

## The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry flocks in Norway 2015



# Surveillance programmes for terrestrial and aquatic animals in Norway

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# The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry flocks in Norway 2015

*Siri Kulberg Sjurseth, Bruce David, Chiek Er*

***Surveillance in 2015 did not detect infectious laryngotracheitis (ILT) in chicken nor avian rhinotracheitis (ART) in turkeys.***

## Introduction

The Norwegian Food Safety Authority is responsible for the implementation of the surveillance programmes for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in chicken and turkey flocks, respectively. Started in 1998, these programmes are based on serological investigations. The Norwegian Veterinary Institute in Oslo is responsible for the planning, laboratory investigations and the reporting components of the programmes.

ILT is a severe respiratory disease in chickens, caused by gallid herpesvirus 1. The disease is seen in commercial chickens in most parts of the world, including most European countries (1). However, ILT has not been diagnosed in commercial chicken flocks in Norway since 1971, although clinical outbreaks of ILT have occurred sporadically in Norwegian hobby flocks since 1998 (2).

ART is a highly contagious infection which affects the upper respiratory passages of poultry. The disease is caused by avian metapneumovirus (aMPV), and has been diagnosed in most countries (1) and sporadically in our neighbouring countries. ART had never been diagnosed in Norwegian poultry until the national surveillance programme for ART demonstrated the presence of antibodies against aMPV in one broiler breeder farm in 2003 and in one layer breeder farm in 2004. The diagnosis for ART in these flocks was based on serology only, like in many other countries (1). As the use of stamping out measures was unable to control the spread of the infection, chickens were excluded from the national surveillance programme for ART as of May 2005.

## Aims

The aim of the national surveillance programme for ILT in chickens and ART in turkeys is to document that the respective commercial poultry populations in Norway are free of these infections, and to contribute to the maintenance of this status.

## Materials and methods

According to the national regulations for certification of poultry breeding farms (3), blood samples from 60 birds must be taken at least once a year from every breeding flock at the farms. These blood samples are to be tested for Newcastle disease, as Norway is a non-vaccinating country. Thirty of the 60 samples from chicken and turkey flocks are included in the national surveillance programmes for ILT and ART, respectively. In addition, forty randomly chosen turkey flocks are sampled at slaughter for ART.

## ILT

An indirect ELISA-test produced by Synbiotics (ProFLOK LT ELISA kit), was used for the testing of antibodies against the ILT-virus. Flocks with single positive or inconclusive reactions for antibodies against ILT-virus were followed up by retesting in duplicate with the same test. In cases of a positive or inconclusive retest result, the flock was resampled with at least 30 new animals. If clinical signs of disease were absent in the flock, and all resampled animals were negative for antibodies against ILT-virus, a single positive or inconclusive sample in the surveillance programme was considered false positive.

## ART

All serum samples were tested for specific antibodies against aMPV with a blocking-ELISA produced by SVANOVA (SVANOVIR APV-Ab). Flocks with single positive or inconclusive reactions for antibodies against aMPV were followed up by retesting in duplicate with the same test. In cases of a positive or inconclusive retest result, the flock was resampled with at least 30 new animals. A single positive or inconclusive sample in the surveillance programme was considered false positive if clinical signs of disease were absent in the flock, and all resampled animals were negative for antibodies against aMPV.

## Results

Of 2,760 blood samples analysed in the surveillance programme for ILT, all were negative. All 1,560 blood samples analysed in the surveillance programme for ART were negative.

Table 1 shows the number of farms, flocks and birds tested in the different poultry production types in the national surveillance programme for ILT and ART in 2015.

Table 1. Number of farms, flocks and birds tested in the surveillance programmes for infectious laryngotracheitis (ILT) in chickens and avian rhinotracheitis (ART) in turkeys in 2015.

Disease - Production line	Total numbers tested			Flocks with seropositive samples
	Farms	Flocks	Birds	
ILT - Broilers	66	79	2 400	0
ILT - Layers	11	13	390	0
ART - Turkey	46	52	1 560	0

## Discussion

Antibodies against ILT are often found in samples from hobby flocks. It is thus of major importance that commercial poultry flocks are kept strictly isolated from hobby birds and backyard poultry flocks. The non-commercial bird populations are complex, and pose a problem for the control of this contagious poultry disease due to the difficulties associated with performing systematic disease surveillance in such bird populations.

## References

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The Norwegian Veterinary Institute (NVI) is a nationwide biomedical research institute and Norway's leading centre of expertise regarding biosafety in aquatic and terrestrial animals. The aim of the Institute is to become Norway's contingency centre of preparedness for One Health.

The primary mission of the NVI is to give research-based independent advisory support to ministries and governing authorities. Preparedness, diagnostics, surveillance, reference functions, risk assessments, and advisory and educational functions are the most important areas of operation. The Institute has its main laboratory in Oslo, with regional laboratories in Sandnes, Bergen, Trondheim, Harstad and Tromsø, with about 330 employees in total.

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The Norwegian Food Safety Authority (NFSA) is a governmental body whose aim is to ensure through regulations and controls that food and drinking water are as safe and healthy as possible for consumers and to promote plant, fish and animal health and ethical farming of fish and animals.

We encourage environmentally friendly production and we also regulate and control cosmetics, veterinary medicines and animal health personnel. The NFSA drafts and provides information on legislation, performs risk-based inspections, monitors food safety, plant, fish and animal health, draws up contingency plans and provides updates on developments in our field of competence. The NFSA comprises two administrative levels, five regions in addition to the head office, and has some 1250 employees. The NFSA advises and reports to the Ministry of Agriculture and Food, the Ministry of Trade, Industry and Fisheries and the Ministry of Health and Care Services.

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