i>Trichuris spp</i>	A	Common cattle grub 1/2/3 instar <i>Hypoderma lineatum</i>
Lungworm <i>Dictyocaulus viviparus</i>	A, L4	<b>HORN FLIES</b>
Small intestinal worm <i>Cooperia oncophora</i>	A, L4	Horn flies <i>Haematobia irritans</i>
Small intestinal worm <i>C. punctata</i>	A, L4	<b>MANGE</b>
Small intestinal worm <i>C. surnabada</i>	A, L4	Mange mite <i>Sarcoptes scabiei</i>
Hairworm <i>T. axei</i>	A, L4	Mange mite <i>Chorioptes bovis (tailhead mange)</i>
Black scour worm <i>T. longispicularis</i>	A	
Hookworm <i>Bunostomum phlebotomum</i>	A, L4	

## RAIN IS NOT AN ISSUE

Where rain is an issue after treatment, the active ingredient in Eprizero® Pour-On was 99% effective against adults and immature larvae (L4) of the most economically significant internal parasites (worms) and nematodes found in cattle.<sup>4</sup>

## Eprizero® Pour-On - A HIGHER LEVEL OF CONVENIENCE AND SAFETY

- Kills 39 species and stages of internal/external parasites
- Weatherproof formulation that works in rain, cold or heat
- Zero milk discard
- Zero days meat withdrawal
- Safe for any age animal including pregnant cows, calves and bulls
- Nonflammable for improved safety and storage



**Norbrook offers  
Eprizero® Pour-On  
in convenient 1 Liter,  
2.5 Liter, 5 Liter and 20 Liter  
sizes for economical  
per-dose application.**

**CONVENIENT PACKAGING  
TO FIT YOUR NEEDS**



## KNOW YOUR ENEMY

External parasites such as lice, flies, ticks, grubs and mites limit dairy production and animal welfare.

### External parasites:

- Feed on body tissues such as blood, skin and hair
- Produce wounds and skin irritation
- Transmit diseases from infected animals to healthy ones
- Cause depressed appetite and subsequent weight loss, reduced milk production and general weakness
- Create sites for secondary invasion of disease organisms

Internal parasites are the most economically damaging parasites and are particularly detrimental in mature dairy cows at calving and during lactation resulting in serious economic losses.

### Internal parasites:

- Loss of milk yield
- Reduced feed intake and dramatically lowered live weight gain
- Reduced body condition



**Norbrook®**

# DOSING GUIDE

Body Weight	Dose Volume	Number of doses per pack			
		1 L	2.5 L	5 L	20 L
220 lbs (100 kg)	10 mL	100	250	500	2000
330 lbs (150 kg)	15 mL	66	166	333	1333
440 lbs (200 kg)	20 mL	50	125	250	1000
550 lbs (250 kg)	25 mL	40	100	200	800
660 lbs (300 kg)	30 mL	33	83	166	666
880 lbs (400 kg)	40 mL	25	62	125	500
990 lbs (450 kg)	45 mL	22	55	111	444
1100 lbs (500 kg)	50 mL	20	50	100	400



## TREATMENT REGIMEN

Administer Eprizero® Pour-On only by topical application at the dose rate of 1 mL per 10 kg (22 lb) of body weight, corresponding to the recommended dose rate of 0.5 mg eprinomectin per kg of body weight.

The product should be applied topically by pouring along the backline in a narrow strip extending from the withers to the tailhead.

Rainfall at any time before or after treatment will not affect the efficacy of the product.

To ensure administration of a correct dose, bodyweight should be determined as accurately as possible; accuracy of the dosing device (dosing cup or dosing gun delivery system) should be checked.

For best results use as part of a program to control both internal and external parasites of cattle based on the epidemiology of these parasites.



ANADA 200-563, Approved by FDA

# Eprizero® (eprinomectin)

## POUR-ON for Beef and Dairy Cattle

### Parasiticide

Contains 5mg eprinomectin/mL

Not for use in calves to be processed for veal.

### INTRODUCTION

Eprizero® Pour-On delivers effective internal and external parasite control in one application. Eprizero Pour-On contains eprinomectin, a unique avermectin. Its broad-spectrum efficacy in a weatherproof formulation, margin of safety, zero slaughter withdrawal and zero milk discard, make it a convenient product for parasite control in beef and dairy cattle, including lactating dairy cattle.

