

The solution to  
parasites is effective  
control.



**VALCOR**<sup>®</sup>  
(doramectin and levamisole injection)

**DECTOMAX**<sup>®</sup>

**VALBAZEN**

**zoetis**

zoetis

# TOUGH ON TOUGH WORMS, EASY ON CATTLE PRODUCERS.

**VALCOR**  
(doramectin and levamisole injection)

## The most recent addition to the full portfolio of Zoetis parasite control products

- The first approved 2-in-1 combination injectable dewormer focused on internal parasites.
- Controls the broadest spectrum of internal and external parasites of any injectable product with 35 stages of adult parasites, L<sub>4</sub> larvae, and inhibited larvae.\*
- In a study, the dual-killing action with two active ingredients and different mechanisms of action provided superior efficacy compared with a product with a single active ingredient.<sup>1</sup>
  - Doramectin modulates the activity of chloride ion channels in the nervous system of nematodes and arthropods to inhibit the electrical activity of nerve cells
  - Levamisole is a nicotinic acetylcholine receptor agonist that continuously stimulates worm muscles – reaching peak blood concentration in the animal in less than 12 hours<sup>2</sup>
- The use of a single product with two active ingredients offers improved labor efficiency and reduced processing time compared with the use of two different products.

## Demonstrated safety

Valcor<sup>®</sup> provides effective control of gastrointestinal nematode infections with low risk to the animal.

Studies have demonstrated the doramectin and levamisole combination was well tolerated in calves as young as 3 months of age and had no clinically significant effect on reproduction in females. No safety studies were conducted in reproducing bulls.

DORAMECTIN



LEVAMISOLE



## 12 hours

In a study, levamisole reached peak blood concentration in less than 12 hours.<sup>2</sup>

# Convenient, effective parasite control

## Valcor<sup>®</sup> (doramectin and levamisole injection)

In multiple studies conducted with more than 6,300 head of naturally infected cattle sourced from multiple regions across the United States, Valcor<sup>®</sup> consistently achieved effective control of parasites based on fecal egg count reduction tests.<sup>1,3-7</sup>



Gray State = Cattle Source    📍 = Study sites

Because of improved parasite control, heifers treated with Valcor increased total weight gain by 9.3 pounds over the 56-day study when compared with heifers treated with ivermectin.<sup>1</sup>

In a fall- and winter-placement feedlot study, Valcor was compared to a concomitant administration of ivermectin and oxfendazole. At harvest, after 233 days on feed, the deworming treatment had no apparent effect ( $p > 0.10$ ) on health outcomes, growth performance and efficiency, or carcass parameters.<sup>7</sup>

**Dosage:** 2 mL (10 mg doramectin and 300 mg of levamisole hydrochloride) per 110 lb. of body weight

**Administration route:** subcutaneous injection

**Available in:** 100 mL, 250 mL and 500 mL multidose vials



## 99%–100%

Valcor consistently exceeded 99% fecal egg count reduction in studies with more than 6,300 head.<sup>1,3-7</sup>



## 9.3 lb.

More gains in 56 days compared to heifers treated with ivermectin.<sup>1</sup>



DECTOMAX<sup>®</sup> Pour-On

# Weatherproof your parasite control<sup>8</sup>

## Dectomax<sup>®</sup> Pour-On:

- Provides convenient weatherproof formulation<sup>8</sup>
- Controls external and internal parasites with a single dose
- Delivers the longest duration of activity for any pour-on product against two cattle lice species:<sup>9</sup>
  - 77 days against the biting cattle louse (*Bovicola (Damalinia) bovis*)
  - 42 days against the long-nose cattle louse (*Linognathus vituli*)
- Is the only pour-on on the market to provide 28 days of protection against some of the most damaging internal parasites:<sup>10</sup>
  - *Ostertagia ostertagi*, *Cooperia oncophora*, *C. punctata*, *Haemonchus* spp., nodular worms (*Oesophagostomum* spp.) and lungworms (*Dictyocaulus* spp.)
- Controls more types of parasites than Ivomec<sup>®</sup> Pour-On<sup>9</sup>

## Parasite control that beat ivermectin<sup>11</sup>

Compared with ivermectin pour-on, cattle treated with Dectomax<sup>®</sup> Pour-On demonstrated greater live weight at slaughter. See comparison below:

## Weight gain differences

p value = <0.10

Dectomax<sup>®</sup> Pour-On (*doramectin*) – 21 lb. Difference

773 lb.

Ivermectin Pour-On (*Durvet*)

752 lb.



