

Mycoplasmas in Poultry

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Mycoplasmas are bacteria without a cell wall. There are three that can affect poultry:

- *Mycoplasma gallisepticum* (MG)
- *Mycoplasma synoviae* (MS)
- *Mycoplasma meleagridis* (MM)

Mycoplasma gallisepticum (MG)

MG is also known as chronic respiratory disease (CRD), infectious sinusitis, and mycoplasmosis. It affects chickens, turkeys, pigeons, ducks, peafowl, and passerine birds (parrots). The clinical signs vary slightly between species.

Clinical Signs in Chickens

Infected adult chickens might show no outward signs of infection if they have no secondary infections. More commonly, birds exhibit sticky material coming from the nostrils, foamy material from the eyes, and swollen sinuses. The air sacs in the lungs may also become infected, and when this occurs, birds can develop respiratory symptoms such as rales and sneezing. (See the article "[Avian Respiratory System](#)" for more information about the respiratory system in poultry.) Affected birds often perform poorly in either growth or egg production and generally do not look thrifty.

Clinical Signs in Turkeys

There are two forms of MG in turkeys. One affects the upper respiratory tract (the "upper form" of the disease), and the other affects the lower (the "lower form"). Turkeys infected with the upper form have watery eyes and nostrils, and the areas just below the eyes (referred as infraorbital) become swollen. The exudate can become caseous and firm, cutting off the air supply. Infected turkeys have respiratory rales and show unthriftiness.

Turkeys that have the lower form develop airsacculitis, or inflammation of the air sacs. As with chickens, turkeys might show no outward signs unless there are secondary infections. As a result, the condition may go unnoticed until infected turkeys are slaughtered and reveal the typical lesions of the disease. Turkeys with airsacculitis are condemned.

MG can be passed from mother to embryo, causing dwarfing, airsacculitis, and death.

Mycoplasma synoviae (MS)

MS is also known as infectious synovitis, synovitis, and silent air sac. MS can affect chickens and turkeys. There are two forms of the disease: one that affects the joints and one that affects the respiratory system. Inflammation of the joints occurs in synovitis, and infected birds develop

lameness followed by lethargy, reluctance to move, swollen joints, stilted gait, weight loss, and formation of breast blisters. Birds infected with the respiratory form exhibit respiratory distress. Greenish diarrhea is common in dying birds. It is not possible to distinguish between MS and MG without administering a blood test.

Recovery from MS is slow. Birds can be treated with an antibiotic that is most effective when delivered via injection. Eradication is the best and only sure way to control MS. Producers should not use breeder replacements from flocks that have MS. The **National Poultry Improvement Plan (NPIP)** monitors for MS.

Mycoplasma meleagridis (MM)

MM has also been referred to as N strain or H strain. MM affects turkeys of all ages, although young turkeys are more severely affected. Recently, MM has been shown to infect pigeon, quail, and peafowl. Infected breeder flocks typically experience a drop in production and hatchability. The birds fail to thrive and show respiratory distress. Stuntedness, crooked neck with deformity of the spin, and leg deformation are common in young birds.

Egg transmission of MM is low in the early breeding period but rises as the age of the flock increases. Infections can be introduced into a flock by contaminated equipment, shoes, and clothing of workers and visitors. Several antibiotics have been effective in treating MM. The most effective measure for keeping breeders free of MM is to perform periodic blood testing through the NPIP.

For More Information

Mycoplasma gallisepticum: A continuing problem in commercial poultry. Gary Butcher, University of Florida.

Avian mycoplasmosis (*Mycoplasma gallisepticum*). Iowa State University.