

Eprizero[®] (eprinomectin)

POUR-ON for Beef and Dairy Cattle

Eprizero[®] Pour-On
for treatment and
control of 39 species
and stages of
parasites



99.9% Effective
against the
major species
and stages of
parasites

ZERO
days meat
withdrawal

SAME
active ingredient
and dosing
regimen as
Eprinex[®]
(eprinomectin)

STOPS PARASITES AT THEIR SOURCE FOR LONGER CONTROL AND SAFETY

Provides excellent broad-spectrum treatment and control against internal and external parasites, and return on investment, in a convenient pour-on formulation.

Research shows that the active ingredient in Eprizero[®] Pour-On outperformed Cydectin[®] (moxidectin), Ivomec[®] (ivermectin) and Dectomax[®] (doramectin) in head-to-head university studies.¹

Parasites adversely affect beef production and especially profitability by impacting weaning weights, weaned calf crop and feed efficiency. Treating for parasites with a broad-spectrum product like Eprizero[®], has shown an economic return of \$201/head.²



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.³



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

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.



approved by FDA under ANADA # 200-563

Eprinerone® (Eprinomectin) Pour-On for Beef and Dairy Cattle

Parasiticide

Contains 5 mg eprinomectin/mL

Not for use in calves to be processed for veal.

INTRODUCTION

Eprinerone® Pour-On defines effective internal and external parasite control in one application. Eprinerone 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 antiparasitics which have a unique mode of action. Compounds of the 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 lactone channels have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS

Eprinerone (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, girdles, sucking and biting lice, chorioptic and sarcoptic 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, Eprinerone Pour-On is indicated for the effective treatment and control of the following parasites:

Gastrointestinal Roundworms

Haemonchus placei
Ostertagia ostertagi
(including inhibited L4)

(adults and L4)
(adults and L4)

Trichostrongylus axei

(adults and L4)

Trichostrongylus colubriformis

(adults only)

Trichostrongylus axei

(adults only)

Cooperia oncophora

(adults and L4)

Cooperia punctata

(adults and L4)

Cooperia smithi

(adults and L4)

Nematodirus helvetianus

(adults and L4)

Oesophagostomum radiatum

(adults and L4)

Bronsonium phallosum

(adults only)

Strongyloides papillosus

(adults only)

Trichuris spp.

(adults and L4)

Dicrocoelium viviparum

(adults and L4)

Cattle Girds (all parasitic stages)
Hypoderma lineatum, *Hypoderma bovis*

Lice

Damalinia bovis, *Linognathus setosus*, *Haematopinus eurysternus*, *Solenopotes capillatus*

Mange Mites

Chorioptes bovis, *Sarcoptes scabiei*
Horn Flies
Haematobia irritans

Parasitic Activity

Eprinerone (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dicrocoelium viviparum* 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 Eprinerone Pour-On.

Management Considerations for Treatment of External Parasites

For best results Eprinerone 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.

Chorioptic Mange: In clinical studies evaluating the efficacy of eprinomectin against chorioptic 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 Eprinerone 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 backbone in a narrow strip extending from the withers to the tailhead.

Do not underdose. Ensure each animal receives a complete dose based on a current body weight. Underdosing may result in ineffective treatment, and encourage the development of parasite resistance.

ADMINISTRATION

Measuring Cup with Measure-Squeeze Pour System
Liter (35.8 fl oz) Container with 23 mL Measuring Cup

1. Insert the dip tube into base of the Measuring Cup. Leave the 2. Unused striping cap from container top.
 2. Unscrew the Measuring Cup onto container top.
 3. Squeeze the container gently to fill the Measuring Cup to the required dose. Release your grip and any excess will return to the container.
 4. **Measure:** To select the correct dose rate, rotate the adjuster cap (top) in either direction to position the dose indicator to the weight of the animal you want to treat. When body weights lie between markings, use the higher setting.
 5. **Squeeze** the container gently to fill the Measuring Cup to the required dose. Release your grip and any excess will return to the container.
 6. **Pour:** Apply the full dose by tipping and pouring along the backbone of the animal until the Measuring Cup is empty.
 7. **Storage:** The Measuring Cup should not remain attached to the container when not in use. Detach the Measuring Cup after each use and replace the shipping cap to close the container top. If the animal being treated weighs more than 550 lbs (250 kg), refill the Measuring Cup to the additional amount required to provide the total dose for that animal and apply as directed.
- Collapsible Pack (25 L/84.5 fl oz and 1 L/39 fl oz Packs)**
Connect the dosing applicator and draw-off tubing to the collapsible pack as follows:
Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach the draw-off tubing to the cap with the stem that is included in the pack. Replace the shipping cap with the cap having the draw-off tubing.
Gently prime the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

