



## STOMACH WORMS

R. E. Bradley  
U. of Florida, Gainesville

Some of the most important internal parasites of goats are "stomach" worms. Because of husbandry practices, diagnosis and treatment-control of these parasites should be approached on the basis of the entire herd, not as individual animals alone.

In a goat herd, young animals under 6 months of age are by far the most susceptible to parasitic infection. This group of kids is highly susceptible since they have had very little exposure to parasites and thereby have very little resistance or immunity.

The second most susceptible animals in the goat herd are the yearlings and 2-year olds. The growing animals, with their rapidly expanding blood volumes are susceptible to blood loss due to the actions of certain species of the stomach worms. This age group also is the most likely to suffer malnutrition which will make them more susceptible to parasitic disease. It is a proven fact that animals receiving an adequate, balanced ration are less susceptible to parasite infection.

The older members of a herd will generally be resistant to parasitism due to prior exposure to the various parasites. However, they will harbor subclinical numbers of the common parasites and thereby serve as reservoirs of infection for the younger, susceptible members of the herd.

All of the parasitic organisms that are capable of producing disease in goats follow a definite life cycle pattern. In general, the actual infection of the goat is by mouth, but there are some necessary developmental stages that occur in the environment, such as in the pasture soil or in the bedding of a stall or barn. A typical life cycle of goat stomach worms is shown in Figure 1.

To control infection of goats with stomach worms, several places in the life cycle are subject

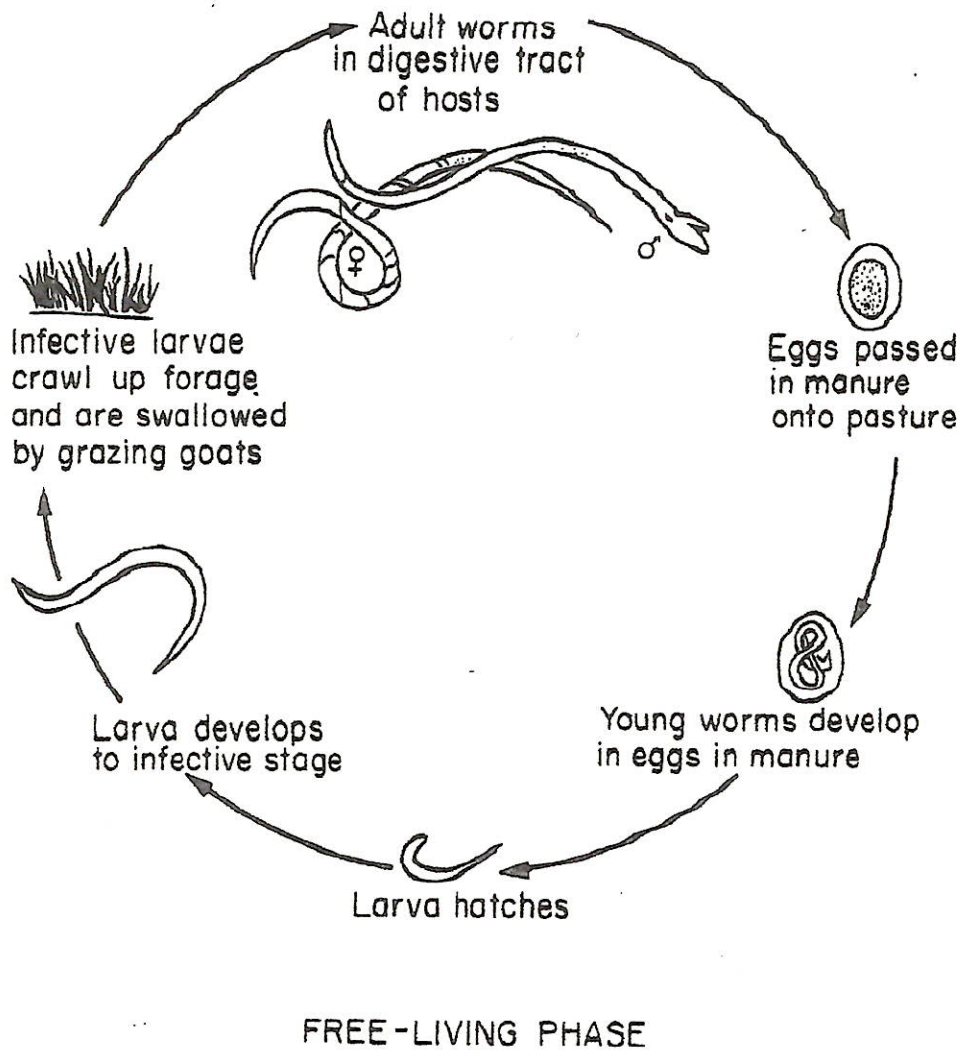
to being broken by management practices, including the use of anthelmintic drugs as shown in Figure 2.

