Safe-Guard® (*fenbendazole*)

A leading cattle benzimidazole anthelmintic

Our molecule (*fenbendazole*) makes all the difference.

Early generation benzimidazoles, such as albendazole and thiabendazole, are less specific in their activity, less potent and have a lower margin of safety compared to Safe-Guard (*fenbendazole*).

Safer for cattle

Safe-Guard/Panacur® (*fenbendazole*)

- ← Safely used in millions of cattle for more than 25 years
- ← 100 times margin of safety in cattle[1]
- ← Zero day milk withhold[1]
- ← Slaughter withdrawal is 8 - 13 days (depending on formulation)[1]
- ← No FDA label contra-indications[1]
- ← Safe for pregnant animals in any stage of gestation[1]

Valbazen® (*albendazole*)

- ← 4.5 times margin of safety in cattle[2]
- ← Dosed at 30 times label dose, can cause death in cattle[2]
- ← At label dose for cattle, can cause birth defects and fetal death when administered early in pregnancy[3]
- ← Prohibited for use in cattle during breeding season[5]
  - Do not administer to female cattle during first 45 days of pregnancy or for 45 days after removal of bulls[5]
- ← Not approved for use in dairy cattle of breeding age[3]
- ← Slaughter withdrawal is 27 days[5]

Easier to apply

Safe-Guard/Panacur (*fenbendazole*)

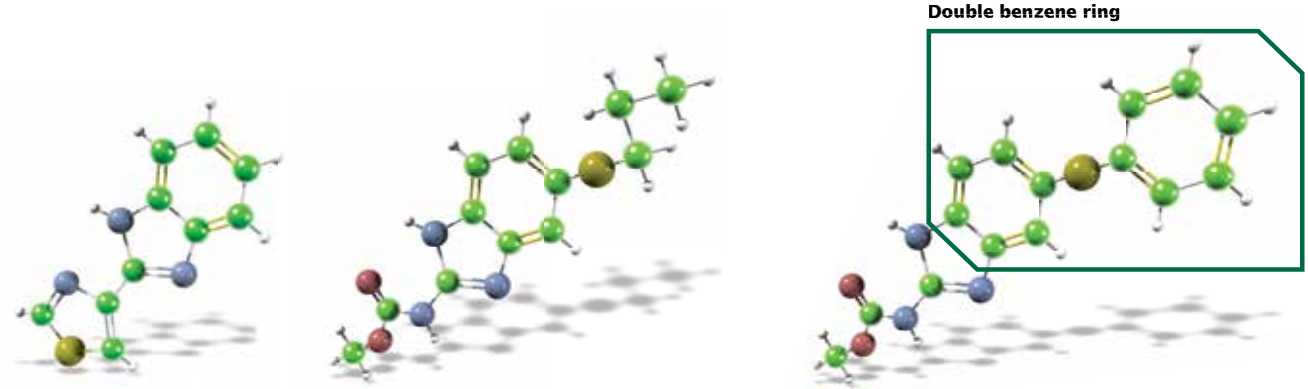
- ← Convenient oral application at chute side (e.g. suspension or paste)
- ← Ideal drench volume of 2.3 cc per cwt.
- ← Easy to administer feed formulations, (e.g. blocks, pellets or free choice minerals)

Valbazen (*albendazole*)

- ← Available only in oral suspension - Drench volume of 4 cc per cwt.
- ← E.g. 40 cc per 1,000 pound animal

Harder on worms

Unlike early generation benzimidazoles like Valbazen (*albendazole*), the double benzene ring found on Safe-Guard (*fenbendazole*) appears to be the reason it binds strongly to parasite tissue, and not bovine tissue.[3,4]



thiabendazole **(TBZ)**

albendazole **(ABZ)**

fenbendazole **(FBZ)**

MERCK Animal Health

Harder on worms

Safe-Guard/Panacur (*fenbendazole*)
Effective on **three important cattle intestinal L4 immature parasites** that albendazole does not control.

1. Bankrupt worm (*Trichostrongylus colubriformis*)
2. Hookworm (*Bunostomum*)
3. Nodular worm (*Oesophagostomum*)

		PANACUR/ SAFE-GUARD [1] (*fenbendazole*)	VALBAZEN [5] (*albendazole*)
BROWN STOMACH (*O. ostertagi*)	ADULT	✓	✓
	INHIB. L4	✓ [6]	✓
	TYPE II *ostertagiasis*	✓ [6]	NO
BANKRUPT (*T. colubriformis*)	ADULT	✓	✓
	IMMATURE	✓	NO
HOOKWORM (*B. phlebotomum*)	ADULT	✓	✓
	IMMATURE	✓	NO
NODULAR (*O. radiatum*)	ADULT	✓	✓
	IMMATURE	✓	NO
TAPEWORM (*M. benedeni*)	ADULT	✓ [6]	✓

