Handling Summertime Chicken Coccidiosis in Small Flocks

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Overview

Coccidiosis continues to be a significant illness in chickens and turkeys, especially among young birds. Protozoan parasites of the genus Eimeria are the cause of the disease. They infect various intestinal tract segments and destroy epithelial cells, which results in inflammation, increased permeability, delayed nutrient absorption, stunted growth, poor feed utilization, and heightened vulnerability to secondary bacterial infections such as necrotic enteritis. For small flocks, coccidiosis can be a problem, particularly if antibiotic-free farming is chosen. The life cycle of the parasite, its symptoms, and its treatment are covered in this article.

Protozoan parasites belonging to the genus Eimeria are the cause of coccidiosis. Numerous species of these parasites inhabit a particular section of the gastrointestinal system, and they are host-specific. One of the most prevalent illnesses affecting small flocks worldwide is coccidiosis, which can lead to performance loss and even death. Bacterial agents like Clostridium perfringens can exacerbate this illness. The illness can be controlled with the use of vaccinations, preventive drugs, and effective management techniques.

Coccidiosis is a global disease. It is particularly common in flocks with a high density and in flocks where the birds are in close proximity to their faeces. Coccidiosis affects almost all flocks of chickens reared on litter to some extent. Because they like pecking at the ground, birds consume the parasite eggs, or oocytes, found in the excrement of infected birds. Backyard colonies of birds frequently lack adequate bedding material in the coop. The likelihood of the chicken contracting severe coccidiosis increases with the amount of time they spend in contact with feces.

The parasite multiplies and ruptures intestinal cells during its complicated life cycle in the digestive system after intake. The feces of the infected animal then contain oocysts. Birds can acquire a long-lasting protective immunity after a few intestinal cycles of the parasite, however this immunity varies according to the species of coccidia. Depending on how many oocysts are ingested, a challenge with a different species will result in infection and illness. The illness does not develop in chickens kept in cages away from feces. It's crucial to remember that the disease will spread if birds in cages have access to feces because of defective cage construction or mismanagement.

Clinical Signs

Birds with ruffled feathers may look despair when they have severe infections. There may be dehydration and diarrhea. The feces may contain blood (Figure 1) and/or mucus that ranges from clear to bright orange (Figures 2 and 3, respectively). When compared to birds that are not affected, the skin of the afflicted birds may look paler. In severe infections with highly pathogenic strains of coccidia, body weight and feed conversion may also be impaired.

Diagnosis

Fecal material can be taken to an animal diagnostic laboratory. Oocysts are easily seen under the light microscope. If there are dead animals, they can also be taken to the laboratory. An experienced poultry veterinarian can usually diagnose coccidiosis upon visual inspection of the intestines.

Control

The procurement of vaccinated birds is one of the simplest methods to manage coccidiosis. On the day of hatching, vaccinations are administered in the hatchery. The coccidia strains used in the vaccination will no longer affect the animals after they have gained immunity.

The majority of hens in backyards are not vaccinated. In this instance, controlling the amount of parasite exposure can help manage the illness. Fortunately, controlling coccidia in the poultry generally requires only a decrease in the parasite burden. A small number of parasites may be consumed by birds without causing any harm, and in fact, it can strengthen their immunity to the parasite.

Effective management techniques can help achieve this. A significant factor in influencing the parasite load in the chicken house is bird density and

litter quality. The type of chicken you are raising, as well as your unique setup and conditions, will determine the ideal bird density. Generally speaking, as long as the bedding material (litter) is maintained dry and fluffy, density is on target. You most likely have a subpar setup that cannot sustain your present bird population if the litter degrades too quickly. For non-vaccinated flocks, a low bird density (>5 ft2 bird) is ideal in order to reduce the accumulation of parasites in the litter. Keep your birds on a thick layer of dry litter as much as possible. As a result, there will be less coccidia consumed during litter pecking as the fecal material will be adequately diluted.

Usually, wet litter cakes. Fecal content will remain in contact with the birds and unadulterated in caked litter. It's likely that birds will eat a lot of parasites each time they peck at litter that has been coated with them. The area surrounding the feeders and the waterers are two areas that require regular litter monitoring. The amount of fecal matter produced by birds is larger in these sites because they prefer to stay there for extended periods of time. This issue might be difficult in the summer since birds will be busy consuming water. Because the birds drink a lot more water on hot days, there will be more water spilled close to the waterers and fecal matter with a high moisture content. One solution for a small coop is to relocate the waterers and feeds to a dry location once a day or so. Removing the wet/caked litter material and regularly replacing it with new material is another tactic that is more popular in medium-sized and big enterprises.

Treatment

Sick birds should be the only ones receiving treatment. When birds are given medications too frequently or too early, they will not build protective immunity. Medicated feed should not be used during the first 14 days of life. Consultation with a local veterinarian and a fecal flotation investigation are the best options if birds show signs of coccidiosis beyond day 14. Alternatively, you might use medicated feed in place of the standard starting feed. Amprolium-medicated feed is commercially available and does not require a veterinarian's prescription. Verify that the feed includes amprolium by reading the label on the feed bag. Other than amprolium, some of the "medicated" meals include probiotics and other items that aren't meant to cure coccidiosis. During warmer days, birds prefer to consume less forage. It is crucial that the birds only eat medicated feed because of this. The effective dosage of amprolium will be reduced by any additional feed supplementation.

Conclusion

The seven species of Eimeria produce illnesses in chickens that range from asymptomatic enteritis to subacute mortality, and they all live in distinct parts of the gastrointestinal system. Eimeria species, strain, infectious dosage, host genetic composition, flock density, environmental and stress factors, and concurrent infections all affect how severe coccidiosis is. Proper management of poultry house by keeping litter dry and proper watering systems would protect the flocks from outbreaks during summer.

References

Diseases of Poultry, 13th ed. D. E. Swayne. Wiley-Blackwell.

Avian Diseases Manual. 7th ed. The American Association of Avian Pathologists.

Fig. 1. Fecal material with fresh blood

Fig 2. Fecal matter mixed with abundant clear intestinal mucus

Fig 3. Abundant orange mucus inside the mid-section of the small intestine of a broiler chicken. This orange material can be found mixed with fecal matter

Fig 4. Hemorrhagic cecum of a chicken. Note the thickened wall of the cecum. These lesions are compatible with severe infection with *E. tenella*.

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