

SHEEP Dewormer Chart

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Important --Please read notes below before using this chart

1 ml = 1cc	Valbazen (albendazole) <u>ORALLY</u>	SafeGuard (fenbendazole) <u>ORALLY</u>	Ivomec Sheep Drench (ivermectin) <u>ORALLY</u>	Prohibit (levamisole) <u>ORALLY</u>	Cydetin Sheep Drench (moxidectin) <u>ORALLY</u>
Weight Pounds (lbs)	7.5 mg/kg 0.75 ml/ 25 lb	5 mg/kg 0.6 ml/ 25 lb	0.2 mg/kg 2.9 ml/ 25 lb	8 mg/kg 2 ml/ 25 lb	0.2 mg/kg 2.3 ml/25 lb
20	0.6	0.5	2.3	1.5	1.8
25	0.75	0.6	2.9	1.8	2.3
30	0.9	0.7	3.4	2.2	2.7
35	1.1	0.8	4.0	2.6	3.2
40	1.2	0.9	4.5	2.9	3.6
45	1.4	1.0	5.1	3.3	4.1
50	1.5	1.1	5.7	3.7	4.5
55	1.7	1.3	6.2	4.0	5.0
60	1.8	1.4	6.8	4.4	5.4
65	2.0	1.5	7.4	4.7	5.9
70	2.1	1.6	8.0	5.1	6.3
75	2.3	1.7	8.5	5.5	6.8
80	2.4	1.8	9.1	5.8	7.2
85	2.6	1.9	9.7	6.2	7.7
90	2.7	2.0	10.2	6.6	8.1
95	2.9	2.1	10.8	6.9	8.6
100	3.0	2.2	11.4	7.3	9.1
105	3.2	2.3	1.02	7.7	9.5
110	3.3	2.5	12.5	8.0	10
115	3.5	2.6	13.1	8.4	10.5
120	3.6	2.7	13.7	8.8	10.9
125	3.8	2.8	14.2	9.1	11.4
130	3.9	2.9	14.8	9.5	11.8
140	4.2	3.0	15.4	10.2	12.7
150	4.5	3.1	16.0	11.0	13.6

Valbazen Suspension (11.36 % or 113.6 mg/ml): 7.5 mg/kg orally; approved in sheep with meat withdrawal time of 7 days. Do NOT use in pregnant ewes in the first trimester of pregnancy.

Safe-Guard/ Panacur Suspension (10% or 100 mg/ml): Note that SafeGuard is not approved for use in sheep. Sheep dose is 5 mg/kg orally; meat withdrawal time of 6 days.

Ivomec Drench for Sheep (0.08% or 0.8 mg/ml): 0.2 mg/kg orally; approved in sheep with meat withdrawal time of 11 days. Protect from light.

Prohibit Soluble Drench Powder (Sheep): (Note that this drug is also sold as Levasol and Tramsiol) 8 mg/kg ORAL dose. Approved for use in sheep with meat withdrawal of 3 days. Solution prepared by dissolving a 52 gram packet in 1 quart (943 ml) of water. This yields a solution with 49.6 mg/ml. Always make sure to follow directions on packet when preparing.

If dosing lambs, it is safer to dilute further (1 packet in 2 quarts of water), and then administer twice the amount listed on the chart. The larger volume administered will provide a wider margin for safety if there are small errors in dosing.

Cydetin Sheep drench (1 mg/ml): 0.2 mg/kg orally; approved in sheep with meat withdrawal time of 14 days.

NOTE for Guideline for Dewormer (Anthelmintic) Dosages in Sheep

This chart was developed by Ray M. Kaplan, DVM, PhD and Lisa Williamson, DVM, MS (University of Georgia). It is provided as a possible guideline for anthelmintic (deworming) dosages for sheep. Producers should always consult their veterinarian for advice on their specific management situation for determining which dewormer(s) are best to use in their flock, and the proper dosages for their flock. Meat withdrawal times should always be strictly adhered to.

Note that drug resistance in parasites of sheep is extremely common. The effectiveness of a particular dewormer should always be tested before being used by performing either a Fecal Egg Count Reduction Test (FECRT) or DrenchRite larval development assay (contact Dr. Kaplan's laboratory [706-542-0742] for more information about the DrenchRite test).

