

DEFENDAZOLE™

(fenbendazole) Oral Dewormer



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Introducing DEFENDAZOLE™ (fenbendazole) Oral Dewormer

Defendazole™ (fenbendazole) treats and controls many of the common profit-limiting internal parasites that reduce feed efficiency and threaten the health of your herd. With Defendazole™ (fenbendazole), producers can expect the same safety, efficacy and performance advantages as Safe-Guard® oral suspension.

TARGET SPECIES: BEEF CATTLE, DAIRY CATTLE AND GOATS



First FDA-Approved Generic Fenbendazole Oral Suspension

Defendazole™ (fenbendazole) is the first FDA-approved generic white drench dewormer for cattle and goats. Defendazole received FDA approval by demonstrating bioequivalence to Safe-Guard® (fenbendazole) oral suspension through rigorous, established scientific standards. FDA bioequivalence means a generic is expected to work the same way, assuring the same level of safety and efficacy you are accustomed to.

Why deworming matters: The must-knows of internal parasites

A billion-dollar drain on the industry

Subclinical internal parasite infections cause billions of dollars in annual economic damage across the cow/calf, stocker and feedlot segments.¹

Year-round threat: The persistence of internal parasites

Internal parasites tend to be most prevalent during warm, wet conditions and lowest during hot, dry conditions. However, certain species can go dormant in the animal to withstand unsuitable weather conditions. Additionally, larvae can remain infective on pastures for up to one year.



The Defendazole™ Advantage: Performance + Value

- ✓ Expect the same performance advantages as Safe-Guard® (fenbendazole) oral suspension
- ✓ In a comparative study, treatment with fenbendazole was shown to increase weight gain, reproductive performance and fecal egg count reduction when compared to untreated cattle²
- ✓ Treats and controls many of the lungworms, stomach worms and intestinal worms most commonly associated with economic loss in beef and dairy cattle
- ✓ Treats and controls adult *Haemonchus contortus* and *Teladorsagia circumcincta* in goats
- ✓ Available in 1 liter and 5 liter sizes
- ✓ Administer orally. The recommended dose of 2.3 mg/lb (5 mg/kg) of body weight is achieved when 2.3 mL of the drug are given for each 100 lbs of body weight.
- ✓ 8-day meat withdrawal in cattle
- ✓ 48-hour milk discard in cattle
- ✓ 6-day meat withdrawal in goats

Pasture Health Bonus

A recent study demonstrated that fenbendazole had minimal effects on dung beetles, sparing this insect population known to be vital to pasture health and management.³



Roundworms treated and controlled in cattle

Lungworms

Adult *Dictyocaulus viviparus*

Stomach worms

Adult brown stomach worms (*Ostertagia ostertagi*)

Adult and fourth-stage larvae barberpole worms (*Haemonchus contortus* and *H. placei*)

Adult and fourth-stage larvae small stomach worms (*Trichostrongylus axei*)

Intestinal worms (adult and fourth-stage larvae)

Hookworms (*Bunostomum phlebotomum*)

Thread-necked intestinal worms (*Nematodirus helvetianus*)

Small intestinal worms (*Cooperia punctata* and *C. oncophora*)

Bankrupt worms (*Trichostrongylus colubriformis*)

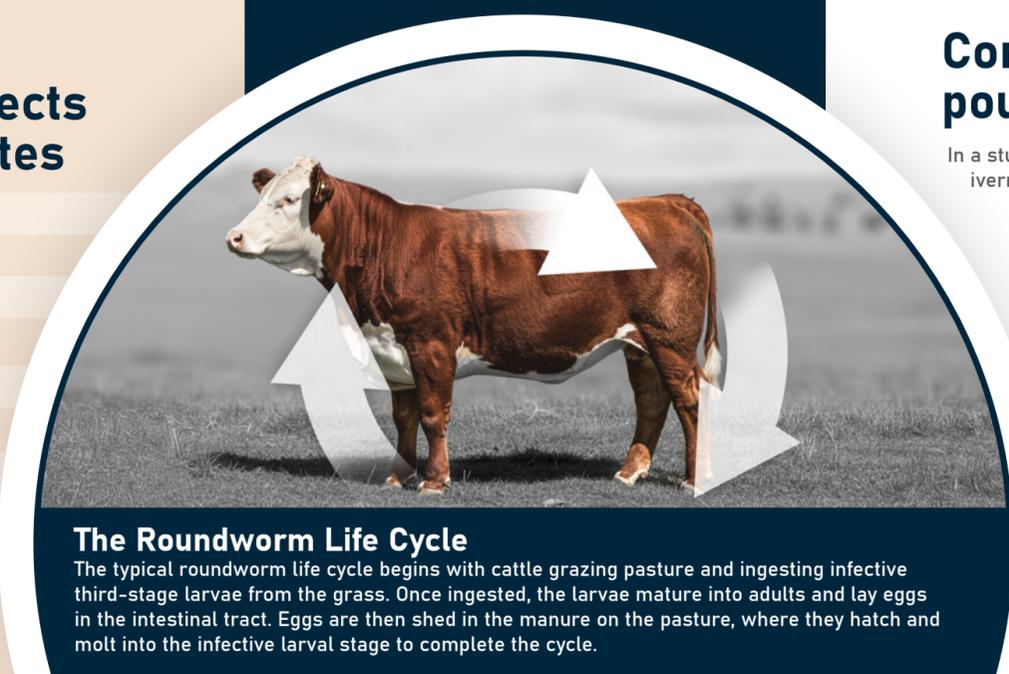
Nodular worms (*Oesophagostomum radiatum*)

