

Coccidiosis Information for Small Flock Owners

Prepared by: Michael A. Davis, Ph.D
Director/Agriculture Agent
UF/IFAS Extension Baker County

Coccidiosis Cause:

Coccidiosis is a disease caused by protozoa of the genus *Eimeria*. There are nine species of this organism that infect chickens and seven species that can infect turkeys. Species of *Eimeria* are considered to be host-specific, meaning that those species that infect chickens do not infect turkeys and vice versa. The life cycle of the organism is very complex and usually lasts 7 to 9 days. The protozoa grow and reproduce within the epithelial lining of the intestine.

Susceptibility:

Coccidiosis primarily affects young birds because of the immaturity of their immune systems. Older birds can become infected, but it is much less common than infection in young birds. Coccidiosis affects most domestic poultry and other birds. There is some immunity that develops if a bird recovers from the disease, but it is specific to the species of *Eimeria* that caused the disease, meaning that other species might infect the bird.

Transmission:

Coccidiosis is spread via the environment, primarily infected litter. It is not passed directly from bird to bird.

Clinical Signs:

Signs and symptoms of coccidiosis infections include untriftness, diarrhea, weakness, decreased feed consumption, and decreased water consumption. Advanced cases of the disease cause high mortality.

Lesions:

All species of *Eimeria* except for *E. truncata* produce lesions in the intestines. These lesions can include bloody intestinal contents, enteritis and a mottled intestinal wall. *E. truncata* only affects geese and causes enlargement of the kidneys.

Diagnosis:

A tentative diagnosis can be based on flock history and the presence of clinical signs and lesions. A definitive diagnosis is based on isolation of *Eimeria* oocysts in a laboratory. In most cases a tentative diagnosis in a small flock is enough to warrant treatment.

Treatment:

There are many commercial drugs that are available to treat this disease. All sulfa drugs are effective to varying degrees. Other drugs that are used for treatment include amprolium, ionophores, nicarbazon, quinolones, and robenidine. Always make sure to follow the

manufacturer's directions when administering drugs to a flock. The use of a coccidiostat in the feed, good husbandry practices, effective sanitation can prevent the disease.

Coccidiosis Vaccines:

There are vaccines that are available for the most common strains of coccidiosis. These vaccines have been used for many years in breeder and egg laying flocks since their lifespan is much longer than broilers. In these cases, booster vaccinations are given during the life of the birds to provide immunity.

In recent years, some broiler producers have opted to vaccinate their flocks instead of using coccidiostats for prevention of the disease. In these cases, only one vaccination needs to be given (no boosters) because of the short lifespan of broilers.

It is important to remember that the vaccines for coccidiosis that are available in the United States protect against the major strains of *Eimeria* that affect poultry today which are – *E. acervulina*, *E. maxima*, *E. tenella*, and *E. mivati* (certain vaccines only). The vaccines contain a mixture of the most common strains. It is also important to note that the vaccines that are available in the U.S. are live vaccines that are not attenuated in any way. This means that the vaccine can cause some lesions and occurrence of the disease in some birds. This is considered to be a controlled occurrence, but in these cases it may be necessary to treat for secondary gut diseases which may impact the Organic producer.

Because birds need to have good protection from coccidiosis before they are three weeks old, most vaccinations are given at the hatchery or by one week of age. Vaccines can be administered in different ways, including: 1) spray cabinets, 2) edible gels, 3) feed sprays, or 4) in the drinking water. The type of vaccine will determine the method of application.

When using vaccines for this disease, it is important to allow for the delivered oocysts to sporulate, as the goal of the vaccination is to introduce the *Eimeria* in small numbers to allow for an immune reaction. The litter should be damp, but not wet. After the vaccination, the birds will excrete fresh oocysts into the litter and then consume these second generation oocysts. It is recommended that two cycles of replication by the protozoa are needed for adequate protection of the flock.

It is also important to remember that you cannot use a coccidiostat in conjunction with vaccination. Because the vaccine contains a live, non-attenuated version of the protozoa, coccidiostats will destroy the controlled reaction that the vaccine provides.