

UNIVERSITY OF ILLINOIS
AGRICULTURAL COLLEGE AND EXPERIMENT STATION

URBANA, ILLINOIS

Fowl Cholera

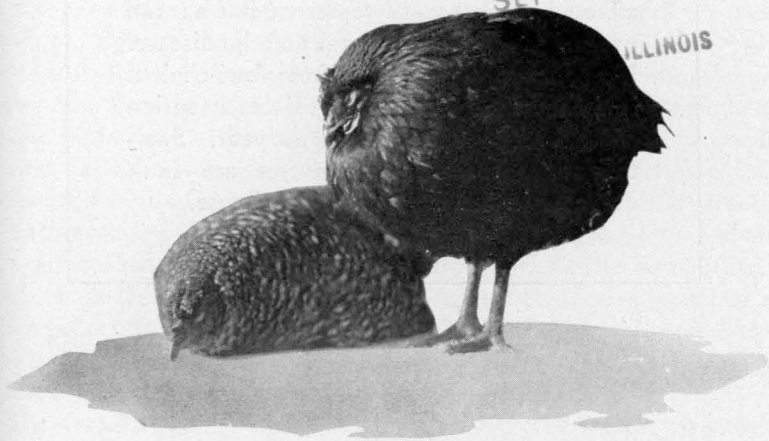
By ROBERT GRAHAM and I. B. BOUGHTON

A brief statement for the farmer of the cause of this disease, how it may be recognized in a flock, and how it may be combated.

THE LIBRARY OF THE

SEP 16 1924

ILLINOIS



Chickens with fowl cholera sit quietly with the neck contracted and the eyes partly closed.

THE large number of outbreaks of fowl cholera and the losses from it have stamped this disease as one of the more important ones of poultry in Illinois. Evidence collected in the examination of sick chickens sent to the Animal Pathology and Hygiene Laboratory of the College of Agriculture, University of Illinois, for diagnosis shows that fowl cholera occurs every month and that during a period of twelve months it appeared in 46 different flocks in 28 counties of the state. These cases were identified thru laboratory examination of affected chickens and represent but a small part of the actual outbreaks of the disease. Many other typical losses from fowl cholera in infected districts came to the attention of local veterinarians during the year. Sanitary and quarantine measures are both valuable in keeping down this disease.

Fowl Cholera

By ROBERT GRAHAM, Chief in Animal Pathology and Hygiene, and
I. B. BOUGHTON, Associate in Animal Pathology

Overcrowded houses, sudden changes in the weather, cold rains, poorly ventilated houses, or changes in rations, together with overfeeding and insanitary surroundings, seem to play an important part in giving this disease a foothold. Natural influences during certain seasons apparently play a part in the development of fowl cholera, as the disease sometimes appears at the same time on farms in many different sections of the state. Fowl cholera may be common in a locality or district during certain years and then subside and apparently disappear for an indefinite time. The acute and suddenly fatal type of the disease may disappear as abruptly as it appeared, but often not until large numbers of the flock have died.

Causes Death Suddenly

Fowl cholera often kills chickens in from 12 to 24 hours. Too often in such cases the owner may be inclined to attribute their death to poisoning rather than to a specific disease and thus neglect the application of preventive measures in the first stages of the outbreak when essential sanitary methods of control are most needed. Since many of the sudden losses of chickens and geese in Illinois have been traced to fowl cholera, any fatal disease of unknown cause in fowls should prompt control measures. Fowl cholera also is known as chicken cholera and hemorrhagic septicemia of fowls. The disease is contagious and may affect ducks, turkeys, and geese (goose septicemia). A microscopic, rod-shaped bacterium known as *Pasteurella avium* is the primary cause.

Each species of farm fowls is susceptible to a type of fowl cholera, but outbreaks may not always spread from one species to another. A flock of chickens on infected premises may be practically wiped out, while geese on the same farm may remain healthy, or the geese may die and the chickens be unaffected. However, in many outbreaks chickens, geese, ducks, and turkeys are affected at the same time.

