

Infectious Laryngotracheitis Virus (ILT) Facts

What is ILT?

Infectious Laryngotracheitis virus is a herpes virus that causes respiratory disease in chickens, turkeys, pheasants, and some other species of birds.

Can ILT survive in the environment?

ILT cannot survive for a long period of time in the environment, since the virus is susceptible to heat and sunlight. It is also killed by most disinfectants.

How long are birds contagious?

Once a bird is infected with ILT, it becomes a life-long carrier of ILT and can shed the virus during times of stress, infecting other birds. A bird is most contagious while it is showing clinical signs of disease.

How is ILT transmitted?

The main source of transmission is the infected bird, which infects other birds. The proximity to other poultry that are infected with either the vaccine or field strain of ILT can cause disease in susceptible birds nearby. Especially at risk are farms located near major highways that have live poultry truck traffic or houses down wind of egg-type pullet houses that use ILT vaccine on a routine basis. In addition, farms that practice multiple harvests in which crews take out only a part of the flock at a time greatly increase the risk of introducing ILT due to contamination from trucks, coops, and the crew's clothing, since ILT can also be spread by contaminated clothing, boots, equipment, and other mechanical carriers.

What clinical signs are present in ILT-infected birds?

Birds infected with ILT initially show signs similar to other poultry respiratory diseases. These signs include:

- ◆ Discharge from the eyes;
- ◆ Nasal discharge;
- ◆ Sneezing;
- ◆ Decreased growth and a failure to thrive; and
- ◆ Decreased egg production.

As the disease progresses, the birds may show worsening signs, including:

- ◆ Bloody discharge from the mouth and nose;
- ◆ Difficulty breathing and gasping for air; and
- ◆ Coughing, which may include coughing up bloody mucus.

Morbidity can range from 50% to 100%.

Will infected birds die?

The course of the disease varies with the severity of the lesions caused by the virus, but most birds recover in 10-14 days. Mild forms of the disease result in very low mortality

(less than 2%). Severe forms of the disease result in variable mortality (5-70%), with an average mortality of 10-20%.

Is treatment available?

There is no treatment effective against ILT, but antibiotics may be used to control secondary infections in severe cases. Some relief from signs is obtained by keeping the birds quiet, and lowering the dust level. Maintaining a clean water system may avoid transmission between flock members.

How is ILT diagnosed?

Since the clinical signs of ILT can also be seen with other diseases, including AI, it is important to get a rapid diagnosis. Sick or dead birds should be submitted to a diagnostic laboratory for testing.

What is seen on post-mortem examination?

Usually infected birds have severe laryngotracheitis, often with blood in the lumen, and caseous plugs may be present. Microscopically, there are often intranuclear inclusions in the tracheal epithelium.

Can ILT be transmitted to people?

No.

Is it safe to eat meat and eggs from birds with ILT?

Yes. ILT does not affect human health, and cooking will destroy any virus that is present.

Is a vaccine available?

Yes, 3 vaccine types are available; 1) chick embryo origin (CEO), 2) tissue culture origin (TCO), and 3) a pox-vectored recombinant vaccine. The CEO vaccine is given by eyedrop preferably but the water and spray routes are also used. CEO vaccines have the capability of reverting to virulence and causing full-blown ILT signs. The TCO vaccine is only given by eyedrop and does not spread significantly or revert to virulence and is therefore a very safe vaccine to use for show birds. The pox-vectored recombinant vaccine is given by the wing-web route to birds that are at least 8 weeks of age, as are all pox vaccines. If a bird has had previous exposure to pox prior to being given the pox-vectored recombinant, immunity to ILT will be minimal. If pox exposure is not a problem, this vaccine would also be very safe for use in show birds.

Vaccination in the face of the outbreak in egg-type layers is used quite often to reduce the severity and longevity of the disease. In this case, double dosing of vaccine is done by administering one dose of chick embryo origin (CEO) vaccine per bird via water early in the morning followed by the second dose once the first dose has been consumed. The appropriate amount of vaccine is placed in about 10 gallons of drinking water per 1000 birds (about 8 gallons of stock solution metered at one ounce per gallon drinking water for 100,000 birds). This is done following a short water starvation period. Dye is added to the vaccine solution (3 Fort Dodge Dye Tabs per gallon of stock) so that when

starting to add the vaccine to the water lines the lines can be opened at the end of the line and closed when water containing dye is viewed.

How can I prevent ILT from infecting my flock?

- **Egg-type birds –**
 - Apply one dose of CEO vaccine at 6 to 8 weeks by eyedrop followed with a booster vaccination of one dose of CEO vaccine at 12 to 15 weeks (by eyedrop preferably, but can also be applied by water or coarse spray).
 - Use good biosecurity measures to reduce exposure, especially during movement of birds out of pullet houses and into or out of layer houses.

- **Broilers –**
 - Broiler vaccination is not routinely done as it increases the problems associated with upper respiratory diseases.
 - ILT should be prevented by using good biosecurity:
 - Keep out possibly contaminated fomites (mechanical carriers):
 - Wild birds in the house or nesting in the air inlets;
 - People - feed truck drivers, catch crews, coops, repairpersons, pest management persons, gas haulers, veterinarians, servicepersons, etc. Persons can be allowed entry if the proper procedures of clean hands, headgear, clothing, and footwear are followed;
 - Equipment - litter hauling, tractors, pest management equipment, etc. Equipment can be allowed into the house if proper precautions of cleaning and disinfection are done; and
 - Practice all-in all-out marketing if possible. If multiple harvests will be done, be sure that the equipment and catch persons' clothing are decontaminated prior to use.
 - For the next flock placed following a break or flocks at high risk of infection:
 - Complete cleaning and disinfection of the house is recommended.
 - If built up litter is to be used, close up the house and heat the house to 100 + degrees F for three days prior to placement, in an effort to kill the ILT herpesvirus.
 - Vaccinate the birds at 12 days using a half dose per bird of CEO vaccine.
 - For fount or trough drinkers, use about 4 to 5 gallons of vaccine solution per 1000 birds (25 % of the total daily allotment). Add 1 lb. of non-fat dry milk to each gallon of vaccine solution prior to mixing vaccine as a stabilizer. Water starve overnight and add the vaccine solution to the waterers early in the morning. If using a proportioner, use 0.4 gallons of stock solution per 10,000 birds if metered at 1

ounce per gallon of drinking water. Water starve overnight and vaccinate early in the morning. Add dye to the water (3 Fort Dodge dye tabs per gallon stock) and allow the vaccine water to fill the lines before letting the birds drink.

References: Dr. Eric Gingerich, DVM, New Bolton Center
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