## Weatherproof

**Dosage:** 1 mL (5 mg doramectin) per 22 lb. of body weight

**Administration route:** topically

**Available in:** 1 L, 2.5 L and 5 L multidose bottles



# 21 lb.

Increase over ivermectin<sup>11</sup>



# 77 days

of activity<sup>9</sup>

DECTOMAX<sup>®</sup> Injectable

# Broadest-spectrum parasite control<sup>12</sup>

## Dectomax<sup>®</sup> Injectable:

- Controls the broadest spectrum of internal and external parasites of any single active ingredient injectable product<sup>12</sup>
  - Includes **34 stages of adult parasites, L<sub>4</sub> larvae and inhibited larvae**
  - **Covers more parasite stages**, including immatures, for longer periods of time than Cydectin<sup>®</sup> (*moxidectin*) or Ivomec<sup>®</sup> (*ivermectin*) Injectable<sup>12</sup>
- **Provides protection** against *Ostertagia ostertagi*, *Cooperia oncophora* and *C. punctata* – the most prevalent internal parasites in cattle in the United States<sup>13</sup>
  - 50% longer than Cydectin on *O. ostertagi*<sup>12</sup>
  - The persistence of Cydectin is unknown on *C. oncophora* and *C. punctata*<sup>12</sup>
- Flexibility to be administered subcutaneously or intramuscularly
- In a 140-day grazing study conducted December to May with spring born Gulf Coast cattle averaging 431 pounds, cattle treated with Dectomax Injectable outgained cattle treated with Ivomec<sup>®</sup> Plus (*ivermectin/clorsulon*) by 33 pounds and nontreated cattle by 66 pounds.<sup>14</sup>



# 34

Stages of adult parasites<sup>12</sup>



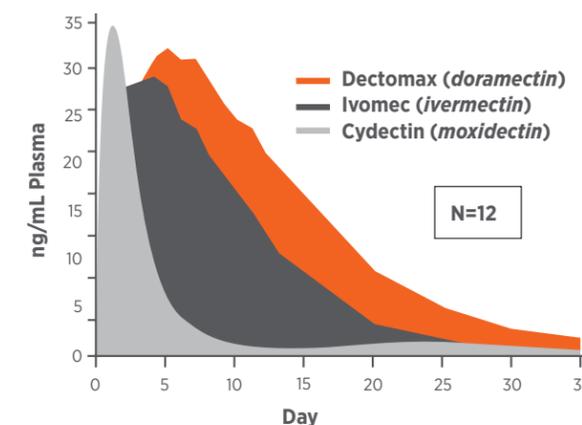
# 50%

Longer than Cydectin<sup>12</sup>

## Concentration of active ingredient

Drug concentrations where parasites live and the length of exposure to drug concentrations are important factors in product efficacy. The chart below shows concentrations of moxidectin, ivermectin and doramectin in the animals over a period of time.<sup>15</sup>

### Drug concentration over time of Dectomax<sup>®</sup>, Ivomec<sup>®</sup> and Cydectin<sup>®</sup>



While the clinical relevance of this data is unknown, drug efficacy depends on many factors, including concentration, time of parasite exposure, and the associated susceptibility of the targeted parasite species.<sup>15</sup>



**Dosage:** 1 mL (10 mg doramectin) per 110 lb. of body weight

**Administration route:** subcutaneous or intramuscular injection

**Available in:** 100 mL, 200 mL and 500 mL multidose vials



# Control more parasites<sup>16</sup>



## Valbazen® Suspension:

- Provides the **broadest-spectrum control** of internal parasites in oral dewormers<sup>16</sup>
  - **25% more** types than Safe-Guard® 10% Suspension
  - **31.5% more** types than Safe-Guard 20% Type A Medicated Feed Article
  - **47% more** types than Synanthic® Suspension
- In calves, the active components of Valbazen® reach maximum plasma concentration in less than 12 hours.<sup>17</sup>
- In studies, Valbazen has an ovicidal effect on gastrointestinal nematodes<sup>18</sup>
- Is the only oral drench on the market that controls:<sup>16</sup>
  - *Cooperia* spp.
  - Inhibited *Ostertagia ostertagi* L<sub>4</sub>
  - *Nematodirus* spp.
  - *Haemonchus* spp.
  - Tapeworm heads and segments (*Moniezia benedeni*)
  - Adult liver flukes (*Fasciola hepatica*)