The use of anthelmintic drugs as a part of controlling stomach worm infections in goats is an important and essential part of the total herd health program. The exact drug to use is determined by the cost per dose and ease of administration with most species of domesticated animals. However, only thiabendazole and phenothiazine are approved for use in goats by the Food and Drug Administration. These anthelmintics are effective, and are probably sufficient for goat use, in my opinion. This is because anthelmintics should be used only as an aid to the series of management techniques that are outlined in Figure 2. It is a proven fact that when anthelmintic drugs are substituted for good management in stomach worm control in a goat herd, poor results are always the end result.

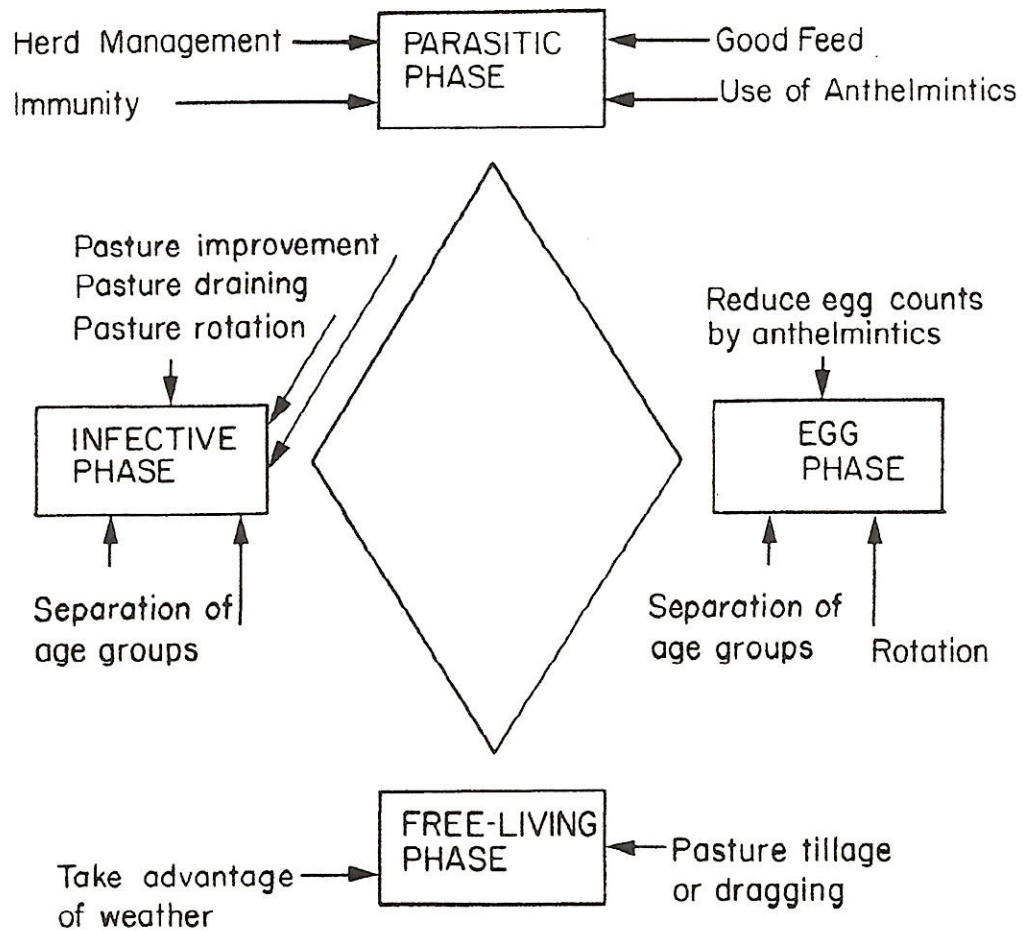
Less common and, therefore, less important internal parasites of goats are liver flukes (*Fasciola hepatica*), lungworms (*Dictyocaulus* sp.) and whipworms (*Trichuris* sp.). These parasites do not respond to thiabendazole or phenothiazine treatment, but other drugs are available, on prescription from a licensed veterinarian. Fortunately, the management practices recommended for controlling stomach worms are effective for controlling these less common parasites.

In conclusion, stomach worms are considered one of the most pathogenic gastrointestinal parasites of goats. They are best controlled by strict management procedures which include drug treatment, but which mainly depends on the prevention of fecal contamination of feed and water.

Reviewed by S. B. Guss, Pennsylvania State U., University Park.



*Typical life cycle pattern of stomach worms of goats. Courtesy of R. E. Bradley, University of Florida.*



*Means of controlling stomach worms of goats by attacking all points of life cycle. Drawing courtesy of R. E. Bradley, University of Florida.*