

AGRI-FACTS

Practical Information for Alberta's Agriculture Industry

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Infectious Laryngotracheitis (ILT) in Poultry

Infectious laryngotracheitis (ILT) is a respiratory disease of chickens, pheasants, pheasant crosses and peafowl. It is highly contagious and is spread either by infected birds or other birds through mechanical means.

There is an age-dependent resistance to this disease, as most birds under the age of three weeks do not get infected. ILT affects the trachea (windpipe), lungs, nasal sinuses and conjunctiva (eye lids). Clinical signs vary depending on the severity of the infection. Clinical signs related to severe forms of the virus include nasal discharge, coughing, gasping, difficulty breathing (with neck extensions and open mouth breathing), coughing blood or blood-stained mucus, a severe drop in egg production and an increase in flock mortality.

Clinical signs associated with mild forms of the disease include general unthriftiness, decreased egg production, watery eyes with conjunctivitis, swelling of the sinuses and persistent nasal discharge.

The number of birds in the flock affected by this disease can vary from 5 per cent to 100 per cent, depending on the severity of the infection. Mortality varies from no death loss to 20 per cent mortality in the flock. This disease can cause illness in birds for a few days to a couple of weeks.



Cause of ILT

ILT is caused by a herpes virus: Gallid herpesvirus 1. This is a herpes virus of the same family as the herpes simplex virus 1 that causes cold sores in humans. As such, the mechanism of transfer is similar. These herpes viruses have the capability to establish latency in nerves such as the trigeminal ganglia (TGG), which is a nerve bundle in the brain.

While in the TGG, the virus is safe from the body's defense mechanisms. The virus resides in this location until something (stress, new flock introductions, etc.) triggers the latent virus to become active and infectious. When this trigger happens, the virus is said to "recrudescence" and can, therefore, produce lesions and/or disease and spread to other susceptible host animals. Although less likely, the herpes viruses can also be transmitted during latency.

Asymptomatic reactivation means that the virus causes atypical, subtle or hard-to-notice clinical signs that are not identified as an active ILT infection. Herpes viruses establish lifelong infections, and the virus cannot yet be eradicated from the body.

Public health significance

There is no evidence to suggest that Gallid herpesvirus 1 is transmissible to humans or to other mammals. Therefore, it is considered safe to consume meat and eggs from ILT-infected birds.

How does ILTV spread?

ILT is uncommon in commercial poultry operations in Alberta. ILT is more commonly found in hobby or fancy flocks.

Adequate biosecurity is difficult in these smaller flocks as new birds are added on an ongoing basis from various sources without implementing proper quarantine.

Some exotic species, such as pheasants and peafowl, can also carry the virus and spread it to resident birds. Many species of wild birds, including crows, sparrows and pigeons, appear resistant to infection with ILT. Wild birds might act as mechanical vectors for ILT virus.

The most important means of spreading ILT is by direct contact between susceptible and infected birds. The virus can also be carried into poultry houses or other farms on contaminated equipment and vehicles, or on dirty footwear and clothing. Humans can be implicated in the spread of infection between farms.

Preventing ILT

Following an effective biosecurity plan is essential to prevent the introduction of viral diseases, including ILT, into a flock. Biosecurity plans must be continually evaluated. Commitment, dedication and persistence by all farm staff and residents are required for success.

The essential elements of biosecurity include the following:

- The best prevention is to only purchase birds from a source known to be free of ILT or to maintain a closed flock (no additions from other flocks). Remember, birds can appear clinically normal, yet be infected with ILT and shed this virus to healthy resident birds if they have been stressed.
 - If you do purchase birds, they should be isolated on your farm for 21 days before being mixed with your resident birds. During this time, they should be monitored for illness and properly vaccinated for ILT (see below). Strict biosecurity procedures should be in place to prevent any illnesses from spreading from these birds to other birds on your property.
 - In consultation with your veterinarian, you should establish a vaccination program that protects your flock from ILT and other important poultry diseases.
 - Consult a veterinarian as soon as clinical signs are observed to determine the cause of sick or dying birds. The clinical signs of ILT can mimic those produced by Avian Influenza, Newcastle Disease and Infectious Bronchitis. Early detection of highly contagious viruses is essential to minimize the impact of them on your birds, as well as those of your neighbours.
- Do not allow other people to enter your barns, especially if they have contact with other poultry. Do not visit other poultry farms or barns unless proper biosecurity precautions are taken.
 - Provide clean boots and coveralls for anyone who must enter your barns or bird-holding areas.
 - Restrict vehicle traffic on your farm site to specific areas away from your birds to prevent spreading contamination into your barns.
 - Minimize other animals' (dogs, cats, rodents, wild birds, etc.) access to your poultry barns.
 - Prevent contamination of feed and water sources with particular attention to wild birds and animals.
 - Store dead carcasses in a closed container until they can be disposed of according to the requirements of the Destruction and Disposal of Dead Animals Regulation. (See the Regulation on-line at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/rsb10366](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/rsb10366)). Also, confirm with your local authorities regarding appropriate carcass disposal (e.g. incineration, burial, compost).
 - Employees of commercial farms should not have flocks of poultry or fancy birds of their own at home.
 - Perform a thorough cleanout and disinfection between flocks. The ILT virus can survive for variable lengths of time depending on ambient temperature (for example, warmer temperatures reduce survivability). The virus is inactivated more quickly when exposed to sunlight or disinfectants.

Three types of vaccine are available:

1. Recombinant (rILT) vaccine – may be administered at the hatchery in 18-day-old embryos or day-old chicks. This vaccine also currently contains protection against Marek's Disease. Vaccine virus is not shed; therefore, unvaccinated birds are not at risk. Contact your hatchery if you wish to implement this option.
2. Tissue culture origin (TCO) vaccine – administered as an eye drop to each chicken. This vaccine can be administered in the face of an outbreak to help reduce shedding of the virus. This is a live virus vaccine that will not revert to virulence and is the one currently recommended.
3. Chick embryo origin (CEO) vaccine – **strongly not recommended** because this vaccine virus can revert to virulence and cause severe disease in vaccinated and unvaccinated birds.

It is important to know that if you vaccinate while the birds are sick, they will still shed the virus. Vaccinating sick birds reduces their potential to shed in the future.

ILT vaccines, because they are live virus vaccines, must be kept refrigerated (according to manufacturer's directions) to maintain their viability.

Controlling and reporting ILT outbreaks

ILT can only be confirmed by post mortem examination of the dead birds and special laboratory tests. Ante mortem (live animal) testing to confirm ILT is not available. Treatment with antibiotics is of no value because ILT is a viral infection. In most situations, early slaughter or depopulation of the flock is the best solution.

Outbreaks of ILT in Alberta must be reported within 24 hours to the Office of the Chief Provincial Veterinarian (OCPV), Alberta Agriculture and Rural Development. Poultry boards, hatcheries and feed companies are notified when ILT is diagnosed, although the exact location of the outbreak is not released.

If you are registered with the Premise Identification System, you will be notified if you are within 20 km of an outbreak. This notice serves as a reminder to producers and industry to enhance the biosecurity of their flocks and to report any suspicious losses to the OCPV.

Alberta Agriculture and Rural Development currently has two programs focussed on the health of small or fancy flocks. One program is available to producers and veterinarians who wish to submit non-quota birds for non-specific disease testing. Through this program, ILT can be diagnosed, along with other diseases. An affiliated program is ILT specific and directed towards ILT outbreaks. Both programs are available no cost to the producer.

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