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**SUGGESTED DEWORMING SCHEDULE FOR CAMELIDS IN LOCATIONS WHERE
MENINGEAL WORM INFECTION EXISTS**

Disclaimer: No single deworming program is appropriate for every farm. Factors that must be considered in designing a deworming program include location, whitetail deer exposure, pasture capacity, population and ages of animals, weather, etc. The schedule below is a good template for parasite control, but does not replace fecal testing and risk evaluation by your veterinarian.

DEWORMERS COMMONLY USED:

-***Ivermectin*** (trade name Ivomec) or **doramectin** (Dectomax) injectable. These are both 1% solutions for subcutaneous injection, and are used primarily for their effectiveness in controlling *P.tenuis*, the parasite that causes meningeal worm disease via transmission through a snail or slug intermediate host. Both work to cover possible infections occurring in the period prior to and for a time after administration (30 days total for Ivomec, 45 days for Dectomax). Although both have fair efficacy against intestinal roundworms, it is good practice to use fenbendazole on a rotational basis for intestinal roundworm and tapeworm control.

-***Fenbendazole*** (trade name Panacur, Safeguard, others). This is an oral liquid or paste marketed in the US for sheep, cattle, horses, and pigs. It is extremely safe to use and can be used concurrently with injectable dewormers (even given at the same time). Fenbendazole will not kill meningeal worm larvae, but is more effective than ivermectin or doramectin against intestinal parasites, and can be used for 3-5 days in a row in cases of obvious roundworm or tapeworm infestation (“flush deworming”).

Farms that have been relying on injectable ivermectin or doramectin (Dectomax) as their only source of intestinal parasite control have been unwittingly selecting for drug-resistant worms, in particular whipworms and Nematodirus. This point underscores the need to use injectable ivermectin/dectomax during meningeal worm/snail season, but also to rotate fenbendazole (Safeguard or Panacur are trade names) into the program as previously suggested.

DOSAGES:

-Ivermectin: 1% injectable and **doramectin** 1% injectable are both administered subcutaneously (under the skin) using 1ml (=1cc) per 70 pounds of body weight. Be careful with body weights – the fiber will fool your eye in estimating weights. Although both drugs can be harmful if overdosed, the safety window is large enough that you should dose based upon the heaviest animal in a weight group (i.e. all mature breeding females within 30-40 pounds of the largest female should be given the same dose as the largest female). I prefer Dectomax to Ivomec – it reduces the number of injections due to its longer duration of action (easier on owner and animals), and makes for a simpler rotation schedule.

-Fenbendazole: 10% suspension or paste is given at 20mg/kg body weight. The easiest way to do this is to quadruple the horse dosages recommended on the labels (horses are dosed at 5mg/kg). For example, if your animal weighs 150 pounds, give a 600 pound horse dosage measured by the calibrations on the paste plunger. The suspension dosage is 1cc per 10 pounds of body weight.

<u>SCHEDULE</u>	<u>IF USING DECTOMAX</u>	<u>IF USING IVOMECC</u>
January 15th	Fenbendazole	
March 1st		Fenbendazole
April 1st	Dectomax & Fenbendazole	Ivomec
May 1st		Ivomec
May 15th	Dectomax	
June 1st		Ivomec
July 1st	Dectomax & Fenbendazole	Ivomec
August 1st		Ivomec & Fenbendazole
August 15th	Dectomax	
September 1st		Ivomec
October 1st	Dectomax & Fenbendazole	Ivomec
November 1st		Ivomec
November 15th	Dectomax	
December 1st		Ivomec & Fenbendazole

A routine fecal exam by centrifugation in a sugar solution is the only way to judge the efficacy of your deworming program. The best time to run fecal exams is 3-5 weeks after deworming, as any breakthrough or re-infestation problems should be detected. 10% of your herd (10 animals as a minimum) should be tested to screen for deworming issues. We have an in-house fecal laboratory to perform these tests (as well as a giardia/cryptosporidium test to diagnose these two causes of diarrhea), and will accept drop-off samples. Please call in advance if you will be bringing more than 10 samples. Collect fresh samples from the rectum using lube and a glove (sample size about as big as a walnut) and refrigerate until testing (24-hours maximum).