

Fowl Cholera and Infectious Coryza in Backyard Flocks



Small backyard poultry flocks are quite common in Mississippi and are becoming increasingly more popular across the state. Disease control and prevention is critical to protect the health of backyard flocks and the multi-billion dollar commercial poultry industry in the state. Fowl cholera and infectious coryza are two diseases backyard flock owners should be aware of and guard against in order to maintain a healthy, productive flock.

Fowl Cholera

Fowl cholera is an acute infectious disease of chickens, turkeys, pheasants, pigeons, waterfowl, sparrows, and other wild, free-flying birds. A chronic form of the disease also exists and may occur following an acute outbreak. The causative organism for fowl cholera is *Pasteurella multocida*, a gram negative bipolar bacterium. The organism is fairly hardy and can survive at least 1 month in droppings, 3 months in decaying carcasses, and 2–3 months in soil. *Pasteurella* enters tissues of the mouth and upper respiratory tract and is not transmitted through the egg. The disease is seldom seen in chickens under 4 months of age but is commonly seen in turkeys at younger ages.

Transmission can occur through secretions from carrier birds, infected droppings, or cannibalism of dead birds, as well as through contaminated feed, water, equipment, or clothing. Wild birds and animals such as raccoons, opossums, dogs, cats, pigs, and rodents may harbor the disease and serve as reservoirs of infection that actively spread the disease.

Clinical signs may be lacking in birds that die during peracute (very acute and very short duration; usually proving fatal) outbreaks. In the acute form, some birds may die without showing symptoms, but many others will be visibly ill before death. When present, signs may include sudden unexpected deaths in the flock, depression, decreased feed intake, stupor, cyanosis (bluish-purple discoloration of the head), lameness resulting from joint infection, swollen wattles (particularly in male birds), difficulty breathing, and green, watery diarrhea.

Typical lesions may include pinpoint hemorrhages in the mucous and serous membranes and/or abdominal fat; inflammation of the upper third of the small intestine; light, firm “parboiled” appearance to the liver; enlarged and congested spleen (**Figure 1**); and creamy or solid collection of material in the joints. Turkeys may have pneumonia with solidification of one or both lungs. The disease may be chronic, particularly in chickens.



Figure 1. Enlarged and mottled spleen from a turkey affected with fowl cholera. Photo courtesy of American Association of Avian Pathologists (AAAP).

Diagnosis: A tentative diagnosis may be made on flock history, clinical signs, and postmortem lesions. However, a definite diagnosis can be made only by bacterial culture and the isolation and identification of the organism.

Treatment: Although drugs may alter the course of a fowl cholera outbreak, affected birds remain carriers for life, and the disease has a tendency to recur when treatment is discontinued. This may require prolonged treatment with drugs in the feed or water. Antibiotics such as sulfadimethoxine, tetracyclines, erythromycin, or penicillin will usually decrease mortality in a flock. A less expensive alternative may be a complete depopulation of the affected flock followed by a thorough cleaning and disinfecting program and then restocking with birds known to be free of the disease.

Prevention and sanitation: Commercial vaccines are available to help control fowl cholera within a flock.

However, vaccination is not recommended unless fowl cholera becomes a problem on a premise. Sanitation practices are the preferred method to prevent the disease.

These practices include the following:

- Completely depopulate each year with definite breaks between older birds and their replacements.
- Properly dispose of mortality.
- Ensure an effective rodent control program.
- Clean and disinfect all houses and equipment after flock dispersal.
- Allow contaminated locations or yards to remain empty for at least 3 months.
- Keep birds confined and away from wild birds and animals.