Updated September 2014

Dewormer Chart for Goats

Important --Please read notes below before using this chart

1 ml = 1cc	Valbazen (albendazole) <u>ORALLY</u>	SafeGuard (fenbendazole) <u>ORALLY</u>	Ivomec Sheep Drench (ivermectin) <u>ORALLY</u>	Prohibit (levamisole) <u>ORALLY</u>	Cydetin Sheep Drench (moxidectin) <u>ORALLY</u>	Rumatel (morantel) Feed Pre-mix <u>ORALLY</u>
Weight Pounds (lbs)	20 mg/kg 2 ml/ 25 lb	10 mg/kg 1.1 ml/ 25 lb	0.4 mg/kg 6 ml/ 25 lb	12 mg/kg 2.7 ml/ 25 lb	0.4 mg/kg 4.5 ml/25 lb	10 mg/kg 45 gm/100 lb BW (Durvet)
20	1.6	0.9	4.8	2.2	3.6	
25	2.0	1.1	6.0	2.7	4.5	11 grams
30	2.4	1.4	7.2	3.3	5.4	
35	2.8	1.6	8.4	3.8	6.5	
40	3.2	1.8	9.6	4.4	7.3	
45	3.6	2.1	10.8	4.9	8.2	
50	4.0	2.3	12.0	5.5	9.0	23 grams
55	4.4	2.5	13.2	6.0	10	
60	4.8	2.7	14.4	6.6	11	
65	5.2	3.0	15.6	7.1	12	
70	5.6	3.2	16.8	7.7	12.7	
75	6.0	3.4	18.0	8.2	13.6	34 grams
80	6.4	3.6	19.2	8.8	14.6	
85	6.8	3.9	20.4	9.3	15.4	
90	7.2	4.1	21.6	9.9	16.4	
95	7.6	4.3	22.8	10.4	17.3	
100	8.0	4.6	24.0	11.0	18	45 grams
105	8.4	4.8	25.2	11.5	19	
110	8.8	5.0	26.4	12.1	20	
115	9.2	5.2	27.6	12.6	21	
120	9.6	5.5	28.8	13.2	22	
125	10.0	5.7	30.0	13.7	22.7	56 grams
130	10.4	5.9	31.2	14.3	23.6	
140	11.2	6.4	33.6	15.4	25.4	
150	12.0	6.8	36.0	16.5	27.3	68 grams

Valbazen Suspension (11.36 % or 113.6 mg/ml): 20 mg/kg orally; withdrawal time is 9 days for meat and 7 days for milk Do NOT use in pregnant does in the first trimester of pregnancy

Safe-Guard/ Panacur Suspension (10% or 100 mg/ml): the label dose in goats is 5 mg/kg, but a 10 mg/kg dosage is recommended. At 10 mg/kg, withdrawal time is 16 days meat and 4 days for milk. Add 1 day for each additional day the drug is used (e.g. if administered 2 days in a row then withhold milk for 5 days after 2nd dose).

Ivomec Sheep Drench (0.08% or 0.8 mg/ml): 0.4 mg/kg orally; meat withdrawal time is 14 days and milk withdrawal is 9 days.

Prohibit Soluble Drench Powder (Sheep): (Note that this drug is also sold as Levasol and Tramsiol) 12 mg/kg oral dose with meat withdrawal of 4 days and milk withdrawal of 3 days. Solution prepared by dissolving a 52 gram packet in 1 quart (943 ml) of water. This yields a solution with 49.6 mg/ml. If dosing kids, it is safer to dilute further (1 packet in 2 quarts of water), and then administer twice the amount listed on the chart. The larger volume administered will then provide a wider margin for safety if there are small errors in dosing.

Cydectin Sheep drench (1 mg/ml): use orally at 0.4 mg/kg orally; for a single dose the meat withdrawal time is 17 days and milk withdrawal is 8 days. Note that these withdrawal times are only applicable for the sheep oral drench at the dose given here. Higher doses will require a longer withdrawal time.

Morantel tartrate (Rumatel) recommended label dose for goats is 10 mg/kg, orally. There is 0 (zero) withdrawal time for milk in lactating cattle and dairy goats. Meat withdrawal time for goats is 30 days. Because of the large differences in morantel concentration among the various products, it is important to carefully read the label and make sure you are dosing correctly. The dosage on the chart above is for Durvet Rumatel. {With Durvet Rumatel, feed 0.1 lb (45 grams) per 100 lbs. BW; and with Manna Pro feed 1.0 lb per 100 lb. BW}. There is also a highly concentrated form called Rumatel 88, but this is meant for mixing into large volumes of feed (feed 0.1 lb (45 gram) per 2000 lb BW). Note that the 10 mg/kg dose used for the chart is the label dose; administering 1.5 – 2X this dose may improve efficacy. If an elevated dose is used then withdrawal times would need to be extended.

NOTE on Guideline for Anthelmintic Dosages in Goats

The attached chart was developed by Ray M. Kaplan, DVM, PhD, DACVM, DEVPC (University of Georgia) with subsequent contributions by Patty Scharko DVM, MPH (Clemson University). It is provided as a possible guideline for anthelmintic (deworming) dosages for goats. Producers should always consult their veterinarian for advice on their specific management situation, for determining which of the dewormers remain effective on the farm, and for determining the most appropriate dosages for their herd. Meat and milk withdrawal times listed in this document are based on the most current information available from FARAD as of it's writing. Be aware that these recommended withdrawal times may change over time as new pharmacologic information is obtained.

