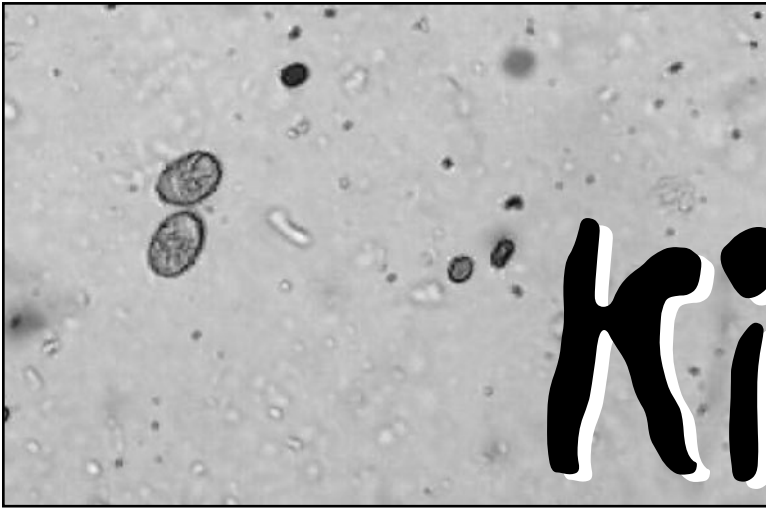


The Silent

by Dr. Toni Cotton



Killers

E. Lamanea and E. Punoesis

Camelids tend to be very vague in their expression of clinical illness until the condition is advanced. In most cases, the animals show clinical disease once they have been stressed in some way and the secondary pathogens take over. If breeders spend enough time with their animals and practice diligent herd health on a regular basis, these situations can be avoided. The incidence of meningeal worm in this country and our need to prevent this disease has resulted in resistant strains of intestinal parasites that have led to the death of many camelids.

There has been a false sense of security in most herds due to the regular worming with Ivomec or Dectomax on a monthly or bi-monthly basis throughout the year. Most breeders feel that their herd is safe from intestinal parasites with this schedule. These injectable wormers are not effective in the treatment of intestinal parasites such as whipworms (*trichuris*), nematodes (*nematodirus*, *hemonchus*, *ostertagia*) and tapeworms (*monezia*). If these parasites are left untreated, all can cause weight loss, ill thrift, anemia (low red blood cell count), abortion secondary to debilitation of the dam, low total protein secondary to a

protein losing enteropathy (damage to the intestinal tract) and if severe enough, intestinal ulceration and death.

In order to effectively prevent parasites in your herd, you must have routine fecal analysis performed. The technique that is best to use in the camelid species is the sugar centrifugation technique. It is the best way to determine low fecal egg counts.

Fecal Preparation

- Mix 3 grams of feces with 20cc of sugar float solution
- Pour through tea strainer into another cup
- Pour strained fluid into a test tube
- Centrifuge the test tube for 5-10 minutes
- Add more sugar solution to allow placement of the cover slip. Leave it for 5-10 minutes, then read your fecal.

Individual fecal analysis should be performed on all animals in the herd at least twice yearly. Once the parasites are identified, the proper wormers and dosing schedule can be

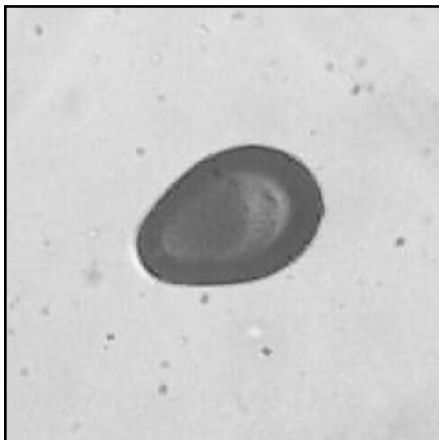
determined by your veterinarian. There are many oral wormers that are used in camelids. The most common class of oral wormers are the benzimidazole group, examples are fenbendazole (*panacur*), albendazole (*valbazen*, this wormer should not be used in the first 5 months of pregnancy) and oxfendazole (*synathic 22.5% solution*). It is very important to be sure that the proper dosage that has been proven effective in camelids is used.

There are other important issues to discuss that are directly related to parasite control and prevention. The first is stocking ration. The stocking ration is the number of animals per acre in your pastures. The maximum number of llamas and alpacas per acre should be 5-6. If the animals are in an overstocked condition, they are at a higher risk to develop parasites.

Two herd management practices that can also help in parasite prevention are pasture rotation and dry lot rotation. By moving your animals to a new pasture every two weeks, you can effectively prevent parasite reinfestation from the immature forms that are shed in the animal's feces. With the incorporation of dry-lot rotation, the fecal material in the environment can be removed and

without vegetation, the larvae (immature parasites) will not develop. The removal of feces from the pastures, barn and dry lot are an essential part of parasite control and prevention.

The other class of parasites that have become increasingly prevalent is the coccidia species. There are many types of coccidia that occur in camelids. They can cause diarrhea in neonates and adults, chronic ill thrift, weight loss and chronic protein losing enteropathy (eimeria macuniesensis). It is extremely important to identify the type of coccidia present to tailor the treatment. There are many options for treatment; examples are albion suspension or tablets, trimethoprim sulfa suspension, corid in the water or chorid drench, fenbendazole given 5 days in a row and most recently described ponazuril (marquis) which is used to specifically treat e.mac.



10 x Eimeria Macuniesensis

Coccidia tends to cause illness during times of stress. This leads to a drop in the animal's immune status and an increase in the numbers of coccidia. Neonates are most at risk to develop clinical disease and diarrhea but adults often develop diarrhea from coccidia.

The last most important aspect of parasite control and treatment is biosecurity. What is biosecurity? Biosecurity is the process in which a breeder isolates outside animals that are brought to the farm for breeding or animals from the same herd that have returned from a show. Anytime an

animal is removed from the farm and placed into a new environment with animals from other farms, it should be considered "exposed" and the animal should be kept in quarantine for a minimum of 21 days upon return to the farm. This period allows you to check for intestinal parasites and to treat effectively as well as monitor the animal for other diseases that can manifest after a show such as upper respiratory illness, conjunctivitis and skin disease.

"In order to effectively prevent parasites in your herd, you must have routine fecal analysis performed."

-Dr. Toni Cotton

Dr. Toni Cotton attended the University of Findlay for her undergraduate work, then graduate studies in veterinary medicine at The Ohio State University from 1986-1990. She spent one-year abroad in Morocco as a veterinarian for the Peace Corps. She was exposed to camels in Morocco, which helped pique her interest in camelids. She returned to practice with Dr. Gary Cotton (now her husband) at the Animal Medical Center of Findlay. Dr. Toni Cotton took over the few camelid clients at the time and became so busy that she started her own specialty practice, Camelid Veterinary Services, in 1994. She specializes in camelid reproduction and neonatal care. She has traveled to Peru four times over the past several years. Her activities in Peru varied from the selection of alpacas for importation, attending the II World Congress on Camelids, speaking at The AlpacaFest 2000 in Arequipa, Peru and trekking through the altiplano with llamas. She has taught neonatal clinics at The Ohio State University and the University of California and she teaches neonatal clinics at farms throughout the US. She is the ORVLA representative to the Llama Medical Research Group, which reviews current lama research projects. She serves on the advisory board to The International Camelid Institute and is an adjunct professor to The Camelid Health Program at The Ohio State University. She is currently on the Board of Directors to The Suri Network. She raises and shows suri alpacas and her love for camelids and her work continues to grow.

