

Use of Anticoccidial Medications and Vaccines in Poultry Production

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NOTE Coccidiostats (anticoccidial medications) are not allowed in organic poultry production.

Coccidiosis is a common disease of poultry caused by protozoan-type parasites (coccidia). These parasites live and multiply in the intestinal tract and cause tissue damage. The resulting damage interferes with food digestion and nutrient absorption. Dehydration and blood loss are possible as well. Also, the tissue damage can make the affected bird susceptible to infection by bacteria, such as *Clostridia* and *Salmonella*.

Birds infected with coccidia may shed oocysts in their feces for days or weeks. The oocysts transform into spores in litter, soil, feed, or water. Susceptible birds in the same flock then ingest the sporulated oocysts and become infected. Infected feces or litter can contaminate boots, clothing, and equipment and can be spread to additional flocks. Coccidiosis is prevented through good sanitation and litter management. An important aspect of litter management is elimination of wet litter, which is especially prevalent under waterers. Coccidia are resistant to harsh environmental conditions and common disinfectants. It is important to change litter of highly infested flocks. Use of anticoccidial medications or vaccines is never a substitute for good management practices.

Anticoccidial medications can be used in conventional poultry production (not organic poultry production) and commonly are added to poultry feed to prevent coccidiosis. Anticoccidial medications used in poultry feeds include the following examples:

- amprolium (e.g., Amprol, Corid)
- decoquinate (e.g., Deccox)
- diclazuril (e.g., Clinacox)
- halofuginone hydrobromide (e.g., Stenorol)
- lasalocid (e.g., Avatec)
- monensin (e.g., Coban)
- narasin (e.g., Monteban)
- nicarbazin (e.g., Nicarb 25%)
- salinomycin (e.g., Bio-Cox, Sacox)
- semduramicin (e.g., Aviax)
- sulfadimethoxine and ormetoprim 5:3 (e.g., Rofenaid)

Because anticoccidial medications may not be used in organic poultry production, alternative means of control must be used. One option is the use of coccidiosis vaccination. It is important to understand the differences among coccidiosis vaccines. First, different coccidiosis vaccines exist for different poultry species because different strains of coccidia attack different species. For example, some coccidia affect chickens but not turkeys, and others affect turkeys but not chickens. Second, there are two types of coccidiosis vaccines: virulent and attenuated. Most coccidiosis vaccines are virulent, meaning that they include a low dose of the live parasite as a key component for stimulating

protective immunity. Attenuated vaccines lack a part of the life cycle of the original strain they were derived from. As a consequence, they have a lower productive and pathogenic potential. This characteristic is a major advantage of attenuated vaccines over virulent vaccines.

Coccidiosis vaccination is not infallible. Heavy infestations of coccidia can cause disease even in vaccinated chickens if the chickens' immune systems are compromised, damaged, or suppressed by other infectious agents.

Coccidiosis vaccines include the following options:

- Coccivac®-B—live oocysts of chicken isolates
- Coccivac®T—live oocysts of turkey isolates
- Paracox®-5—live attenuated vaccine for chickens

NOTE Brand names appearing in this article are examples only. No endorsement is intended; nor is criticism implied of similar products not mentioned.

NOTE Before using any product, make sure that the brand name product is listed in your Organic System Plan and approved by your certifier.