


Parasites

WAGE WAR



by Kathy Peterson

Despite the best protective measures of many owners, camelids have come under attack by deadly

parasites that quietly have invaded and launched full-scale attacks on farms around the country, with particularly devastating impacts in the southeast.

For all who have lost camelids as a result of these attacks and continue to fight the battle, we are sorry for your losses. All who will

benefit from your experiences and willingness to share information owe you a debt of gratitude, for perhaps what you have learned and passed on will help all camelid owners become smarter mercenaries in the parasite war. Although we understand we cannot defeat the enemy, through better understanding of the problem and guidance by our veterinarians, we can hold him back while we develop a better strategic battle plan.

How is it possible that parasites have sneaked up on us and dealt such deadly blows, even while we kept watchful eyes upon them? How do we properly diagnose the problem? What can we do about it?

Camelid Owners Fight Back

These and many other questions were addressed in a one-day emergency clinic held in Ringgold, Georgia, on October 22, 2005. The clinic had 113 people (evenly divided between llama and alpaca owners) in attendance from 10 different states. Although there was not enough time to

print and mail flyers, the response was overwhelming just from "word of mouth" and emails that were passed around by the llama and alpaca community. These llama and alpaca owners came together to share experiences and to get the latest information available.

The clinic was hosted by the Southern States Llama Association (SSLA) and organized at the request of concerned breeders. In response to many owners' questions and concerns about parasites, Ron Shinnick, President of the SSLA, had asked participants at the Southeastern Regional Championship show if they would like for the SSLA to host a clinic to discuss parasite problems. The response was a loud "YES!"



Ron Shinnick, President of SSLA

Stacy Mashburn of King's Ransom Stables and Karen Pihera, DVM, of Lovelady Llamas spearheaded the coordination and development of the conference. Many, including veterinarians, volunteered their time and services for the event. Conference speakers included Dr. Karen Pihera, Ann Gillespie from Fort Valley State College, Dr. Lisa Williamson from the University of Georgia Department of Large Animal Medicine and Dr. David Pugh with Fort Dodge Animal Health.

The effectiveness of the clinic was maximized through a combination of lectures, slides and hands-on demonstrations, where participants learned how to use various kinds of microscopes and to do fecal parasite exams. Also covered were parasite prevention measures and regimens for treating various kinds of parasites. All in all, it was an excellent clinic and a day well spent by all who attended.

Pre-conference Communication

These are excerpts from Dr. Pihera's pre-conference comments:

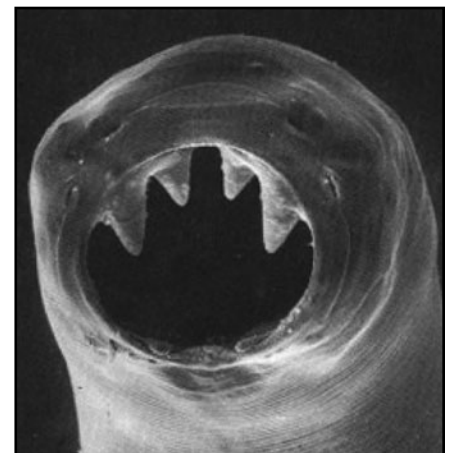
"It is here.

Resistance to dewormers develops because of over-use, indiscriminate or improper use of dewormers, the fact that we are limited to only about three types of dewormers (many brand names but all related) and has been helped along by our regular meningeal worm prevention programs. The gastro-intestinal (GI) parasites surviving our meningeal worm control are tough and getting tougher to kill.

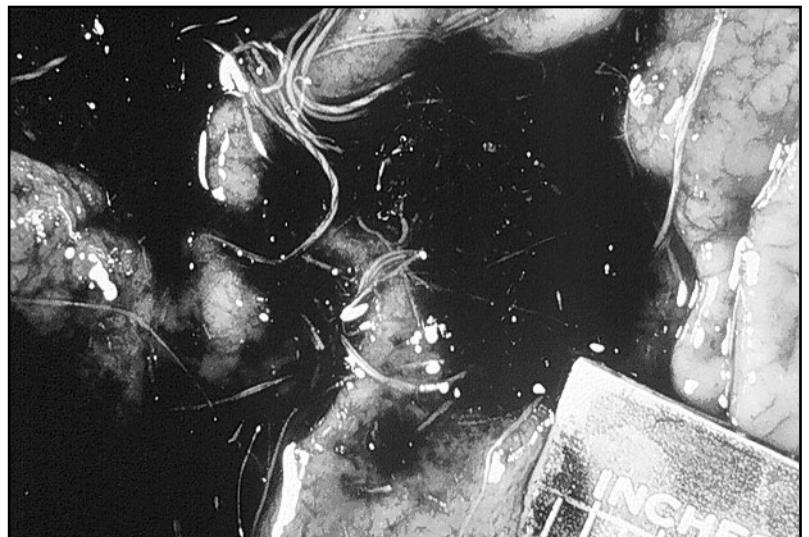
The dewormers we've used for so long are no longer working as well on some of the GI parasites. Many have been resistant to ivermectin for a while. *Most of us have felt that our regular meningeal worm prevention with Ivermectin or Dectomax injections has also been sufficient for GI worms. Fecal exams say otherwise.* All we've been accomplishing is meningeal worm control and resistance in other worms. (Meningeal worms will not develop resistance to our dewormers, as the camelids are dead-end hosts.) Even farms not practicing regular meningeal worm control do or will have resistance develop in GI parasites if our methods do not change.

