

Based upon recent research the [American Consortium for Small Ruminant Parasite Control now recommends that](#) – **for selective deworming** – a combination of chemical dewormers (anthelmintics) should be used. Please read the explanation at <https://www.wormx.info/combinations>. The purpose of this document is to alert small ruminant farmers to this new recommendation, but with the caution that ***improper use of combination dewormers could select for worms that are resistant to all anthelmintics.***

There are only 3 classes of anthelmintics approved for use in the United States (Table 1). Because many flocks and herds are infected with worms that are resistant to all three classes, anthelmintics should be used only when necessary to save the life of an animal.

Table 1. Anthelmintics (dewormers) available in the United States. Adapted from Schoenian (2016).

Drug class	Ingredient	Trade names ¹		
BZD	Benzimidazole			
		Fenbendazole	Panacur [®] , SafeGuard [®]	
		Albendazole	Valbazen [®]	
		Oxtendazole	Synanthic [®]	
IMID	Imidazole			
		Nicotinic agonist	Levamisole	Prohibit [®] , Levasol [®] LevaMed [®]
		Imidazothiazoles	Morantel	Tramisol [®] , LevaMed [®]
		Tetrahydropyrimidines	Pyrantel	Rumatel [®] , Nematel [®] , Strongid [®]
ML	Macrocyclic lactone			
		Avermectins	Ivermectin	Eprinex [®]
			Eprinomectrin	Ivomec [®] , Primectin [®]
			Doramectin	Dectomax [®]
		Milbemycins	Moxidectin	Cydectin [®] , Quest [®]

¹Only Valbazen[®] drench, Ivomec[®] drench, Prohibit[®] and LevaMed[®] drench, and Cydectin[®] drench are FDA-approved for use in sheep in the United States.

Only worms that are resistant to all the anthelmintics will remain in a herd or flock in which all animals have been treated with a combination of anthelmintics. That would leave no effective way of treating individual sheep or goats that need treatment to prevent them from dying. In fact, if possible, all the sheep or goats in a flock or herd should never be dewormed at the same time – even with only one dewormer – because the worms that remain will only be those that are resistant to the anthelmintic that was used to deworm the entire flock. Thus, use anthelmintics only in animals that have been identified by a check similar to a Five Point Check[®] (Table 2) as needing to be dewormed.

Table 2. Five Point Check[®] for selective treatment of internal parasites in small ruminant.
Adapted from Schoenian (2016).

Point	What to check	Which parasites
1	Eye Paling of ocular membranes FAMACHA [®] score	Barber pole worm Liver fluke
2	Back Body condition score	All
3	Rear Dag score Fecal soiling (evidence of scouring)	Brown stomach worm Hair worm Threadworm Nodule worm Coccidia
4	Jaw Sub-mandibular edema "bottle jaw"	Barber pole worm Liver fluke
5	Nose Nasal discharge	Nasal bots

Literature cited

Schoenian, S. 2016. Internal parasite (worm) control.

<http://www.sheep101.info/201/parasite.html> (Accessed 14 August 2017 2017).