The organism which causes fowl cholera may be found, with the aid of the microscope, in the blood of acutely affected fowls following death, but in less acute cases the organism has a tendency to localize in the liver, the joints, the lungs, or the abdominal cavity. Yellowish, cheesy material, which may be found adhering to the lungs, the surface of the liver, or the covering of the intestines in the chronic type of the disease harbors large numbers of the cholera organism. Droppings of affected fowls are highly contaminated and infect healthy chickens by contaminating the food and water.

Sudden Death First Warning

The sudden death of one or more chickens without previous signs of illness is frequently the first noticeable evidence that cholera is present. In cases of acute cholera, fowls may appear healthy and in a few hours be found dead about the yard, on the nest, or under the roost. In many

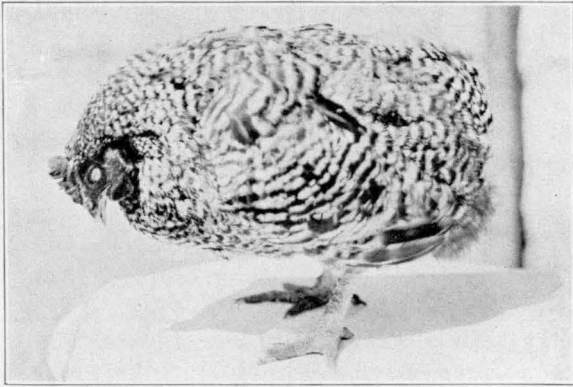


FIG. 1.—FOWLS WITH ACUTE CHOLERA ARE LISTLESS, DROOPY, AND WEAK FOR A FEW HOURS OR SEVERAL DAYS BEFORE THEY DIE

cases of acute cholera there is a noticeable gasping or choking sound as the bird draws its breath. This symptom generally is not recognized as a warning of cholera and often escapes the owner's attention. Chickens that show this symptom may live but a few hours. While diarrhea is a symptom of fowl cholera, many affected chickens die before the bowel disturbance develops. The comb and wattles are often purple. Later in the course of many outbreaks, affected fowls become listless, droopy, and weak for several days before death. The slowly fatal type of the disease remains in the flock for several weeks and usually is accompanied by diarrhea and a marked drop in egg production.

In the chronic type of the disease the symptoms are obscure and seldom are recognized as those of fowl cholera. The chief difference between the chronic and the acute types is that the chronic type kills fewer fowls in a given time. Affected birds that live for several days develop diarrhea, the appetite is lessened, the feathers are ruffled and the wings and tails are drooped. Chickens affected with fowl cholera often sit quietly with the neck contracted and the eyes partly closed. The chronic type of fowl cholera is often confused with fowl typhoid.

Acute fowl cholera may follow the chronic type and cause sudden and severe losses. Observant owners who discover the presence of the

chronic fowl cholera may be able to avoid the development of the rapidly fatal type of the disease by using preventive measures.

Spots on Heart Are Cholera Marks

In chickens that die suddenly from cholera there often are no changes at autopsy that indicate the cause of death, but in fowls that have been affected for several days small hemorrhages may be found on the heart, the lungs, and the membranes that support and cover the intestines. Hemorrhages on the heart or on the covering of the intestines are more pronounced in geese than in chickens and frequently can be found in geese that die suddenly without showing symptoms of the disease. The abdominal cavity, as well as the sac enclosing the heart, may occasionally contain a small amount of clear liquid in which small yellow flakes of fibrin are found. In chickens that have shown symptoms of the disease for several days the lungs may be dark red in color. The liver may be enlarged and soft and occasionally covered with small white spots. A thin, yellowish film also is often found on the liver and the covering of the intestines.

In the chronic form of cholera, a dry, yellowish deposit may be found adhering to the gizzard, the intestines or the wall of the abdominal cavity. Chickens that cannot walk for several days before they die often show dry, yellowish areas in the connective tissue and muscle in the region of the breast bone.

