Coccidiosis in Cattle

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Economics: Coccidiosis in cattle is one of the five most economically important diseases of the cattle industry. It is estimated to cost the industry $100 million or more annually.

The disease: Coccidiosis in cattle usually presents as acute diarrhea with or without blood (Fig. 1), straining, severe weight loss, and not uncommonly as a neurologic form that usually results in death of the animal. The more chronic form of the disease causes growth retardation, and/or acts as a stressor causing increased susceptibility to other infections, such as salmonellosis (intestinal disease), or Bovine Respiratory Disease. Coccidiosis is primarily a disease of young animals but can affect older animals that are in poor condition. It occurs commonly in overcrowded conditions, but can occur in free-ranging conditions that have congregating areas, such as feed grounds and watering areas.

The disease agent: Coccidia are protozoan parasites that are host specific; e.g., cattle have their specific coccidia (*Eimeria* sp., Fig. 2), poultry have their coccidia, etc. The oocyst (infective form of the parasite) is usually shed in the feces of affected animals and that of inapparent carrier animals. The oocyst is highly resistant and can survive in moist shaded areas for several years.

Transmission: Coccidiosis is transmitted from animal to animal by the fecal–oral route. Infected fecal material contaminating feed, water, or soil serves as carrier of the oocyst; therefore, the susceptible animal contracts the disease by eating and drinking, or by licking itself. The severity of clinical disease depends on the number of oocysts ingested. The more oocysts ingested, the more severe the disease.

Diagnosis: Coccidiosis is diagnosed by clinical signs, fecal examination by flotation or smear, and by postmortem examination.

Treatment: Isolate the sick animal to prevent increased contamination of the premises. Clinical signs usually occur about seventeen days after ingestion of oocysts. By the time clinical signs occur, the damage is far advanced, and the life cycle in the animal is completed. Amprolium at 10 mg/kg/day for five days and sulfonamides are commonly used as treatments for clinical disease. Supportive treatments and drugs to prevent secondary infections are commonly recommended due to the animal's debilitated state. Remember, if there is one clinical case in a group of cattle, it is highly probable that others have been exposed and harbor coccidia in the intermediate stages of development. Due to the drug susceptibility of the parasite in the intermediate stages of development, preventive measures should be instituted.

Control: Anticoccidial drugs commonly used in cattle should be used at label recommendations, paying careful attention to maintaining preventive levels for periods long enough (28 days or longer) to affect the life cycle of coccidia.

Figure 1. Bloody diarrhea in steer with coccidiosis

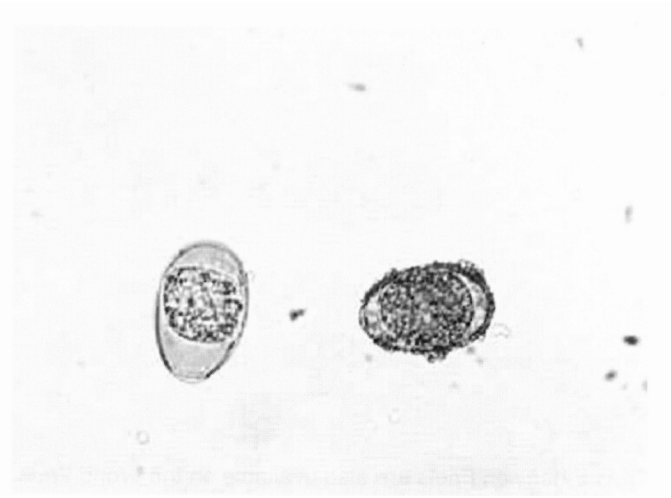

Figure 2. Oocysts of *Eimeria* sp. coccidium of cattle. Oocysts are shown X 400.

Anticoccidial drugs for use in cattle.

Amprolium	Corid®	Therapeutic	10 mg/kg/day for five days
		Preventive	5 mg/kg/day for 28 days
Sulfonamides*		Therapeutic	label recommendations
Monensin	Rumensin®	Preventive	1 mg/kg/day, 10-30 g/ton
Lasalocid	Bovatec®	Preventive	1 mg/kg/day, 10-30 g/ton
Decoquinate	Deccox®	Preventive	0.5 mg/kg/day for 28 days or longer

* Several trade names

Warning: Check with a veterinarian to establish a diagnosis and course of treatment and prevention. Always read and follow label instructions

Conclusions

1. Coccidiosis is a costly parasitic disease, primarily of young cattle, in intensive animal husbandry conditions or free ranging on pastures.
2. It causes both severe illness with possible death or subtle illness causing stress and debilitation of the animal, resulting in secondary disease that further jeopardizes the health of the animal.
3. Treatment and control must be two fold: good animal husbandry measures to prevent the ingestion of infective oocysts by other cattle, as well as the use of anticoccidial drugs to prevent further disease and premise contamination.
4. Remember, animals not showing clinical signs may break with coccidiosis following the institution of anticoccidial drugs. The coccidia may be advanced beyond the point of drug susceptibility in their life cycle. This does not mean to stop preventive measures. The purpose of treatment is not only to prevent disease in the animal, but also to decrease the concentration of the parasite on the premises.

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