Human Health

Fowl cholera is not considered a high-risk disease for humans because of differences in species susceptibility to different strains of *Pasteurella multocida*. However, *Pasteurella multocida* infections in humans are not uncommon and often result from an animal bite or scratch, primarily from pets (dogs and cats). *Pasteurella* infections in humans include symptoms such as soft tissue infection at the site of the wound, which may lead to soft tissue abscess formation, septic arthritis, and osteomyelitis, and ocular and respiratory tract infections. More rare, but not out of the question, is the potential for pneumonia, septicemia, meningitis, and intra-abdominal infections. Therefore, use common sense; wear gloves and thoroughly wash skin surfaces when and after handling birds that have died from fowl cholera.

Infectious Coryza

Infectious coryza is a specific, chronic or acute respiratory disease of chickens, pheasants, and guineas that occurs most often in semi-mature or adult birds. Coryza (often called a cold) more commonly occurs in game fowl flocks. Infection may result in a slow-spreading, chronic disease affecting only a small number of birds at a time, or an acute, more rapidly spreading disease with a higher percentage of birds affected. The disease is caused by a gram negative bacterium known as *Hemophilus paragallinarum*. Mortality from the disease is usually low, although significant economic losses can result from large numbers of cull birds and decreased egg production. In addition, coryza will often complicate and increase the severity of other diseases such as mycoplasmosis.

Transmission: Coryza occurs by direct bird-to-bird contact, airborne infection by dust or respiratory-discharge droplets, and contamination of feed and water, but it is not transmitted through the egg. Coryza is often introduced

into flocks by new birds that appear healthy but are actually carrying the bacteria (carrier birds). Susceptible birds usually develop symptoms within 3 days after exposure to the disease. Recovered individuals may appear normal but often remain carriers of the organism for long periods. Once a flock is infected, all birds must be considered carriers.

Clinical signs: Swelling of the face and wattles, watery eyes, and a foul-smelling nasal discharge (**Figure 2**) are characteristic symptoms. Watery discharge from the eyes often results in the lids sticking together. Vision may be affected because of the swelling.



Figure 2. Nasal discharge from a bird affected with infectious coryza. Photo courtesy of AAAP.

Diagnosis: The disease can be confirmed only by isolation and identification of the causative organism. However, *Hemophilus paragallinarum* is quite fastidious (will only grow when specific conditions are met) and is often very difficult to isolate.

Treatment: Similar to fowl cholera, coryza is a bacterial disease and, therefore, water-soluble antibiotics or antibacterials such as sulfadimethoxine, erythromycin, and tetracyclines are moderately effective at controlling mortality. However, drugs will not totally eliminate the disease because birds that recover remain carriers and can spread the disease to other birds. Keep in mind that, with full implementation of the Veterinary Feed Directive (VFD) on January 1, 2017, all medically important antimicrobials for use in or on feed require a VFD, and those used in drinking water require a prescription from a licensed veterinarian.

Prevention: Prevention is the only sound, effective approach to controlling infectious coryza. Good management, sanitation, and an all-in and all-out program are the best methods to avoid an infectious coryza outbreak. Eliminate contact between susceptible and infected birds. If an outbreak occurs, separate affected and carrier birds from the rest of the flock. Raise your

own replacement birds, if possible, or introduce started or adult birds only from clean sources that you know are free from the infection. Practice proper disposal of dead birds. If an outbreak does occur, complete depopulation followed by thorough cleaning and disinfecting is the only way to eliminate the disease. A commercial vaccine is also available. It requires two vaccinations, the first at 8–10 weeks of age; the second, 4 weeks later.

Human Health

Infectious coryza is also referred to as a cold in chickens, but, while humans do catch colds, it is not the same strain of cold as in chickens. Humans do not catch infectious coryza from their chickens.

Sources of Help

Assistance is available if you are concerned about fowl cholera or infectious coryza in your backyard flock or need help with disease diagnosis. You may contact any of the following for assistance:

- Your local county Extension agent
- Your local veterinarian
- Mississippi Board of Animal Health (601-359-1170)
- Mississippi Veterinary Research and Diagnostic Laboratory (601-420-4700)
- Mississippi State University Poultry Science Department (662-325-3416); ask for an Extension poultry specialist

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