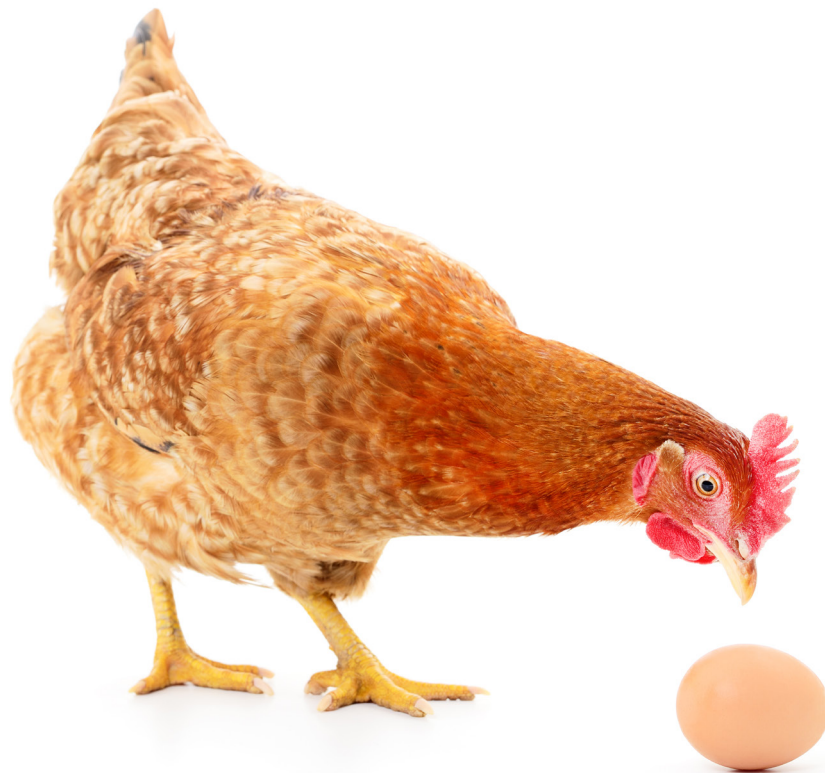




The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry in Norway 2021



The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry in Norway 2021

Authors

Silje Granstad, Grim Rømo, Anne Bang Nordstoga and Johan Åkerstedt

Report completion date: 11.01.2023

Suggested citation

Granstad, Silje, Rømo, Grim, Nordstoga, Anne Bang, Åkerstedt, Johan. The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry in Norway 2021. Surveillance program report. Veterinærinstituttet 2022. © Norwegian Veterinary Institute, copy permitted with citation

Quality controlled by

Merete Hofshagen, Director of Animal Health, Animal Welfare and Food Safety, Norwegian Veterinary Institute

Published

11.01.2023 on www.vetinst.no

ISSN 1890-3290 (electronic edition)

© Norwegian Veterinary Institute 2023

Commissioned by

Norwegian Food Safety Authority



Colophon

Cover design: Reine Linjer

Cover photo: Colourbox

www.vetinst.no

Content

Summary.....	3
Introduction.....	3
Aims	3
Materials and methods.....	4
Results and Discussion	4
References	5

Summary

Surveillance in 2021 did not detect infectious laryngotracheitis (ILT) or avian rhinotracheitis (ART) in poultry in Norway.

Introduction

The Norwegian Food Safety Authority is responsible for implementing surveillance programmes for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in chicken and turkey flocks, respectively. The surveillance programmes started in 1998 and are based on serological investigations in poultry. The Norwegian Veterinary Institute is responsible for sampling plans, laboratory investigations and reporting components of the programme.

ILT is a severe respiratory disease in chickens caused by gallid herpesvirus 1 (ILT virus or ILTV). The disease is common in commercial chickens in most parts of the world, including most European countries (1). The last time ILT was detected in a commercial poultry flock in Norway was in 1971. However, since 1998 clinical outbreaks of ILT have occurred sporadically in Norwegian backyard flocks (2).

