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Extension Circular 1461

May, 1931

Questions and Answers Regarding Bacillary White Diarrhea

The University of Nebraska Agricultural College Extension Service
and United States Department of Agriculture Cooperating
W. H. Brokaw, Director, Lincoln

QUESTIONS AND ANSWERS REGARDING BACILLARY WHITE DIARRHEA

By J. F. OLNEY

1. What is bacillary white diarrhea (B.W.D.) or pullorum disease?

Bacillary white diarrhea is a germ disease of poultry causing a heavy death rate in chicks.

2. How does bacillary white diarrhea affect chicks?

Chicks may die from this disease without showing evidence of diarrhea. A diarrhea of any kind should always be looked upon with suspicion. Loss of flesh, failing appetite, large abdomen, and pasting up about the vent are the chief symptoms.

3. How does bacillary white diarrhea affect hens?

Most hens with this disease appear normal. The germ causes the ovary to become diseased. The diseased ovule often becomes the yolk of an infected egg. Occasionally the diseased ovules rupture, producing a general infection of the body cavity, peritonitis, and death. It may cause chronic diarrhea and finally death.

4. When do the heaviest death losses occur in chicks affected with bacillary white diarrhea?

The greatest losses occur during the first three weeks of chick life.

5. When a brood of chicks is once infected with bacillary white diarrhea will the survivors be carriers of the infection?

Yes, a large number of chicks surviving an infection will be carriers of the disease and yet appear to be perfectly normal.

6. How is bacillary white diarrhea transmitted from hen to chick?

The hen carries a local infection in the ovary. The eggs become infected and when hatched, produce diseased chicks.

7. Can hatching eggs be disinfected to prevent transmission of bacillary white diarrhea?

No, because infection is within the egg substance.

8. Can incubators be disinfected, fumigated, or sterilized in such a way as to prevent the spread of B.W.D. in incubators?

No, the spread of the infection cannot be entirely eliminated by such methods. However, a thorough cleaning and disinfecting of the incubator between hatches will help to keep down the spread of the disease.

9. Can any treatment be given eggs or chicks to prevent the spread of B.W.D. in the incubators?

The following statement has been made by Payne of the Kansas Agricultural College: "It has been found that a wet bulb reading 90° to 94° F. from the nineteenth to the twenty-first days of incubation, when the incubator temperature is 90° to 100° F. has a decided effect upon the circulation of chick down and germs which float through the air." Fumigation with formaldehyde gas has also been recommended by the Kansas Station. The investigators

there state that the correct dose is 0.35 c.c. of formalin mixed with 0.175 c.m. of potassium permanganate per cubic foot of incubator capacity. Disinfection in this way, they also state, is most effective when the humidity of the incubator is high.

- 10. Has it been definitely proved that incubators are sources of transmitting the germs causing bacillary white diarrhea to uninfected chicks?**

Yes, the transmission of infection in the incubator has been definitely proved.

- 11. Can positive diagnosis of bacillary white diarrhea be made from the symptoms of chicks that are sick with the disease?**

If one knows the symptoms together with the history of the flock, he can diagnose with a fair degree of accuracy. A definite diagnosis, however, can only be made by laboratory examination.

- 12. Would the practice of continuous culling out of non-layers have a tendency to remove hens affected with bacillary white diarrhea?**

Hens with diseased ovaries are apt to be inconsistent producers. Therefore, it is profitable from a disease standpoint, as well as from the standpoint of egg production, to eliminate hens which do not lay.

- 13. What tests are used to detect carriers of bacillary white diarrhea infection in breeding flocks?**

The agglutination test or blood test, and the pullorum intradermal or wattle tests are used.

- 14. Which method is recommended by the University of Nebraska Department of Animal Pathology and Hygiene?**

The agglutination test is the only one recommended by this Department.

- 15. Why are other methods not approved?**

Because there is not sufficient evidence from competent, disinterested sources to warrant their use.

- 16. What is the approximate cost of the agglutination test?**

It costs about 10 cents per bird to have a flock tested.

- 17. What should be done with a breeding flock of which forty per cent or more are reactors?**

Flocks showing a high percentage of reactors should be discarded for breeding purposes as the time and expense of cleaning up such a flock make such a procedure unprofitable.

- 18. How often should a breeding flock be tested?**

Breeding birds should be tested at least once each season. Two or three tests taken monthly before eggs are saved for hatching is the best procedure to follow until it is known that a flock is free from the disease.

- 19. What other methods can be used to aid in the control of bacillary white diarrhea?**

General sanitation is always important. Daily culling of chicks, especially during the first three weeks, is of utmost importance.

Picking out every chick which is seen drooping around, pasting up about the vent, or falling far behind the average weight will aid greatly in controlling the disease.

If pullets from a badly infected unit are to be saved for egg production, they should be marked with leg bands and never be used for breeding purposes.

For more detailed information, consult Nebraska Agricultural Experiment Bulletin No. 195.