

# info

## Infectious Sinusitis in Turkeys

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Infectious sinusitis in turkeys, caused by *Mycoplasma gallisepticum* (MG), also is referred to as S6. It has not been observed in Minnesota turkeys for quite some time. Some growers have never seen it. But that doesn't mean MG will not occur again in Minnesota. It's occurring in some states even now. The threat of an outbreak occurring in turkeys always will be there as long as MG infection is prevalent in chicken layers. For that reason, one should review this disease so that it can be recognized when it occurs.

Infectious sinusitis is characterized by swollen sinuses, nasal discharge, coughing, and tracheal rales. On necropsy, severe airsacculitis with frothy exudate is observed early in the disease. Later, cheesy exudate with excess fluid is seen in the airsacs. Mortality may rise slightly higher than normal or may remain normal. If complicated by secondary infections of *Escherichia coli*, *Pasteurella multocida* (fowl cholera) and Newcastle disease, very high mortality may take place. If left untreated, condemnations of up to 70% may be observed at the time of processing.

**Natural hosts:** It occurs naturally in chickens and turkeys. It's been eradicated from turkeys, however, and occurs in turkeys only when they are exposed to MG by coming in contact with infected birds and/or contaminated equipment, etc. It has been isolated from pheasants and other wild birds which have come in contact with infected chickens and turkeys. MG will cause chronic respiratory diseases complicated by *E. coli* and a drop in egg production in chickens. Wild turkeys on game farms in cohabitation with chickens have been shown to have MG infection.

**Transmission:** It is transmitted through eggs from infected breeders and direct contact between infected and susceptible birds. Airborne dust or droplets also can transmit the infection. Contaminated equipment has

been incriminated in transmission. Handling of infected and non-infected birds also has been shown to cause transmission epidemiologically. It is a highly transmissible disease. Once it occurs on a farm in one barn, it invariably spreads to all barns on the farm. Close proximity of turkeys to infected chickens has caused transmission to turkeys. In certain weather conditions, MG has occurred in turkeys up to two miles downwind from a chicken layer complex housing 500,000 layers. **In the absence of MG in turkeys, infected chickens are the primary source of infection.**

**Incubation period:** Under experimental conditions, the incubation period ranged from six to 21 days. Under natural conditions, it is 7 to 14 days, but can be longer depending upon the treatment turkeys may be on. In one instance, a flock of turkeys hatched from eggs from an infected breeder flock developed symptoms after 12 weeks of age. The breeder flock was being treated with chlortetracycline (CTC) and eggs were dipped in a solution containing tylosin tartrate to reduce *M. meleagridis* infection.

Diagnosis is based on observing signs, lesions, serological examination of representative samples of serum samples and isolation and identification of the organism. The causative organism requires complex medium for isolation and growth which can only be done by laboratories which have the capability of isolating and identifying it. If signs and lesions of the disease are observed, diagnosis should be made promptly by a competent laboratory if spread of the disease is to be contained.

**Control:** Depopulate infected flocks by marketing them after proper treatment. No other birds should be left on the farm. If it occurs in a breeder flock, take eggs out of incubators, destroy them, and market the breeder flock as soon as possible.

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The organism is fragile and does not survive long outside the host. It survives for a long period under frozen condition, however. In warm temperatures (70°F or 21°C), it can survive in feces for one to three days.

Once a disease is recognized on a farm, that farm should be isolated and all traffic restricted until the farm has been depopulated, cleaned, and disinfected. Depending upon the weather, one can repopulate a farm two weeks after depopulation and thorough disinfection of the premises. All other farms in the company also should be isolated because the disease may be in an incubationary stage on another farm. That's when one can transmit the disease from infected to non-infected flocks because the disease is not in a recognizable form.

**Vaccination:** There is no vaccine available to prevent the disease in turkeys. MG bacterin has been tried in the face of an outbreak. It modifies the symptoms but does not prevent infection and transmission.

"F" strain vaccine (Live) is being used in chicken layers which when used properly, prevents chickens from experiencing lower egg production. However, "F" strain is pathogenic for turkeys and is known to produce infection indistinguishable from disease caused by

other strains. There are two new live vaccines coming on the market in the near future that supposedly are non-pathogenic for turkeys. If the use of these vaccines becomes widespread in chicken layers, it's quite possible we may not see any lateral spread from chickens to turkeys.

The secret of control and prevention lies in quick and accurate diagnosis, depopulation, strict traffic control, and sanitation.

**Treatment:** Infected flocks can be treated with tylosin tartrate by injection. The drawback of this procedure is that a 30-day withdrawal time is required before flocks can be marketed and the disease will recur by that time. Treatment of choice is CTC in feed or in water. The flock should be placed on treatment as soon as first signs of the disease are observed. It should be left on treatment until ready for market. One should withdraw treatment at least 48 hours before marketing even though no withdrawal is required. This is done to avoid any chance of having antibiotic residue at processing.