Coccidiosis Control in Layers

Control of coccidiosis in layers presents two distinct problems:
1. Preparing pullet during growing period to prevent coccidiosis during the laying period.
   Pullets should be prepared differently for floor operations than for cage operations,
2. Control of coccidiosis in the laying house when good immunity has not been established.

The following points on coccidiosis outbreaks and immunity development should be understood:
- Coccidiosis is caused by a microscopic transmissible oocyst passed out of the bird into the droppings.
- Moisture and moderate temperatures are necessary for coccidia to sporulate and become infective.
- Immunity development is directly related to the degree of exposure to sporulated coccidia.
- Nine species of coccidia are known to infect chickens and there is no cross immunity developed between the species.
- Coccidiosis vaccines produce a reasonably uniform exposure in a flock as desired by the grower.
- The same environmental conditions influence immunity development in vaccinated flocks as in naturally exposed flocks.
- Drugs exert essentially the same influence on vaccinated flocks as on naturally exposed flocks.
- Coccidia are very resistant to the action of disinfectants.

ESSENTIAL FACTORS FOR CONTROL

Type of Housing During Laying Period

In preparing pullets for litter operations, develop good immunity.

Keep birds being grown for cages as free of coccidia as practical since immunity is not essential.

Moving
Litter - Do not move birds any more than is necessary. Each move reduces the chances of developing good coccidiosis immunity.
Cages - Move birds frequently.

Programming the Use of the Coccidiostat
Litter - Use level in direct proportion to the level of exposure expected during the growing period. This level should be gradually decreased until birds are 16 to 20 weeks of age.
Cages - Maintain the coccidiostat at a high level (broiler level) throughout growing period or until two weeks after placing in cages.

Litter Moisture in Growing House
Litter - Have adequate moisture for sporulation of oocysts. It may be necessary to spray periodically the litter around the brooders when it tends to become dry and dusty.
Cages - Dry litter is an aid in this program.

Floor Temperature during Brooding and Growing Period
Litter - Floored houses may require supplemental heat during cold seasons. This is probably not necessary in houses with dirt floors.
Cages - Cold floors are an aid in coccidiosis prevention in this program.

Coccidiosis Vaccines
Litter - Consider vaccines in operating where new houses, concrete floors and rigid clean-up programs are involved. (A good clean-up program is highly recommended.)
Cages - Do not use coccidiosis vaccines in this program.

Past Experiences with Outbreaks:
An alert grower will recognize and remember when past problems have occurred. This information is valuable in predicting future coccidiosis outbreaks and in developing pro-
grams for prevention of outbreaks.

Handling a Coccidiosis Outbreak

1. Confirm field diagnoses by using diagnostic laboratories. When practical obtain a species identification. (Refer to Coccidiosis Check List.)

2. Litter - Use an effective treatment coccidiostat, approved for use on the flock involved. Follow up with an approved preventive coccidiostat that will permit development of immunity.

3. Cages - Use an effective treatment coccidiostat, approved for use on the flock involved. Follow-up treatment for immunity development is not necessary.

SUMMARY

1. To control coccidiosis in litter type laying houses develop immunity during the growing period. This can be done for most species of coccidia if the program is based on the essentials of coccidia survival.

2. To control coccidiosis in cage type laying houses use measures that completely eliminate the survival of coccidia.

Coccidia oocysts are killed by time (all living matter will eventually die); sub-freezing temperature; heat - 150°F; lack of moisture and oxygen; Methyl Bromide fumigation - 1 lb./1,000 sq. ft.; and house hold ammonia - 2 pints per 5 gallons water. Coccidiosis is a matter of balancing your skill and knowledge against the disease. Throughout the growing period the pullet must receive adequate daily requirements of vitamins and minerals regardless of the method of feeding.

CHECK LIST FOR COCCIDIOSIS

- Determine the exact age of the flock,
- Note the total mortality and rate of mortality,
- Observe the general appearance and health of flock.
- Note past and present feed consumption.
- Observe the flock for other diseases.

-Determine amount of feeder space.
-Are the birds crowded?
-Note condition and age of litter. Is it wet, caked, dry, dusty?
-Have the birds been stressed by debeaking, moving, or drastic changes in weather?
-Is the house too hot?
-Were the birds raised on wire or slats so that they did not have coccidia exposure?
-What coccidiostat has been used? For how long?
-Is the coccidiostat effective against the species of coccidia causing trouble?
-Are management practices poor?
-In what condition are droppings?
-Has restricted feeding program been used?

COCCIDIOSIS DETERMINATION

1. Autopsy four typical birds from flock and examine all organs for signs of disease.
2. Examine outside of intestines and ceca for size, thickness, swelling, and color.
3. Open intestines and ceca and examine lining, to determine presence of blood, discoloration, mucus, or thickening of wall?
4. Record area of intestines (upper, middle, lower, ceca) that do not appear normal.
5. For conformation submit representative birds to poultry disease diagnostic laboratory.
6. Examine microscopically scrapings of the intestinal and cecal lining for presence of oocysts.
7. Review the facts collected and determine if the infection is of a clinical or subclinical nature.

Clinical: Infection with very large numbers of oocysts causing bleeding, swelling, and sloughing of intestines, which results in high mortality, weight loss, poor feed conversion and lowered production.

Sub-clinical: None of the above symptoms is seen. Diagnoses by microscopic examination where few oocysts are seen.

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Published by
THE NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE


PS & T Guide No. 3

March 1967