### MODE OF ACTION

Eprinomectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of this class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells. This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA). The margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels. The macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

### INDICATIONS

Eprizero (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, girdlers, sucking and biting lice, chiroptic and sarcopic mange mites, and horn flies in beef and dairy cattle of all ages, including lactating dairy cattle. Applied at the recommended dose volume of 1 mL (10 kg) (22 lb) body weight, to achieve a dose level of 500 mcg eprinomectin/kg body weight. Eprizero Pour-On is indicated for the effective treatment and control of the following parasites:

- |                                       |                 |
|---------------------------------------|-----------------|
| <b>Gastrointestinal Roundworms</b>    |                 |
| <i>Haemonchus placei</i>              | (adults and L4) |
| <i>Ostertagia circumcincta</i>        | (adults and L4) |
| Inhibited (adults and L4)             | (adults and L4) |
| <i>Trichostrongylus axei</i>          | (adults and L4) |
| <i>Trichostrongylus colubriformis</i> | (adults and L4) |
| <i>Trichostrongylus axei</i>          | (adults and L4) |
| <i>Cyathostomum</i>                   | (adults and L4) |
| <i>Cyathostomum</i>                   | (adults and L4) |
| <i>Cyathostomum</i>                   | (adults and L4) |
| <i>Neematodirus helveticus</i>        | (adults and L4) |
| <i>Neematodirus battus</i>            | (adults and L4) |
| <i>Bronchostrongylus rufinus</i>      | (adults and L4) |
| <i>Strongyloides papillosus</i>       | (adults only)   |
| <i>Trichostrongylus axei</i>          | (adults only)   |

**Lungworms**  
*Dictyocaulus viviparus* (adults and L4)

**Cattle Grubs (all parasitic stages)**  
*Hypoderma lineatum*  
*Hypoderma bovis*

**Lice**  
*Dermania bovis*  
*Linognathus setulosus*  
*Haematopys ephippium*  
*Solenopotes capillatus*

**Mange Mites**  
*Chorioptes bovis*  
*Sarcoptes scabiei*

**Horn Flies**  
*Haematobia irritans*

**Persistent Activity**  
Eprizero (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dictyocaulus viviparus* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

**Use Conditions**  
Varying weather conditions, including rainfall, do not affect the efficacy of Eprizero Pour-On.

**Management Considerations for Treatment of External Parasites**  
For best results Eprizero Pour-On should be applied to all cattle in the herd. Cattle introduced to the herd later should be treated prior to introduction. Consult your veterinarian or an entomologist for the most effective timing of applications for the control of external parasites.

**Chloroptic Mange:** In clinical studies evaluating the efficacy of Eprizero Pour-On against chloroptic mange mites, mites were not recovered from skin scrapings taken 8 weeks after treatment; however, chronic skin lesions were still present on some animals.

**Horn flies:** For optimal control of horn flies, as Eprizero Pour-On provides 7 days of persistent activity against horn flies, the product should be used as part of an integrated control program utilizing other control methods to provide extended control.

**DOSSAGE**  
The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mL (10 kg) (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tailhead.

**ADMINISTRATION**  
**Squeeze-Measure-Pour System (53.8 fl oz/1 liter pack with dispensing cap)**  
The dispensing cap is graduated in 5 mL increments. Each 5 mL will treat 100 lbs body weight. When body weight is between markings, use the next higher increment. Attach the dispensing cap to the container. Select the correct dose rate by rotating the adjuster top in either direction to position the dose indicator to the appropriate level. Hold the container upright and gently squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines. By releasing the pressure, the dose automatically adjusts to the correct level. Fill the container to deliver the dose. The "closed-or-stuck" position will close the system between dosing. If the animal being treated weighs more than 550 lbs (250 kg), refill the dispensing cap to the additional amount required to provide the total dose for that animal and apply as directed.

**Container (64.5 fl oz/2.5 liter pack; 169 fl oz/5 liter pack)**  
The applicator gun from Simco Tech, or equivalent, is recommended. Other applicators may exhibit compatibility problems resulting in locking, incorrect dosage or leakage. Remove the shipping cap from the backpack container and attach the vent cap provided. Attach the hose from the automatic dosing equipment to the outlet from the vent cap. Follow the applicator gun manufacturer's directions for priming the gun, adjusting the dose, and care of the applicator gun following use.

**Container (67.6 fl oz/2 liter container with draw-off device)**  
The draw-off device and applicator gun from Simco Tech, or equivalent, is recommended. Other applicators may exhibit compatibility problems resulting in locking, incorrect dosage or leakage. Screw Feeder pack cap and dip tube onto the 20 liter drum ensuring a tight fit. Connect the long 3m feed tube at one end to the spout on the Feeder pack cap and the other end to the applicator gun. Then follow the applicator gun manufacturer's directions for priming the gun, adjusting the dose, and care of the applicator gun following use.