20 Liter Pack (20 L/67.6 fl oz Pack)

Connect the dosing applicator and draw-off tubing to the container as follows:
Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach draw-off tubing to the cap with the stem. Replace the shipping cap with the cap having the draw-off tubing.
Gently prime the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

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 pyrexia. 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 Eprinerone (eprinomectin) Pour-On may be used for human consumption at any time following treatment. A withdrawal period has not been established for pre-ruminating calves. Do not use in calves to be processed for veal.

WARNING
Keep this and all drug 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 suspected adverse drug events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Norbrook at 1-866-591-5177. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VEFS or <http://www.fda.gov/vefs>.

PRECAUTIONS

This product is for topical application only. Do not administer orally or by injection.
Do not apply to areas of the backbone covered with mud or manure. Eprinerone 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.

Restricted Drug (California) - Use Only as Directed.

When to Treat Cattle with Girds

Eprinerone Pour-On is effective against all stages of cattle girds. 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 head fly (warble) fly season. While this is not peculiar to eprinomectin, destruction of *Hypoderma lineatum* (cattle girdle) at the period when these girds are in vital stages may cause undesirable host-parasite reactions. Milking *Hypoderma lineatum* when it is in the ventral canal may cause straggling or paralysis. Cattle should be treated either before or after these stages of gird development. Cattle treated with Eprinerone Pour-On at the end of the fly season may be re-treated with Eprinerone Pour-On during the winter without danger of gird-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

OTHER WARNINGS

Parasite resistance may develop to any dewormer, and has been reported for most classes of dewormers.
Treatment with a dewormer used in conjunction with parasite management practices appropriate to the geographic area and the animal(s) to be treated may slow the development of parasite resistance. Fecal examinations or other diagnostic tests and parasite management history should be used to determine if the product is appropriate for the herd/flock prior to the use of any dewormer. Following the use of any dewormer, effectiveness of treatment should be monitored (for example, with the use of a fecal egg count reduction test or another appropriate method).
A decrease in a drug's effectiveness over time as calculated by fecal egg count reduction tests may indicate the development of resistance to the dewormer administered. Your parasite management plan should be adjusted accordingly based on regular monitoring.

ENVIRONMENTAL SAFETY

Studies indicate that when eprinomectin comes in contact with soil, it readily and lightly binds to the soil and becomes inactive over time. Free invertebrate/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 145°F/63°C is permitted for a short period of time, however, such exposure should be minimized.

For the 1 L (33.8 fl oz) container with a measure-squeeze-pour system, the Measuring Cup should not remain attached to the container when not in use. Detach the Measuring Cup after each use and replace the shipping cap to close the container top.

HOW SUPPLIED

Eprinerone (eprinomectin) Pour-On for Beef and Dairy Cattle is available in a 1 L (33.8 fl oz) container with a measure-squeeze-pour system or in a 25 L (84.5 fl oz) or 5 L (169 fl oz) container. The 20 L (67.6 fl oz) container is intended for use with appropriate automatic dosing equipment.

Made in the UK

Manufactured by:
Norbrook Laboratories Limited
Newry BT35 9PU, Co. Down, Northern Ireland.
© Eprinerone is a registered trademark
of Norbrook Laboratories Limited.
Rev. 0, October 2020
121670104



www.norbrook.com

Norbrook logos and Eprinerone are registered trademarks of Norbrook Laboratories Limited. Eprinex and Ivomec are registered trademarks of Boehringer Ingelheim Animal Health USA Inc. Cydectin is a registered trademark of Elanco or its affiliates. Dectomax is a registered trademark of Zoetis.

¹ 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.
² Lawrence JD, Ibarbura MA. Economic analysis of pharmaceutical technologies in modern beef production in a bioeconomy era. Iowa State University. 2009. Available at <http://www.econ.iastate.edu/faculty/lawrence/Pharma%202007%20update.pdf>. Accessed March 2, 2009.
³ 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.