# 25%

more coverage than Safe-Guard<sup>16</sup>



# 47%

more coverage than Synanthic<sup>16</sup>

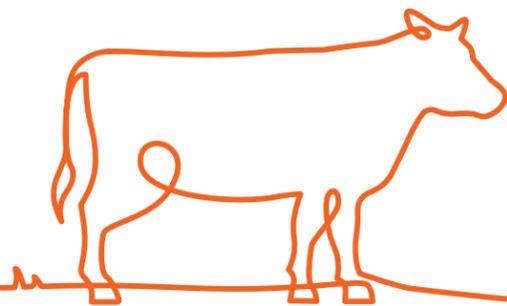


**Dosage cattle and goats:** 4 mL per 100 lb. of body weight

**Dosage sheep:** 0.75 mL per 25 lb. of body weight

**Administration route:** oral drench

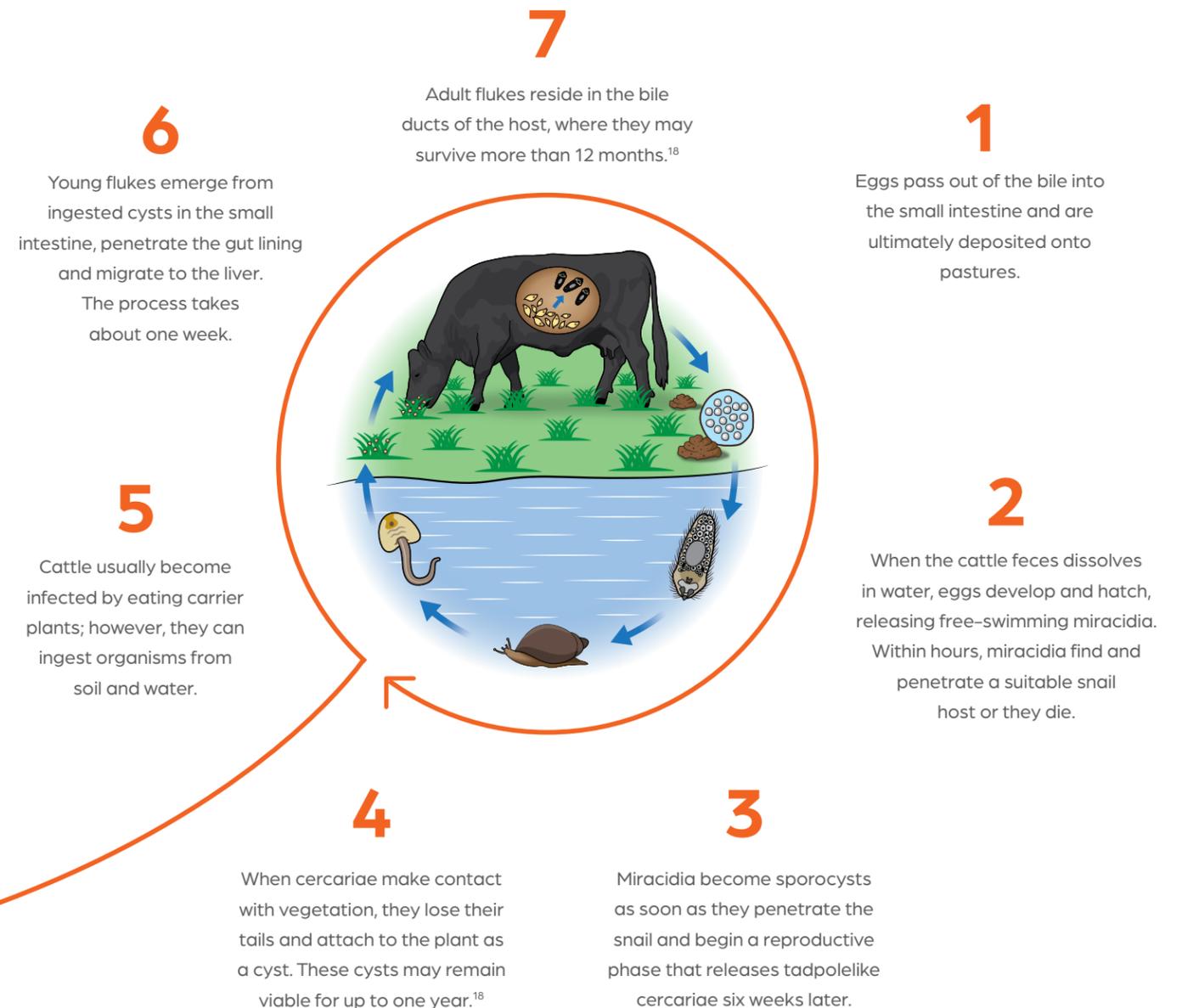
**Available in:** 500 mL, 1 L and 5 L multidose bottles



# Taking control of liver flukes

Flukicides are proven to kill adult liver flukes and have limited duration of activity. For effective control of flukes with Valbazen®, it is important to understand the liver fluke life cycle in your area.

In studies describing killing of liver flukes, Valbazen has ovicidal activity to exposed eggs, negatively impacts hatchability of remaining eggs, and impairs the development of exposed immature larvae. The result of using Valbazen is the removal of adult liver flukes and a reduction in future pasture contamination post treatment.<sup>19-24</sup>