When the interval between use of the applicator gun is expected to exceed 12 hours, disconnect the gun, draw off tubing and dip tube and cap from the product container, empty the product from the gun and tubing back into the container and replace the shipping cap.

Weight	Dose
220 lb (100 kg)	10 mL
330 lb (150 kg)	15 mL
440 lb (200 kg)	20 mL
550 lb (250 kg)	25 mL
660 lb (300 kg)	30 mL
770 lb (350 kg)	35 mL
880 lb (400 kg)	40 mL
990 lb (450 kg)	45 mL
1100 lb (500 kg)	50 mL

**ANIMAL SAFETY**  
Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose 3 times at 7 day intervals had no adverse effects on 8 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of myxiasis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

**RESIDUE WARNINGS**  
When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required. Therefore, meat and milk from cattle treated with Eprizero (eprinomectin) Pour-On may be used for human consumption at any time following treatment. A withdrawal period has not been established for pre-terminating calves. Do not use in calves to be processed for veal.

**WARNING**  
Keep this and all drugs out of the reach of children.  
**NOT FOR USE IN HUMANS.**

As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The safety data sheet (SDS) contains more detailed occupational safety information. To report adverse effects, obtain an SDS or for assistance, contact Norbrook at 1-866-591-5777.

**PRECAUTIONS**  
This product is for topical application only. Do not administer orally or by injection.

Do not apply to areas of the backline covered with mud or manure. Eprizero Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

**When to Treat Cattle with Grubs**  
Eprizero Pour-On is effective against all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the final fly (winter) fly season. While this is not peculiar to eprinomectin, destruction of *Hydrophora larvae* (cattle grub) at the period when these grubs are in vial areas may cause undesirable non-parasitic reactions. Killing *Hypoderma lineatum* when it is in the esophageal tissues may cause throat irritation. Killing H. bovis when it is in the vertebral canal may cause staggering or paralysis. Cattle should be treated either before or after these stages of grub development. Cattle treated with Eprizero Pour-On at the end of the fly season may be re-treated with Eprizero Pour-On during the winter without danger of grub-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

**ENVIRONMENTAL SAFETY**  
Studies indicate that when eprinomectin comes in contact with soil, it readily and tightly binds to the soil and becomes inactive over time. Free eprinomectin/eprinomectin may adversely affect fish and certain aquatic organisms. Do not permit cattle to enter lakes, streams or ponds for at least 6 hours after treatment. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration. As with other avermectins, eprinomectin is excreted in the dung of treated animals and can inhibit the reproduction and growth of pest and beneficial insects that use dung as a source of food and for reproduction. The magnitude and duration of such effects are species and life-cycle specific. When used according to label directions, the product is not expected to have an adverse impact on populations of dung-dependent insects.

**ADVERSE REACTIONS**  
No adverse reactions were observed during clinical trials.

**STORAGE CONDITIONS**  
Store container in the carton to protect from light and at temperatures up to 86°F (30°C). Storage at temperatures up to 104°F (40°C) is permitted for a short period of time, however, such exposure should be minimized.

**HOW SUPPLIED**  
Eprizero (eprinomectin) Pour-On for Beef and Dairy Cattle is available in 1 L (33.8 fl oz) container with a squeeze-measure-pour system, or in a 2.5 L (84.5 fl oz) or 5 L (169 fl oz) container or 20 L (67.6 fl oz) container intended for use with appropriate automatic dosing equipment.

**Restricted Drug (California) - Use Only as Directed.**  
Made in the UK.  
Manufactured by:  
Norbrook Laboratories Limited  
Newry, BT35 6PL, Co. Down, Northern Ireland.

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<sup>1</sup> Nodtvedt A, et al. Increase in milk yield following eprinomectin treatment at calving in pastured dairy cattle. Vet Parasitol. 2002;105:191-206.

<sup>2</sup> McPherson WB, et al. The impact of eprinomectin treatment on dairy cattle reproductive performance. Proceedings, 44th Annual Meeting of the American Association of Veterinary Pathologists, 1999; 41.

<sup>3</sup> Paul A, Hutchens D, Hart D, Maciel AE, Robertson C, Gross SJ. Comparison of Eprinomectin with other macrocyclic lactones in cattle. Proceedings, 45th Annual Meeting of the American Association of Veterinary Parasitologists, Salt Lake City, Utah, 2000.

<sup>4</sup> Cruthers L, Sloan R. Comparative efficacy of commercial pour-on parasiticides applied to wet cattle. Proceedings, 44th Annual Meeting of the American Association of Veterinary Pathologists, 1999, 29, 0518-563-102A