With the exception of fenbendazole administered at the 5 mg/kg dose, these drugs are **not** approved by the Food and Drug Administration (FDA) for use in goats, and when used in goats are considered extra label use. Fenbendazole at the recommended dose rate of 10 mg/kg is also considered extra-label usage. The FDA regards extra-label use of drugs as an exclusive privilege of the veterinary profession and is only permitted when a bona fide veterinarian-client-patient relationship exists and an appropriate medical diagnosis has been made. The following chart is intended to serve as a guideline for improving accuracy when dosing goats with an anthelmintic, but these drugs should be used in goats only when appropriate veterinary advice has been received. Cattle pour-on dewormers should NEVER be used in goats to treat internal parasites.

Drug resistance to multiple drugs and sometimes to all available drugs in parasites of goats is extremely common. The effectiveness of a dewormer should always be tested before being used by performing a Fecal Egg Count Reduction Test (FECRT) or DrenchRite larval development assay (contact Sue Howell in Dr. Kaplan's laboratory [706-542-0742; or drenchrt@uga.edu] for more information about the DrenchRite test, current cost = \$450).

To improve the effectiveness of deworming treatments, multiple dewormers may be administered at the same time sequentially. It is important not to mix the different drugs together as they are not chemically compatible. They should be given separately, but can all be given at the same time, one right after the other. It is always recommended to treat goats selectively given their individual need for treatment based on FAMACHA score, fecal egg count, body condition score, and other health measurements as a guide. This recommendation is even more important when using drugs in combination. If all animals in the herd are treated, resistance to the dewormers will develop rapidly, and if using a combination there will be nothing left to use when this happens.

ADDITIONAL NOTE ON CYDECTIN: For a short period, it was recommended to administer Cydectin (moxidectin) by injection. However, new information suggests that the oral route is preferred. If the cattle injectable is used, FARAD recommends a 120-130 day meat withdrawal time. NOTE that the cattle pour-on formulation should NOT be administered to goats orally – this is not permissible under extra-label use law. ALWAYS use the sheep oral drench. Check <http://www.acsrpc.org/> website for more information on drug choice and drug resistance.

Table 1: Commonly used anthelmintics in sheep and goats.

Drug	Class	Approved Sheep	Approved Goats	Dosage (mg/kg)	How Supplied	Prevalence of Resistance*	Meat WDT	Milk WDT For Goats	Remarks
Ivermectin	AM	Yes	No	Sheep 0.2 Goats 0.4	Sheep oral drench	high	Sheep 11 days Goats 14 days**	9 days**	Cattle injectable formulation not recommended
Doramectin	AM	No	No	Sheep 0.2 Goats 0.4	Injectable	high	ND	NE	Not recommended because long residual activity promotes resistance
Moxidectin	AM	Yes	No	Sheep 0.2 Goats 0.4	Sheep oral drench	low to moderate	Sheep 14 days Goats 17 days**	8 days**	Kills Ivermectin-resistant <i>Haemonchus</i> . Minimize use to preserve efficacy
Levamisole	I/T	Yes	No	Sheep 8.0 Goats 12.0	Soluble drench powder	low to moderate	Sheep 3 days Goats 4 days**	3 days	Toxic side effects = salivation, restlessness, muscle fasciculations. Recommend weighing goats before treatment.
Morantel	I/T	No	Yes	Goats 10	Feed premix	moderate	Goats 30 days	0 days	Approved for use in lactating goats. Surveys for prevalence of resistance have not been performed.
Fenbendazole	BZ	No ^a	Yes	Sheep 5.0 Goats 5.0 ^b	Paste Suspension Feed block Mineral Pellets	high	Goats 6 days ^c (for suspension only)	0 days ^c (for suspension only)	^a Approved in Big-horned sheep. ^b Label dose is 5.0 mg/kg but 10 mg/kg is recommended for goats. ^c Listed WDT are for the 5 mg/kg dose. At 10 mg/kg, WDT should be extended to 16 days for meat and 4 days for milk**
Albendazole	BZ	Yes	No	Sheep 7.5 Goats 20	Paste Suspension	high	Sheep 7 days Goats 9 days**	7 days**	Don't use within 30 days of conception. Effective against <i>Moniezia</i> tapeworms.

AM = Avermectin/Milbemycin (Macrocyclic Lactone)

BZ = Benzimidazole

I/T = Imidazothiazole/Tetrahydropyrimidine

WDT = Withdrawal time

NE = Milk WDT has not been established in goats; product should not be used in lactating dairy goats

ND = Meat withdrawal time has not been established. To be safe it is suggested to double cattle WDT

*In the southern United States. Prevalence of resistance has not been established elsewhere.

**Based on FARAD recommendations

Table is modified from one published in 5th edition of *Current Veterinary Therapy: Food Animal Practice* "Anthelmintic Therapy in an Era of Resistance," by Ray M. Kaplan, DVM, PhD, DipEVPC. It has been updated to reflect changes as of September 2014.

This table is intended for veterinary use only. Others should consult with their veterinarian before using any drug in an extra-label manner