ART is a highly contagious infection that affects the upper respiratory tract of poultry. The disease is caused by avian metapneumovirus (aMPV) and has been diagnosed in most European countries (1). ART has never been diagnosed in turkeys in Norway. Antibodies against aMPV were detected in one broiler breeder farm in 2003 and one layer breeder farm in 2004. The two affected farms were located in the same area. Numerous attempts to isolate and identify an infectious agent causing seroconversion failed. Thus, the diagnosis of ART in these flocks was based on serology alone. Culling of affected flocks and other preventive measures were unable to control the spread of the infection. Chickens were excluded from the national surveillance programme for ART from 2005 (3).

Aims

The aims of the national surveillance programme for ILT in chickens and ART in turkeys are to document that the respective commercial poultry populations in Norway remain free of these diseases and to contribute to maintaining this status.

Materials and methods

According to the national regulations for certification of poultry breeding farms, blood samples from 60 birds were taken at least once a year from every breeding flock (4). Thirty of the 60 samples from chicken and turkey flocks were included in the national surveillance programmes for ILT and ART. In addition, forty randomly selected turkey flocks were sampled for ART at slaughter.

ILT

An indirect ELISA test from IDvet (ID Screen® ILT indirect) was used to detect antibodies against ILTV. In cases of positive results, the flock was resampled after 10-14 days with at least 30 new samples. If clinical signs of disease were absent, and all resampled animals were negative for antibodies against ILTV, the flock was concluded as negative for antibodies against ILTV.

ART

All serum samples were screened for specific antibodies against aPMV using an indirect ELISA produced by IDvet (ID Screen® Avian Metapneumovirus Indirect). In cases of positive results, the flock was resampled after 10-14 days with at least 30 new samples. If clinical signs of disease were absent, and all resampled animals were negative for antibodies against aPMV, the flock was concluded as negative for antibodies against aPMV.

Results and Discussion

ILT

In 2021, the Norwegian Veterinary Institute received 2,400 poultry samples from 79 flocks (69 broiler flocks and ten layer flocks) for ILT screening. Of the samples, 2,367 tested negative, and 33 individuals tested positive (1.4%). Nineteen of the screening positive samples gave negative results when retested in duplicates. The remaining 14 seropositive samples came from six broiler flocks that were re-sampled. From one of these flocks, cloacal and oropharyngeal swabs from five birds were negative for ILTV when tested with PCR. From the other five flocks, thirty birds each were tested serologically. In three of these flocks, all birds were seronegative, but in two flocks, one bird each had a seropositive result. Based on low ELISA values, the proportion of seropositive birds and lack of clinical signs in the flocks, these two samples were interpreted to be false positive reactions.

ART

Of 1,740 samples selected for ART surveillance, 31 samples were unsuitable for analysis, leaving 1,709 from 52 turkey flocks. The screening revealed 1,670 seronegative and 39 seropositive results (2.3%). By repeated testing in duplicates, 31 of the screening positive samples were concluded to be seronegative, whereas six remained seropositive, and two were concluded to be inconclusive. The seropositive and inconclusive samples came from five

turkey flocks, subsequently followed up by new submission of 30 samples each. In three of the flocks, all birds were seronegative, but in two of the flocks, one and four birds, respectively, had seropositive reactions. Based on low ELISA values, a low and stable number of seropositive birds, and lack of clinical signs in the flocks, these five samples were interpreted to be false positive reactions.

Table 1 summarises the number of flocks and birds tested in 2021. Altogether, all poultry flocks tested for ILT and ART in the surveillance programme for 2021 were concluded to be negative for these diseases.