Incomplete Liver Fluke Control

Treatment of cattle at entry to the feedlot with an adult-only effective fluke product, such as Valbazen, has no impact on average daily gain or liver condemnation rates. Newly infected immature liver flukes require 8-10 weeks to become adults.[7]

		PANACUR/ SAFE-GUARD [1] (*fenbendazole*)	VALBAZEN [5] (*albendazole*)
CATTLE LIVER FLUKE (*Fasicola hepatica*)	ADULT	NO	✓
	IMMATURE	NO	NO
DEER LIVER FLUKE (*Fascioloides magna*)	ADULT	NO	NO
	IMMATURE	NO	NO

The benefits of Safe-Guard/Panacur (*fenbendazole*) compared to Valbazen (*albendazole*) are clear

1. Higher margin of safety in cattle
2. Greater overall efficacy against cattle intestinal worms
3. Available in multiple formulations, all providing convenient, fast, effective control of internal parasites

To obtain the highest return on your cattle investment through proven performance, reach for Safe-Guard/Panacur, the market leading cattle benzimidazole dewormer.

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

[1] Refer to the Safe-Guard FDA label
[2] *The Veterinary Drug Handbook* by Donald C. Plumb (4th Edition)
[3] Refer to the FOI for albendazole
[4] Refer to the FOI for fenbendazole
[5] Refer to Valbazen FDA label
[6] Refer to the Panacur FDA label
[7] Robert S. Rew M.S., Sc. D.
Rewsearch Consulting
West Chester, PA
Iowa Veterinary Medical Association
Winter Conference Feb. 6-7, 2008
Ames, IA

PANACUR® (*fenbendazole*) DEWORMER for BEEF and DAIRY CATTLE

1 Gallon (3785 mL)
Suspension 10% (100 mg/mL)

RESIDUE WARNINGS:
Cattle must not be slaughtered for human consumption within 8 days following treatment.

Do not use at 10 mg/kg in dairy cattle. Dose rate of 10 mg/kg is for beef cattle only. Dose rate of 10 mg/kg in dairy cattle could result in violative residues in milk.

A withdrawal period has not been established for this product in pre-ruminating calves. Do not use in calves to be processed for veal.

CAUTION:
Federal law restricts this drug to use by or on the order of a licensed veterinarian. Keep this and all medication out of the reach of children.

DOSAGE:
Beef and Dairy Cattle—5 mg/kg (2.3 mg/lb) for the removal and control of:

Lungworm: *Dictyocaulus viviparus*

Stomach worm (adults): *Ostertagia ostertagi* (brown stomach worm).

Stomach worm (adults & 4th stage larvae): *Haemonchus contortus/placei* (barberpole worm), *Trichostrongylus axei* (small stomach worm).

Intestinal worm (adults & 4th stage larvae): *Bunostomum phlebotomum* (hookworm), *Nematodirus helvetianus* (thread-necked intestinal worm), *Cooperia punctata* and *C. oncophora* (small intestinal worm), *Trichostrongylus colubriformis* (bankrupt worm), *Oesophagostomum radiatum* (nodular worm).

Beef Cattle Only—10 mg/kg (4.6 mg/lb.) for the removal and control of:

Stomach worm (4th stage inhibited larvae): *Ostertagia ostertagi* (Type II *Ostertagiasis*)
Tapeworm: *Moniezia benedeni*

Do not use in dairy cattle at 10 mg/kg.

DIRECTIONS:
Determine the proper dose according to estimated body weight. Administer orally. In beef and dairy cattle, the recommended dose of 5 mg/kg is achieved when 2.3 mL of the drug is given for each 100 lb. of body weight. In beef cattle only, the recommended dosage of 10 mg/kg for treatment of *Ostertagiasis* Type II (inhibited 4th stage larvae) or tapeworm is achieved when 4.6 mL of the drug is given for each 100 lb. of body weight.

EXAMPLES:

Dose (5 mg/kg)	Dose (10 mg/kg)	Cattle Weight
2.3 mL	4.6 mL	100 lb
4.6 mL	9.2 mL	200 lb
6.9 mL	13.8 mL	300 lb
9.2 mL	18.4 mL	400 lb
11.5 mL	23.0 mL	500 lb
23.0 mL	46.0 mL	1,000 lb
34.5 mL	69.0 mL	1,500 lb

Under conditions of continued exposure to parasites, retreatment may be needed after 4–6 weeks. There are no known contraindications to the use of the drug in cattle. For dairy cattle there is no milk withdrawal period at 5 mg/kg.

Manufactured by: DPT Laboratories, San Antonio, TX 78215
Distributed by: Intervet Inc., Millsboro, DE 19966

Store at or below 25°C (77°F). Protect from freezing. Shake well before use. NADA # 128-620, Approved by FDA 697815-B

Panacur®
(fenbendazole)

MERCK Animal Health