# Label comparisons at your fingertips\*

Parasite or Life Stage	Injectable				Oral Drench or Feed Ingredient				Pour-On				Parasite or Life Stage	Injectable				Oral Drench or Feed Ingredient				Pour-On															
	Valcor®	Dectomax®	Cydectin®	LongRange®	Ivomec®	Valbazen®	Synanthic® Suspension	Safe-Guard® 10% Suspension	Safe-Guard® 20% Type A Feed Article	Dectomax®	Cydectin®	Eprinex®		Ivomec®	Valcor®	Dectomax®	Cydectin®	LongRange®	Ivomec®	Valbazen®	Synanthic® Suspension	Safe-Guard® 10% Suspension	Safe-Guard® 20% Type A Feed Article	Dectomax®	Cydectin®	Eprinex®	Ivomec®										
<b>Stomach Worms</b>														<b>Intestinal Worms (Continued)</b>																							
Brown stomach worm ( <i>Ostertagia ostertagi</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nodular worm ( <i>Oesophagostomum radiatum</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Nodular worm ( <i>Oesophagostomum radiatum</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brown stomach worm ( <i>Ostertagia ostertagi</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Hookworm ( <i>Bunostomum phlebotomum</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Hookworm ( <i>Bunostomum</i> 4th Stage)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brown stomach worm ( <i>Ostertagia ostertagi</i> inhibited L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Threadworm ( <i>Strongyloides papillosus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Whipworm ( <i>Trichostrongylus axei</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brown stomach worm ( <i>Ostertagia lyrata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Trichostrongylis longispicularis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Large stomach worm ( <i>Haemonchus placei</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brown stomach worm ( <i>Ostertagia lyrata</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Cattle tapeworm ( <i>Moniezia benedeni</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Large stomach worm ( <i>Haemonchus placei</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Small stomach worm ( <i>Trichostrongylus axei</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Sheep tapeworm ( <i>Moniezia expansa</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Barber's pole worm ( <i>Haemonchus contortus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Small stomach worm ( <i>Trichostrongylus axei</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	External Parasites	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Barber's pole worm ( <i>Haemonchus contortus</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Large stomach worm ( <i>Haemonchus placei</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Cattle biting louse ( <i>Bovicola (Damalinia) bovis</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia punctata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Large stomach worm ( <i>Haemonchus placei</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Long-nosed cattle louse ( <i>Linognathus vituli</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia punctata</i> 4th stage)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Barber's pole worm ( <i>Haemonchus contortus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Sucking louse ( <i>Haematopinus eurystemus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia oncophora</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Barber's pole worm ( <i>Haemonchus contortus</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Little blue cattle louse ( <i>Solenopotes capillatus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia oncophora</i> 4th stage)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Intestinal Worms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Itch mite ( <i>Sarcoptes scabiei</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia surnabada</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia punctata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Mites ( <i>Psoroptes</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia surnabada</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia punctata</i> 4th stage)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Mites ( <i>Chorioptes bovis</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia pectinata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia oncophora</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Common cattle grub ( <i>Hypoderma bovis</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia pectinata</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia oncophora</i> 4th stage)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Northern cattle grub ( <i>Hypoderma lineatum</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Roundworm ( <i>Cooperia spatulata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia surnabada</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Horn fly ( <i>Haematobia irritans</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Bankrupt worm ( <i>Trichostrongylus colubriformis</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia surnabada</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Other Parasites	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Bankrupt worm ( <i>Trichostrongylus colubriformis</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia pectinata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Lungworm ( <i>Dictyocaulus viviparus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Twisted wireworm ( <i>Nematodirus helvetianus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia pectinata</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Lungworm ( <i>Dictyocaulus viviparus</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Twisted wireworm ( <i>Nematodirus helvetianus</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Roundworm ( <i>Cooperia spatulata</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Eyeworm ( <i>Thelazia gulosa</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Thread-necked worm ( <i>Nematodirus spathiger</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bankrupt worm ( <i>Trichostrongylus colubriformis</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Eyeworm ( <i>Thelazia skrjabini</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Thread-necked worm ( <i>Nematodirus spathiger</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bankrupt worm ( <i>Trichostrongylus colubriformis</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Liver flukes ( <i>Fasciola hepatica</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓										
Twisted wireworm ( <i>Nematodirus helvetianus</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																								
Twisted wireworm ( <i>Nematodirus helvetianus</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																								
Thread-necked worm ( <i>Nematodirus spathiger</i> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																								
Thread-necked worm ( <i>Nematodirus spathiger</i> L <sub>2</sub> )	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																								

\*Based on comparison of approved product labels

# The little things can help make a big impact

A well-planned parasite control program is the foundation for a healthy herd. Whether it is helping prevent animal productivity issues, protecting useful insects or a simple convenience benefit, the little things can make a big difference. You also can count on reliable service, support and expertise with the portfolio of products from Zoetis.



## Suppressed Appetite<sup>25</sup>

Uncontrolled parasites can depress cattle appetites, potentially affecting body condition and profit potential.



## Reduced Feed Efficiency<sup>25</sup>

Parasites in cattle destroy some of the glands in the stomach that are necessary to break down ingesta into nutrients the cattle can use.



## Decreased Immune Response<sup>25</sup>

Decreased feed intake and nutrient absorption can reduce the ability to respond to disease challenges.



## Minimal Risk to Dung Beetles<sup>26</sup>

Insects, like dung beetles, along with wind, rain and snow, help break down animal feces into useful nutrients for the soil. When Valcor, Dectomax Injectable, and Dectomax Pour-on are used according to label directions, you should not expect any adverse impact on populations of dung-dependent insects.



