Part 2: PARASITE STUDY - CORRELATION WITH SIRE LINES

Originally, we had planned to submit fecal samples to a laboratory and have them analyzed. We decided that we would do ourselves a better service by gaining proficiency in performing the tests ourselves. Producer #2 learned microbiology laboratory techniques in college. We will also be able to show other sheep and goat producers how to perform this simple test.

Materials and methods:

Twelve lambs were chose at random for fecal collection, three each from each producer. Disposable gloves were used to extract the fecal pellets from the lamb, thus assuring no environmental contamination.

Standard fecal egg flotation samples were performed by preparing a saturated salt solution (SSNaCl). Approximately one cup was poured into each of 12 clean glass containers. Three fecal pellets were placed in each container and broken up with a wooden stick. The solution was stirred vigorously, then allowed to settle until fecal material floated.

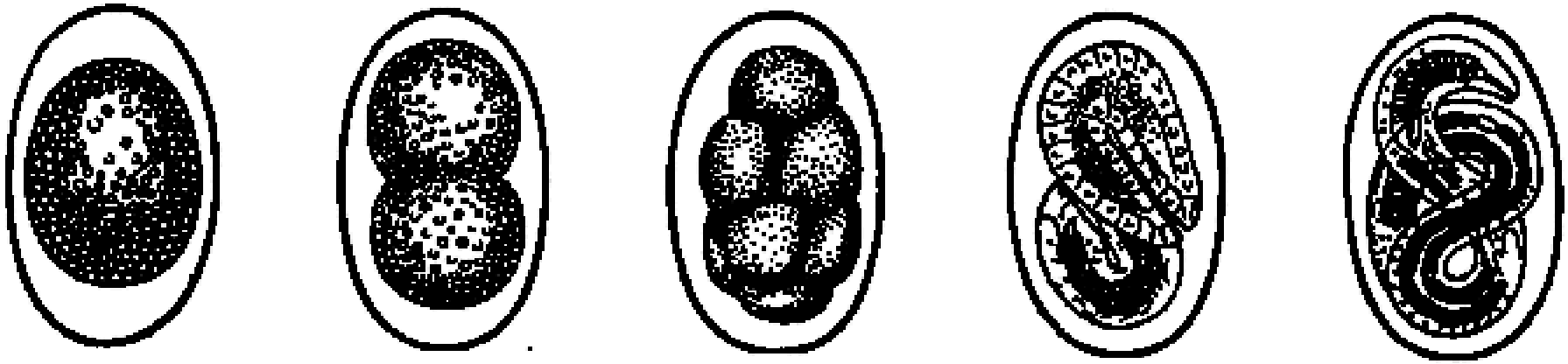
A small plastic syringe was used to pull a drop of solution from the top of each sample, and placed on a glass slide. A cover slip was placed on the drop , and the slide placed on the microscope stage. The cover slip area comprised approximately 4 square centimeters, and the entire area was checked for eggs. Presence of eggs was classified as none, light, moderate, or heavy.

Table 1:

Sample	Producer	6/10/01	7/7/01	8/4/01	9/2/01
1	1	none	none	moderate	
2	1	none	none	moderate*	
3	1	none	none	moderate*	
4	2	none	none	moderate*	
5	2	none	light	moderate*	heavy*
6	2	none	none	heavy*	
7	3	none	none	moderate*	moderate*
8	3	none	none	moderate*	none*
9	3	none	none	heavy*	
10	4	none	none	light	
11	4	none	none	heavy*	
12	4	none	none	none	

*lambs were visibly anemic

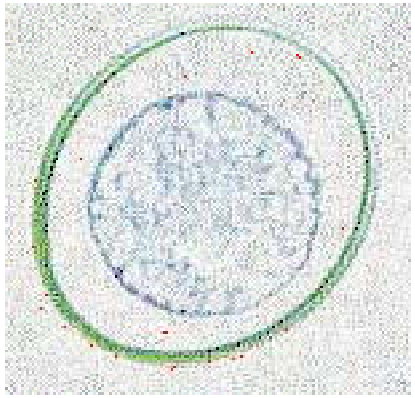
We have retained all of our slides for educational purposes, but we do not possess the ability to photograph our slides. The following illustrations show the eggs and oocysts observed on the slides:



Drawings show development from egg to embryo of Nematodes (roundworms)

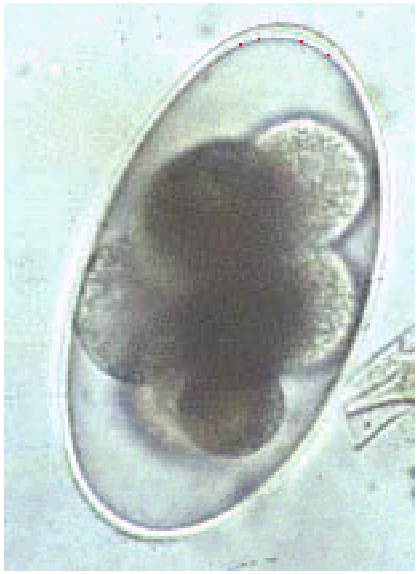
Drawing from Principles of Microbiology, 6th Ed. Alice Lorraine Smith
C.V. Mosby Company, St. Louis, 1969

Trichostrongylus Egg



Unsporulated Coccidia Oocyst

Sporulated Coccidia Oocyst



Nematodirus Egg
(Haemonchus has similar appearance)

The dramatic change between the second and third test dates were, we think, due to the dog attack. Our conclusion was one that has been observed in many situations and species: stress is an overwhelming factor in loss of resistance to disease or parasites . Since so many test animals were thus affected, we couldn't make sire correlations.