The worm receiving the most attention of late is Haemonchus (the stomach or barber pole worm). This is a strongyle which causes anemia and was previously very easy to kill with almost any dewormer. Now it is tougher to kill. Haemonchus has a very short life cycle in our southeastern summers, re-infecting grazing llamas in as little as 2 weeks. It can cause symptoms of anemia and weight loss sometimes even before it shows up on a fecal exam.

There is very little chance of llamas contracting GI parasites at a llama show. When parasite eggs are passed in a stool, it takes several days for them to hatch and develop into infective stages which could infect another animal. The strongyle worms take 5-6 days to hatch, develop and crawl onto grass to await ingestion by a grazing llama.



Haemonchus contortus (Barber Pole Worm)



Haemonchus contortus (Barber Pole Worm) adults

Photos from U.C. Davis: *Biology of Parasitism* – Lecture notes.



Dr. Karen Pihera, DVM, conference speaker

Most of our shows only last a couple days, not long enough for this to happen. Coccidia eggs develop into their infectious forms in 1-2 days but stay in the feces. They are contracted only by "fecal-oral" transmission (eating food near fecal matter) so this is not a great danger at most shows. It is more a disease of crowded conditions.

Illness from intestinal parasites is more likely to impact an animal stressed by sales, crowding, transport, movement to another farm, breeding, birthing, weaning or hot and humid weather.

Llamas who have never experienced GI parasites are "naïve" and much more likely to experience severe symptoms the first time they are infected." During her conference opening remarks, Dr. Pihera had the following to say:

"Drug resistance occurs in parasites because of misuse, overuse or use of improper doses of dewormers. It is compounded by the fact that there are very few classes or types of dewormers. There are many different products out there, but most are related to each other. When resistance develops to one product in a group, it often occurs in related products. I have heard it estimated that it could be up to 10 years before the drug industry comes out with a brand new class of dewormer. Meanwhile we are left with fewer and fewer that are working against some of our animals' parasites. I remember when llama worms used to be so easy to control with practically

any dewormer off the shelf at the local feed store. This is no longer the case.

The sheep and goat industries have been struggling with the issue of parasite resistance for years. Parasitologists have warned that resistance would one day impact the camelid world. That day is here."

Dr. Pihera went on to say the following:

"The problem is much more widespread than many of us knew. Perhaps people have been embarrassed to admit they have parasites on their farms. Maybe they've thought they were the only ones. In any case, those who have come forward and "gone public", are to be commended. We can only fix a problem if it's out in the open where we can fight it. There is no stigma attached to having parasites on your farms. Chances are that sooner or later we will all be impacted to some degree by parasites and parasite resistance, *unless we change our ways.*"



Conference participants practice fecal analysis.

According to Dr. Pihera, there are three methods of diagnosing parasite problems in llamas and alpacas:

- One is at necropsy.
- The second is by frequent, individual assessment of all animals, including weights, body condition scores and mucus membrane color to check for pallor (paleness) that could indicate anemia from parasites. This should be done at least monthly, or twice monthly in hot, humid weather. Even with this regimen in place, some farms have experienced losses, with animals experiencing a 20-40 pound weight loss since their last monthly weight check.
- The third method is by fecal exams, a more detailed, methodical approach for managing parasites. This approach includes performing selected fecal screenings by groups, checking individual animals if you suspect a problem, determining which animals need de-worming, choosing the correct wormers and rechecking fecal samples after deworming to determine the effectiveness of dewormers.

The SSLA will host another parasite clinic during the SSLA 2006 Conference which will be held at Red Top Mountain in Cartersville, Georgia, March 24-26. Anyone who wants to learn more about parasite prevention, detection, treatment and/or management is urged to attend. There also will be many other clinics hosted at the conference as well as great food and entertainment. Everyone is invited to attend this educational, fun conference. Information is available at www.kingsransomstables.com and www.ssla.org.