## Weatherproof Protection

Dectomax Pour-On has the convenience of effective weatherproof protection, so your parasite control won't wash away.<sup>8</sup>

# VALCOR™

## (doramectin and levamisole injection)

(5 mg/mL doramectin, 150 mg/mL levamisole hydrochloride)

**CAUTION:** Federal law restricts this drug to use by or on the order of a licensed veterinarian.

### DESCRIPTION:

VALCOR™ injection is a ready-to-use, colorless to pale yellow, sterile solution containing 0.5% w/v doramectin and 15% w/v levamisole hydrochloride, for subcutaneous administration at a dose rate of 1 mL/25 kg of body weight to deliver a dose of 0.2 mg of doramectin and 6 mg of levamisole hydrochloride per kg of body weight. Each mL of VALCOR™ contains 150 mg levamisole hydrochloride, 5 mg doramectin, 20 mg benzyl alcohol, 2.5 mg meglumine, 0.1 mg butylated hydroxyanisole (BHA), 0.1 mg butylated hydroxytoluene (BHT), and glycerol formal q.s.

### INDICATIONS:

VALCOR™ is indicated for the treatment and control of the following species of parasites in beef cattle two months of age and older and in replacement dairy heifers less than 20 months of age. Not for use in beef bulls intended for breeding over 1 year of age, dairy calves, and veal calves.

<b>Gastrointestinal Roundworms</b> (adults and fourth stage larvae) <i>Ostertagia ostertagi</i> (including inhibited larvae) <i>O. lyrata</i> <i>Haemonchus placei</i> <i>Trichostrongylus axei</i> <i>T. colubriformis</i> <i>T. longispicularis</i> * <i>Cooperia oncophora</i> <i>C. pectinata</i> * <i>C. punctata</i> <i>C. surnabada</i> <i>Bunostomum phlebotomum</i> * <i>Strongyloides papillosus</i> * <i>Oesophagostomum radiatum</i> <i>Trichuris</i> spp.* <i>Nematodirus helvetianus</i> *
<b>Lungworms</b> (adults and fourth stage larvae) <i>Dictyocaulus viviparus</i>
<b>Eyeworms</b> (adults) <i>Thelazia</i> spp.
<b>Grubs</b> (parasitic stages) <i>Hypoderma bovis</i> <i>H. lineatum</i>
<b>Sucking Lice</b> <i>Haematopinus eurysternus</i> <i>Linognathus vituli</i> <i>Solenopotes capillatus</i>
<b>Mange Mites</b> <i>Psoroptes bovis</i> <i>Sarcoptes scabiei</i>

\*Adults only

### DOSAGE AND ADMINISTRATION:

Inject subcutaneously in the neck as a single dose at a dosage of 0.2 mg doramectin (0.91 mg/lb) and 6 mg of levamisole hydrochloride per kg (2.72 mg/lb) of body weight. Each mL of VALCOR™ contains 5 mg doramectin and 150 mg of levamisole hydrochloride which is sufficient to treat 55 lb (25 kg) of body weight. Do not inject more than 10 mL per injection site. 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.

Use this product within 45 days of the first puncture. Puncture the 100 mL vial a maximum of 6 times and the 250 mL and 500 mL vials a maximum of 28 times, using a luer-lock syringe and needle no larger than 18 gauge. If anticipated to exceed maximum number of punctures, the use of automatic injection equipment or a repeater syringe is recommended. When using a draw-off spike or needle with bore diameter larger than 18 gauge, discard any product remaining in the vial immediately after use.

Body Weight, lb	Dose Volume, mL
110	2
220	4
330	6
440	8
550	10
660	12
770	14
880	16
990	18
1100	20
1210	22

### WARNINGS AND PRECAUTIONS:

#### WITHDRAWAL PERIODS AND RESIDUE WARNINGS:

Cattle must not be slaughtered for human consumption within 15 days following last treatment with this drug product. Not for use in female dairy cattle 20 months of age or older, including dry dairy cows; use in these cattle may cause drug residues in milk and/or in calves born to these cows or heifers. Not for use in beef calves less than 2 months of age, dairy calves, and veal calves. A withdrawal period has not been established for this product in pre-ruminating calves.

#### User Safety Warnings:

Not for human use. Keep out of reach of children. If accidental eye contact occurs, flush eyes immediately with water for 15 minutes and seek medical attention. If wearing contact lenses, flush eyes immediately with water before removing lenses then continue rinsing for at least 15 minutes. Do not eat, drink or smoke while handling the product. Wash hands after use. Take care to avoid accidental self-injection. If accidental injection occurs, seek medical attention and provide product package insert to medical professional. To obtain a Safety Data Sheet(s), contact Zoetis Inc. at 1-888-963-8471 or www.zoetis.com.

#### Animal Safety Warnings and Precautions:

Use of levamisole in cattle treated in the last few days with cholinesterase inhibitors such as organophosphates or with morantel may enhance the toxic effects of levamisole. Use together with caution.

Destruction of *Hypoderma* larvae (cattle grubs) at the period when these grubs are in vital areas may cause undesirable host-parasite reactions including the possibility of fatalities. Killing *H. lineatum* when it is in the tissue surrounding the gullet may cause bloat; killing *H. bovis* when it is in the vertebral canal may cause staggering or paralysis. These reactions are not specific to treatment with VALCOR™ and can occur with any successful treatment of grubs. Cattle should be treated either before or after these stages of grub development. Consult your veterinarian concerning the proper time for treatment. Follow recommended dosage carefully.

