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Infectious Catarrhal Enteritis of Turkeys
Transmission and Prevention*

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This disease, formerly known as trichomoniasis, has been described elsewhere. (Hinshaw, McNeil and Kofoid[1]; Hinshaw and McNeil[2]). Our research has shown definitely that the two species of Trichomonas found in the lower intestinal tract of turkeys are not pathogenic and, therefore, the term trichomoniasis should not be applied to this disease. Hexamita meleagridis, a protozoan parasite belonging to an entirely different group of organisms, is the causative agent. These facts are of practical importance in diagnosis and control.

H. meleagridis occurs where the pathology occurs -- in the small intestines. The walls lose their tone and are often thin with bulbous areas. There are no specific symptoms. The poults have no fever; on the contrary the temperature is usually subnormal and the birds seek the warmest parts of the brooder. Diarrhea if present is of a watery, foamy character.

The most susceptible age is 1-9 weeks, if there are no complicating factors. If, however, the poults have been through some other disease such as pullorum disease or paratyphoid, they may show susceptibility to this disease up to 16 weeks. Especial care should be taken in such flocks to avoid sudden changes such as moving, change of food, etc., until they are 12-16 weeks of age.

A relatively large number of survivors of an outbreak continue to harbor the parasite in the intestinal tract and in the bursa of Fabricius. Autopsy studies have shown that it frequently localizes in the region of the ileo-rectal opening (cecal tonsils). It is, therefore, impossible to detect all the carriers of the organism by bursal or rectal examination of live birds. Hexamita are shed in the droppings, and it is possible to transmit them directly from adult birds to young poults. Studies have proved that there is a gradual build-up of infection. The birds which receive organisms from a carrier may receive so few that there is no mortality. After further transfers the number of Hexamita are increased to a point of causing heavy mortality. We feel that this fact has not been sufficiently emphasized.

The first age group of poults on a ranch may receive only a few Hexamita from the breeders and show no ill effects, and the owner frequently assumes that they are free from these parasites. Without a microscopic examination, it is impossible to know definitely whether such birds are carriers. One should always consider it probable that if there is an overlap of breeders and poults, he may introduce a few Hexamita in the poults. The older groups should always be considered potential sources of infection and the same precautions taken to segregate younger age groups as when the acute disease is present on the ranch. This may at first seem to involve unnecessary labor, but experience has shown that the later mortality causes much more financial loss and increase of labor than routine precautions.

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* This is a revision of a similar report issued August, 1940. Released June, 1941

Suggestions for Prevention

The primary source of infection is the intestinal contents of carriers. The entire prevention program must be built around the recognition of this fact. Finding a satisfactory method of preventing the transfer of droppings from carriers to young birds is the most efficient method of preventing the disease. No general recommendation as to the best procedure to follow can be given because every ranch requires a separate solution of the problem of eliminating the danger of having carriers on the ranch. Recent work indicates that quail, chukars and ducks may also be carriers.

Factors which may aid in solving the individual problems are:

1. Separate units and caretakers for the breeding flock and the young poults.
2. Separate equipment for each age group.
3. Intelligent use of wire platforms for feed and water.
4. Intelligent use of cement yards and wire pens.
5. Feeding and watering equipment arranged so that the attendant need not enter the pens, and kept sanitary at all times.
6. If the poults have undergone an outbreak of pullorum disease or paratyphoid, avoid changes in brooding until they are 12-16 weeks of age.
7. Selling all breeding birds 2 weeks before any poults are hatched.

Treatment and Control

Getting an accurate diagnosis is the first essential in the advent of a suspected outbreak of this or any other disease. It is only possible to do this by the aid of laboratory facilities, which includes the use of a good microscope as well as the use of bacteriological technic. Live sick birds are necessary for the accurate diagnosis of infectious catarrhal enteritis, although Hexamita may be found by an experienced laboratorian as long as 24 hours after death of the poult, if too rapid decomposition has not taken place.

With our present knowledge of the disease, we cannot make any definite recommendations on how to handle an outbreak. Remedies either in the drinking water or feed should be avoided. Keeping the poults warm by increasing the heat in the brooder house and increased effort to keep them comfortable is essential. Removal, and destruction by burial or burning, of all dead poults several times daily is essential to prevent undue spread of the infection. Complete isolation and quarantine of infected pens to prevent spread of the disease to normal poults is the most important factor in the control program. Daily dry cleaning of houses and yards during an outbreak is recommended. Efforts to prevent spread from sick pens to well pens will be much more profitable than time spent in mixing remedies or medicated mashes. No treatment yet tried in controlled experiments has been effective.

References

1. Hinshaw, W. R., E. McNeil, and C. A. Lofoid.
1938. The Relationship of Hexamita sp. to an Enteritis of Turkey Poults. Cornell Veterinarian 28:(4):281-293.

2. Hinshaw, W. R., and E. McNeil.
1939. Infectious Catarrhal Enteritis of Turkeys. Turkey Talk 1 (11): 5, 7, 21. (Turkey Talk Publishing Co., Hollywood, California).