

Gastrointestinal Parasites of Beef Cattle  
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Several types of nematodes or roundworms can infect cattle. Although there are many species of worm parasites harbored in the gastrointestinal tract of cattle, only a few target species are clinically and economically important.

*Haemonchus placei*, and *Haemonchus contortus* are also known as: the barber pole, large stomach, twisted stomach or wire worms of cattle. These worms are found in the abomasums of cattle and are notorious blood suckers. *Haemonchus* are capable of undergoing a period of arrested development which allows them to persist for long periods of time. They have also shown some seasonal inhibition. Generally these nematodes are restricted to the south and southeastern portions of the United States as major cattle parasites.

*Ostertagia ostertagi* is the brown or medium stomach worm and is recognized as the most important nematode parasite of cattle raised in North America. This parasite is a resident of the abomasum. In cattle this worm is able to arrest its development depending upon the season or number of infecting adults. By arresting its development this allows for a longer duration of infection by adults and evading immune regulation by the host.

*Trichostrongylus axei* is the small or minute stomach worm. It is found as a resident of the abomasum and is immunologically protected somewhat by co-infecting *Ostertagia*. This worm is usually found in low numbers and in approximately 10% of animals examined for intestinal parasites.

Several *Cooperia* species infect cattle in the United States, with *C. oncophora*, *C. punctata*, and *C. pectinata* being the most prevalent. These parasites are found in the proximal small intestine. Significant burdens are restricted to animals 3 years of age or younger. No tendencies for seasonal developmental arrest have been documented, but inhibition (hypobiosis) may occur when adult populations reach high levels. The cooperiads have long been considered worthy of only measured consideration because of their low degree of pathogenicity relative to other nematodes and the fact that they are immunologically controlled by the end of the animals second grazing season. At present they are receiving greater attention because of their perceived resistance and observations that resistance may be linked to greater pathogenicity.

*Nematodiurs* is the thread-necked worm and is found in the small intestine. Development of resistance to macrocyclic lactones is not as significant in cattle populations.

*Strongyloides papillosus* is found in the small intestine. Cattle become infected by transmammary, transcutaneous, and oral routes of larval acquisition. *Strongyloides* burdens are rarely of a pathogenic nature in cattle.

*Oesophagostomum* is the nodular worm of cattle and can infect cattle either by migration through the skin or orally. Adults are found in the large intestine. Very low worm counts per animal are the rule with infections in adult animals relatively common.

Adult roundworms do not multiply in the cattle host. The eggs must pass into the environment to continue the parasite life cycle. The adult life span is only a few months. To diagnose a roundworm infection a fecal sample is analyzed by counting the number of worm

eggs per gram of stool. This count is an estimate of the level of parasitism however the number of roundworm eggs shed in feces varies greatly at any given time. It is also important to note that many of the gastrointestinal parasites of beef cattle are in the strongyle group of nematodes therefore the various species of worms infecting a animal cannot be determined by a microscopic exam of the eggs as eggs from the different parasites in this group are essentially identical in microscopic appearance. The number of eggs shed is usually much higher in spring and fall than in winter and summer. Even a low EPG count can contribute greatly to pasture contamination. For example, a count of 30 EPG will result in 13,000 eggs per pound of manure, or 408,000 eggs per animal daily. For a herd of 100, that amounts to more than 40 million eggs per day. Obviously not all deposited eggs are ultimately realized as cattle parasites. In fact most eggs do not result in infective larvae; approximately 3% of voided eggs become available as infective larvae on pasture herbage.

#### References

1. Veterinary Clinics of North America. November 2006, 22:3

#### References

1. **Beef Cattle Producers Library , University of Wisconsin Extension BCH-3305** Internal Parasites in Cattle