Avoid the profit-limiting effects of internal parasites

- Decreased appetite
- Weight loss
- Decreased feed efficiency
- Decreased weaning weights
- Lower milk production
- Diarrhea
- Poor hair coat
- Reduced fertility
- Decreased immune response
- Negative impacts to heifer development

The Roundworm Life Cycle

The typical roundworm life cycle begins with cattle grazing pasture and ingesting infective third-stage larvae from the grass. Once ingested, the larvae mature into adults and lay eggs in the intestinal tract. Eggs are then shed in the manure on the pasture, where they hatch and molt into the infective larval stage to complete the cycle.



More pounds treated

52,000 more pounds treated with Defendazole™ 5 Liter

	1 Liter (Defendazole™ & Safe-Guard®)	1 Gallon (Safe-Guard®)	5 Liter (Defendazole™)
Lbs	43,478	164,569	217,391

Number of Head Treated Per Body Weight Per Product Size

Weight	1 Liter (Defendazole™ & Safe-Guard®)	1 Gallon (Safe-Guard®)	5 Liter (Defendazole™)
500 lbs	86	329	434
600 lbs	72	274	362
700 lbs	62	235	310
800 lbs	54	205	271
1,000 lbs	43	164	217
1,200 lbs	36	137	181



Defendazole™ 5 liter benefits

Limit product waste

Gravity-fed packaging facilitates maximum product use.

Easier handling

The 5 liter bottle can be hung directly on the chute, keeping the workspace clear.

Save time

With no need to draw up the product, the application process is simple, quick and clean.

Concurrent treatment with fenbendazole is highly effective in reducing fecal egg count

A recent study of 12 cow/calf operations throughout Georgia highlighted the benefits of concurrent treatment with fenbendazole in situations where resistance to macrocyclic lactones is likely.⁴

Mean Reduction in Fecal Egg Count (%)

	Doramectin	Fenbendazole + Doramectin
<i>Haemonchus spp.</i>	3.63	98.57
<i>Cooperia spp.</i>	50.07	99.03
<i>Ostertagia</i>	97.10	99.84
<i>Oesophagostomum</i>	98.50	100.00



Concurrent fenbendazole use with ivermectin pour-on has proven benefits

In a study comparing the concurrent use of fenbendazole oral drench and ivermectin pour-on versus ivermectin pour-on alone, the concurrent anthelmintic use demonstrated clear benefits.⁵

On average, heifers in the concurrent treatment group:

- Were healthier (had fewer retreatments)
- Gained 0.13 more pounds per day
- Consumed 0.44 pounds more feed per day
- Were 17.6 pounds heavier at harvest
- Had an 11 pound heavier hot carcass weight

References

- ¹Strydom T, Lavan RP, Torres S, Heaney K. 2023. The economic impact of parasitism from nematodes, trematodes and ticks on beef cattle production. *Animals*. 13(10):1599.
- ²Stromberg BE. 1997. Production responses following strategic parasite control in a beef cow/calf herd. *Vet Parasitol*. 68:313-322.
- ³Brown HJ, Lynch JH, Kijimoto T, Shaffer K, Rowen E. 2025. Risk of select parasitocides diflubenzuron, eprinomectin, and fenbendazole to dung-associated beetles. *Environ Entomol*. 54(4):865-876.
- ⁴Gianechini LS, Paras KL, George MM, Howell SB, Storey B, Denwood MJ, Kaplan RM. 2025. Multiple-species resistance to avermectin anthelmintics on beef cattle farms in Georgia, USA. *Vet Parasitol*. 336:110435.
- ⁵Reinhardt CD, Hutcheson JP, Nichols WT. 2006. A fenbendazole oral drench in addition to an ivermectin pour-on reduces parasite burden and improves feedlot and carcass performance of finishing heifers compared with endectocides alone. *J Anim Sci*. 84(8):2243-2250.



Breaking Through Limitations

Norbrook® is a world-class pharmaceutical solutions provider for both companion and large animals. Our broad portfolio of innovative and cost-effective products is designed to break through limitations and achieve extraordinary results.

For more info on Defendazole™ (fenbendazole) and other Norbrook products, visit Norbrook.com/us

IMPORTANT SAFETY INFORMATION

Do not use in beef calves less than 2 months old, dairy calves and veal calves. A withdrawal period has not been established for this product in pre-ruminating calves. Additionally, the following meat withdrawal and milk discard times apply: Cattle must not be slaughtered for human consumption for 8 days following last treatment with this drug product. Goats must not be slaughtered for human consumption within 6 days following last treatment with this drug product. For dairy cattle, the milk discard time is 48 hours following last treatment with this drug product. Do not use in lactating goats as no milk discard time has been established.