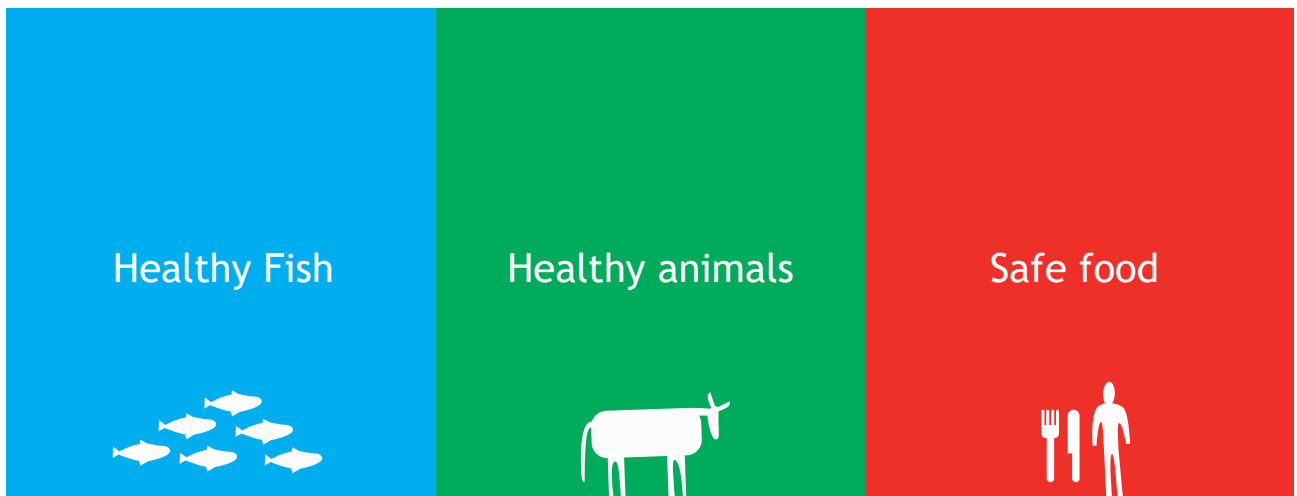
Table 1. Number of flocks and birds tested in the surveillance programmes for infectious laryngotracheitis (ILT) in chickens and avian rhinotracheitis (ART) in turkeys in 2021.

Disease - production line	Total numbers tested		Seropositive flocks
	Flocks	Birds	
ILT - Broilers	69	2 100	0
ILT - Layers	10	300	0
ART - Turkeys	52	1 709	0

Besides the surveillance programme, samples taken on suspicion of disease and for the control of imported poultry were also screened for antibodies against ILT and ART. Results from these analyses are not included in this report. However, antibodies against ILT are detected regularly in samples from backyard poultry flocks. Because registration of backyard flocks in Norway is optional, the exact number and location of the Norwegian backyard poultry population are not known. Therefore, systematic disease surveillance of backyard flocks is impossible. To minimise risks of disease transmission to commercial flocks, backyard and commercial poultry flocks must be kept strictly isolated.

References

1. Swayne D, Boulianne M, Logue CM, McDougald LR, Nair V, Suarez DL. Diseases of Poultry, 14th ed. John Wiley and Sons. 2020.
2. Rømo, G, Nordstoga, A, Er, C. The surveillance programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry in Norway 2020. Surveillance program report. Veterinærinstituttet 2021.
3. David B, Tharaldsen J, Grøneng G. The surveillance and control programme for infectious laryngotracheitis (ILT) and avian rhinotracheitis (ART) in poultry flocks in Norway. In: Brun E, Hellberg H, Mørk T, Jordsmyr HM (editors). Surveillance and control programmes for terrestrial and aquatic animals in Norway. Annual report 2006. Oslo: National Veterinary Institute; 2007. p. 123-126.
4. Forskrift om sertifisering av fjørfevirksomheter av 18.11.1994. FOR-1994-11-18-1020. Vedlegg A del IV. <https://lovdata.no/dokument/SFO/forskrift/1994-11-18-1020>.



*Scientifically ambitious, forward-looking
and collaborative- for one health!*



Veterinærinstituttet
Norwegian Veterinary Institute

Ås

Trondheim

Sandnes

Bergen

Harstad

Tromsø

postmottak@vetinst.no
www.vetinst.no