Reproductive safety has not been evaluated in bulls intended for breeding.

#### Environmental Warnings:

Studies indicate that when doramectin comes in contact with the soil, it readily and tightly binds to the soil and becomes inactive over time. Free doramectin may adversely affect fish and certain aquatic organisms. Do not permit water runoff from feedlots to enter streams or ponds. 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, doramectin 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.

#### 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, 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.

#### ADVERSE REACTIONS:

This product is likely to cause swelling at the injection site. Tissue damage at the injection site may also occur, including possible granulomas and necrosis. These reactions have resolved without treatment. Local tissue reaction may result in trim loss of edible tissue at slaughter. A single death attributed to clostridial infection associated with the injection of VALCOR™ was reported in a non-pivotal effectiveness study. Observe cattle for injection site reactions. If injection site reactions are suspected, consult your veterinarian. This product is not for intravenous or intramuscular use. Hypersalivation may be observed; however, this reaction will disappear within a few hours. If this condition persists, a veterinarian should be consulted.

#### Contact Information:

Contact Zoetis Inc. at 1-888-963-8471 or www.zoetis.com. To report suspected adverse drug experiences, contact Zoetis Inc. at 1-888-963-8471. For additional information about reporting adverse drug experiences for animal drugs, contact FDA at 1-888-FDA-VETS or <http://www.fda.gov/reportanimalae>.

#### EFFECTIVENESS:

The effectiveness of VALCOR™ against gastrointestinal nematodes and ectoparasites was demonstrated in five dose confirmation studies and a multi-site field study and is described below. VALCOR™-treated cattle (N = 373) had either naturally or artificially acquired infections or infestations originating from a wide range of geographical settings. These studies demonstrate that VALCOR™ is effective against a variety of internal and external parasites. Across three dose confirmation studies and a multi-site field study, the VALCOR™-treated animals had a fecal egg count reduction between 99.9% and 100% when the pre-treatment and post-treatment arithmetic means of fecal egg counts were compared.

#### a. Multi-site Study

A multi-site study was conducted to evaluate the effectiveness of VALCOR™ against naturally acquired gastrointestinal nematodes in a field setting. In this six-site study, 425 cattle (steers, heifers, pregnant heifers, pregnant cows and late lactation cows) were enrolled and randomized to one of two treatment groups: saline, N = 106, (0.04 mL/kg); VALCOR™, N = 319, (0.2 mg/kg doramectin; 6 mg/kg, levamisole hydrochloride (HCl)). Effectiveness of VALCOR™ was achieved with >99% reduction in fecal egg counts compared to the saline-treated group on Day 14. Percent efficacy, by site, ranged from 99.4% to 100.0% on Day 14.

#### b. Dose Confirmation Studies

##### Artificial *Nematodirus helvetianus* Challenge Study

A study was conducted to evaluate the effectiveness of VALCOR™ against cattle infected with an artificial *N. helvetianus* challenge. In this study, 24 artificially infected cattle (9-week old Holstein steers) were enrolled and randomized to one of three treatment groups: saline group, N = 8, (0.04 mL/kg); DECTOMAX®, N = 8, (0.2 mg/kg doramectin); VALCOR™, N = 8, (0.2 mg/kg doramectin; 6 mg/kg, levamisole HCl). Effectiveness of VALCOR™ was achieved with 100% efficacy against adult *N. helvetianus* compared to the saline-treated group with 0% efficacy and the DECTOMAX®-treated group with 4.9% efficacy on Day 14.

##### *Nematodirus helvetianus* and *Cooperia oncophora* Natural Infection Studies

A study was conducted to evaluate the effectiveness of VALCOR™ against cattle naturally infected with *N. helvetianus* and *C. oncophora*. In this study, 36 naturally infected cattle (4-10 month old, male and female beef and dairy crossbred) were enrolled and randomized to one of three treatment groups: saline, N = 12, (0.04 mL/kg); DECTOMAX®, N = 12, (0.2 mg/kg doramectin); VALCOR™, N = 12, (0.2 mg/kg doramectin; 6 mg/kg, levamisole HCl). Effectiveness of VALCOR™ was achieved with 100% efficacy against adult *N. helvetianus* and 100% efficacy against *C. oncophora* compared to the saline-treated group with 0% efficacy and the DECTOMAX® group with 87.9% and 99.4% efficacy against *N. helvetianus* and *C. oncophora*, respectively, on Day 14.

A second study was conducted to evaluate the effectiveness of VALCOR™ against cattle naturally infected with *N. helvetianus* and *C. oncophora*. In this study, 30 naturally infected cattle (7-month old, male and female beef crossbred) were enrolled and randomized to one of three treatment groups: saline, N = 10, (0.04 mL/kg); DECTOMAX®, N = 10, (0.2 mg/kg doramectin); VALCOR™, N = 10, (0.2 mg/kg doramectin; 6 mg/kg, levamisole HCl). Effectiveness of VALCOR™ was achieved with 99.1% efficacy against adult *N. helvetianus* and 99.7% efficacy against *C. oncophora* compared to the saline-treated group with 0% efficacy and DECTOMAX® group with 25.4% and 49.3% efficacy, against *N. helvetianus* and *C. oncophora*, respectively, on Day 14.