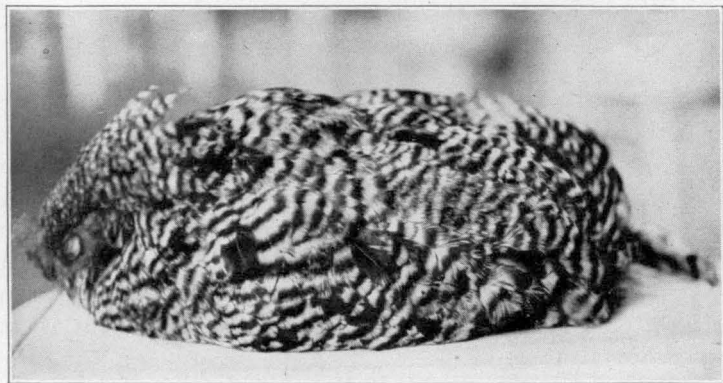


FIG. 2.—THE ACUTE TYPE OF THE DISEASE KILLS QUICKLY
Chickens that seem healthy may be found dead within a few hours. This is the hen in Fig. 1, two hours later.

While the changes in the internal organs that have been mentioned are characteristic of fowl cholera it often is necessary to find the fowl cholera organism in the blood or the internal organs before a positive



FIG. 3.—CHICKENS WITH THE CHRONIC TYPE OF THE DISEASE

When affected with the chronic type of fowl cholera, chickens lose their appetite and develop diarrhea, their feathers are ruffled and their wings and tail feathers drooped.

diagnosis can be made. The Laboratory of Animal Pathology and Hygiene of the College of Agriculture is prepared to aid veterinarians and farmers in a limited way in establishing a correct diagnosis. A nominal fee of \$1.00 is charged to partly cover the cost of materials used. The importance of a laboratory examination in doubtful cases is shown by the fact that fowl cholera may be confused with fowl typhoid or other diseases with similar symptoms.

Sanitation Keeps Down Outbreaks

Sanitary yards and clean, properly ventilated poultry houses, together with wholesome, properly balanced rations, tend to keep down outbreaks of fowl cholera. Little dependence can be placed upon the curative or preventive value of medicines or vaccines in checking this disease. Altho they are produced commercially under government license, bacterins for the treatment of fowl cholera belong to a group of biologic products of which the immunizing value remains to be definitely established. Stated in another way, fowl cholera bacterins are still in the experimental stage.

Improperly drained yards should be avoided. Self-feeders and sanitary drinking containers should be provided in order to prevent pollution of feed and water. Frequent cleaning of dirt and litter from the houses, followed by proper disinfection, should be carried out in a systematic way. Hot lye water (one pound of lye to 40 gallons of water) applied with a broom will aid in cleaning houses. A 3-percent compound cresol solution (U. S. P.) and whitewash containing 3-percent carbolic



FIG. 4.—HEMORRHAGES AND RED SPOTS MAY BE FOUND ON THE HEARTS OF CHICKENS THAT DIE OF CHOLERA

acid, applied with a spray pump, are reliable disinfectants. The lye solution should be allowed to dry 24 to 48 hours before the disinfectant is used.

Quarantine Measures Are Valuable

In order to prevent outbreaks of fowl cholera it is advisable to quarantine all newly purchased stock, as well as fowls exhibited at shows, for three weeks before admitting them to the flock. Uncooked garbage containing poultry offal should not be fed to chickens. In localities where fowl cholera is prevalent owners should not overlook the part that sparrows, pigeons, and buzzards and the intermingling of neighboring flocks play in carrying the infection from farm to farm. Every possible precaution should be taken to guard against these agencies when the disease exists in a community. Altho it has been suggested that there is danger of introducing fowl cholera thru the purchase of hatching eggs from chronically infected flocks, no evidence has been obtained to show that cholera is communicated in this way.

The spread of fowl cholera in a flock may be checked by isolating all sick chickens and burning the dead ones. The healthy chickens should be taken from the yard or premises where the disease appeared and divided into as many groups as possible. The infected yard should be plowed and not used for poultry for three to six months.

Attention should be given to the rations of the birds as well as to the cleaning and disinfecting of their houses. On the appearance of the disease, the grain fed should be reduced and supplanted with bran fed as a wet mash.

Valuable information and assistance often can be obtained from local veterinarians in controlling infective diseases of this character.