##### Sucking Lice Natural Infestation Studies

A study was conducted to evaluate the effectiveness of VALCOR™ against cattle naturally infested with sucking lice (*Linognathus vituli*, *Haematopinus eurysternus*, and *Solenopotes capillatus*). In this study, 24 naturally infested cattle (beef and dairy breed females and castrate males) were enrolled and randomized to one of two groups: sterile water group, N = 12 (0.04 mL/kg) and VALCOR™, N = 12, (0.2 mg/kg doramectin; 6 mg/kg, levamisole HCl). Effectiveness of VALCOR™ was achieved with 99.9% efficacy against immature and adult sucking lice up to 56 days after treatment.

A second study was conducted to evaluate the effectiveness of VALCOR™ against cattle naturally infested with sucking lice (*L. vituli*). In this study, 24 naturally infested cattle (beef and dairy breed females and castrate males) were enrolled and randomized to one of two groups: saline group, N = 12 (0.04 mL/kg) and VALCOR™, N = 12, (0.2 mg/kg doramectin; 6 mg/kg, levamisole HCl). Effectiveness of VALCOR™ was achieved with 99.4% efficacy against immature and adult sucking lice up to 56 days after treatment.

#### TARGET ANIMAL SAFETY:

Margin of Safety: Subcutaneous administration of VALCOR™ was well tolerated in calves as young as 3 months of age at 1, 2, or 3 times the recommended dose. Dose-dependent post-dose hypersalivation was seen in all treated groups compared to the controls. All cases of hypersalivation were mild, transient, and resolved without further medical intervention. Dose-related injection site reactions were observed, and those in the 1X group resolved between 21 and 28 days post injection. Injection site reactions were primarily swelling which resolved between 21 and 28 days post injection. Findings from the injection sites included swelling, edema, inflammation, muscle necrosis and fibrosis.

Female Reproductive Safety: The reproductive safety of VALCOR™ was established in two studies with female cattle. First, a single dose of VALCOR™ was administered subcutaneously at 3 times the recommended dose at times coinciding with folliculogenesis, implantation, or organogenesis, and had no effects on conception, calving, abortion, and stillbirth rates, and post-natal viability up to 30±2 days post-calving. There were no congenital abnormalities. The only test article-related change was an increase in incidence and duration of swelling at injection sites compared with control, but all swellings eventually resolved. In a second study, a single dose of VALCOR™ administered subcutaneously at 3 times the recommended dose at either early or late gestation had no effects on calving, abortion, and stillbirth rates, and post-natal viability up to 30±2 days post-calving. One control calf and two treated calves were born with congenital abnormalities and did not survive. These were not determined to be test article-related. The only test article-related change was an increase in incidence and duration of swelling at injection sites, but all swellings eventually resolved. Not for use in bulls intended for breeding over 1 year of age, as reproductive safety has not been evaluated.

#### HOW SUPPLIED:

VALCOR™ is available in 100 mL, 250 mL and 500 mL multi-dose, rubber-capped glass vials.

#### STORAGE, HANDLING, AND DISPOSAL:

Store below 25°C (77°F). Do not expose to light for extended periods of time. Do not contaminate water by direct application or by improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

Approved by FDA under NADA # 141-553

**zoetis**

Distributed by:  
Zoetis Inc.  
Kalamazoo, MI 49007

June 2022  
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**IMPORTANT SAFETY INFORMATION:** Do not treat cattle with Valcor within 15 days of slaughter. Not for use in female dairy cattle 20 months of age or older, including dry dairy cows; not for use in beef calves less than 2 months of age, dairy calves, and veal calves. Safety has not been evaluated in breeding bulls. Use with caution in cattle treated with cholinesterase inhibitors. This product is likely to cause injection site swelling; tissue damage (including granulomas and necrosis) may occur. These reactions have resolved without treatment. See full prescribing information on page 11.

Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism.

Dectomax Injectable has a 35-day pre-slaughter withdrawal period. Dectomax Pour-On has a 45-day pre-slaughter withdrawal period. Do not use in female dairy cattle 20 months of age or older. Do not use in calves to be processed for veal. Dectomax has been developed specifically for cattle and/or swine. Use in dogs may result in fatalities.

Cattle must not be slaughtered within 27 days after the last treatment with Valbazen. Do not use in female dairy cattle of breeding age. Do not administer to female cattle during the first 45 days of pregnancy or for 45 days after removal of bulls.

\*Based on comparison of approved label indications for Valcor, Dectomax Injectable, Ivomec Injectable, Cydectin Injectable and LongRange.

<sup>1</sup> Study Report No. A131R-US-21-940, Zoetis Inc.

<sup>2</sup> Canton C, Ceballos L, Domínguez MP, et al. Pharmacoparasitological evaluation of the ricobendazole plus levamisole nematocidal combination in cattle. *J. Vet. Pharmacol. Therap.* 2018;41:83–91.

<sup>3</sup> Data on file, Study Report No. A131C-US-16-504, Zoetis Inc.

<sup>4</sup> Data on file, Study Report No. A131C-US-17-538, Zoetis Inc.

<sup>5</sup> Data on file, Study Report No. A136C-US-17-554, Zoetis Inc.

<sup>6</sup> Data on file, Study Report No. A131R-US-20-812, Zoetis Inc.

<sup>7</sup> Data on file, Study Report No. 22CRGPARG-01-01, Zoetis Inc.

<sup>8</sup> Skogerboe TL, Cracknell VC, Walstrom DJ, Ritzhaupt L, Karle VK. The effect of simulated rainfall on the efficacy of doramectin pour-on against nematode parasites of cattle. *Vet Parasitol.* 1999;86:229–234.

<sup>9</sup> Based on comparison of approved labels for Dectomax Pour-On, Cydectin Pour-On, Eprinex and Ivomec Pour-On.

<sup>10</sup> Parasitipedia.net. Cattle Parasites. Summary of the most common external and internal parasites in cattle. [https://parasitipedia.net/index.php?option=com\\_content&view=article&id=2681&Itemid=3047](https://parasitipedia.net/index.php?option=com_content&view=article&id=2681&Itemid=3047). Accessed Nov. 7, 2023.

<sup>11</sup> Data on file, Study Report No. 2339B-02-06-003D, Zoetis Inc.

<sup>12</sup> Based on comparison of approved labels for Dectomax Injectable, Cydectin Injectable, LongRange and Ivomec Injectable.

<sup>13</sup> Stromberg BE, Gasbarre LC, Ballweber LR, et al. Prevalence of internal parasites in beef cows in the United States: Results of the National Animal Health Monitoring System's (NAHMS) beef study, 2007–2008. *Can J Vet Res.* 2015;79:290–295.

<sup>14</sup> Loyacano AF, Skogerboe TL, et al. Effects of parenteral administration of doramectin or a combination of ivermectin and clorsulon on control of gastrointestinal nematode and liver fluke infections and on growth performance in cattle. *JAVMA.* 2001; 218(9): 1465–1468.

<sup>15</sup> Lanusse C, Lifschitz A, Virkel G, et al. Comparative plasma disposition kinetics of ivermectin, moxidectin and doramectin in cattle. *J Vet Pharmacol Ther.* 1997;20:91–99.

<sup>16</sup> Based on comparison of approved labels for Valbazen® Suspension, Safe-Guard® 10% Solution, Safe-Guard 20% Type A Feed Article and Synanthic® 22.5% Suspension.

<sup>17</sup> Myers MJ, Howard KD, Kawalek JC. Pharmacokinetic comparison of six anthelmintics in sheep, goats, and cattle. *J Vet Pharmacol Therap.* 2021;44:58–67.

<sup>18</sup> Howell AK, Williams DJL. The Epidemiology and Control of Liver Flukes in Cattle and Sheep. *Vet Clin Food Anim.* 2020;36:109–123.

<sup>19</sup> Alvarez L, Moreno G, Moreno L, et al. Comparative assessment of albendazole and triclabendazole ovicidal activity on *Fasciola hepatica* eggs. *Vet Parasitol.* 2009;164:211–216.

<sup>20</sup> Lacey E, Brady RL, Prichard RK, Watson TR. Comparison of inhibition of polymerisation of mammalian tubulin and helminth ovicidal activity by benzimidazole carbamates. *Vet Parasitol.* 1987;23:106–119.

<sup>21</sup> Carneiro MB, Avelar BR, Archanjo AB, Freire Martins IV, de Carvalho Nunes L, Scott FB. Microscopic alterations in *Fasciola hepatica* from sheep treated with albendazole. *Braz. J. Vet. Parasitol.* 2019;28(1):33–39.

<sup>22</sup> Scarcella S, Fiel C, Guzman M, et al. Reproductive disruption in *Fasciola hepatica* associated with incomplete efficacy of a new experimental formulation of triclabendazole. *Vet Parasitol.* 2011;176:157–164.

<sup>23</sup> Hanna REB, Cromie L, Taylor SM, Couper A. The effect of a parenteral ivermectin/closantel injection on the growth and reproductive development of early immature *Fasciola hepatica* in cattle. *Vet Parasitol.* 2006;142:78–90.

<sup>24</sup> Merck Veterinary Manual Professional Version. Benzimidazoles. Reviewed November 2022. <https://www.merckvetmanual.com/pharmacology/anthelmintics/benzimidazoles>. Accessed December 18, 2023.

<sup>25</sup> Hawkins JA. Economic benefits of parasite control in cattle. *Vet Parasitol.* 1993;46:159–173.

<sup>26</sup> Valcor, Dectomax Injectable and Dectomax Pour-On. Product inserts. Zoetis, 2023.

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The Zoetis logo, featuring the word "zoetis" in a white, lowercase, sans-serif font on an orange rectangular background.