



# Avian Influenza surveillance programme

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Avian influenza type A is a contagious disease caused by viruses which are naturally found in, and which are adapted to, populations of wild birds. Avian influenza viruses can also affect poultry and mammalian species (depending on the virus subtype) including rodents, pigs, cats, dogs, horses and humans.

Based on the severity of the disease Avian Influenza is divided into low pathogenic (LPAI) and high pathogenic (HPAI) strains. LPAI may present with mild or no clinical signs in poultry. On the other hand, HPAI strains can cause severe clinical signs such as respiratory signs, reduced food intake, diarrhoea, and nervous signs; and in some cases, HPAI strains can cause sudden death with no other symptoms. In layers, drop in egg production and/or poor egg quality has been reported.

Avian Influenza viruses are classified into subtypes based on two surface proteins, haemagglutinin (HA) and neuraminidase (NA). There are approximately 16 HA subtypes and 9 NA subtypes which are used to identify avian influenza viruses e.g. H5N8, H5N6 etc. All HPAI are notifiable to the European Commission and the World Organisation for Animal Health (OIE) within 24 hours of confirmation of the disease. These notifiable subtypes can be associated with acute clinical disease in chickens, turkeys, and other birds. Other subtypes such as LPAI H6- are not notifiable under the legislation however they still can cause losses in production.

## **Active surveillance:**

The Department of Agriculture, Food and the Marine (DAFM) carries out two types of active surveillance for avian influenza.

### **a) Avian influenza serology testing in poultry for the national Poultry Health Programme (PHP)**

The Poultry Health Programme is a DAFM surveillance programme to support trade in poultry, and to comply with EU regulations, including Regulation (EU) 2016/429 and Commission Delegated Regulation (EU) 2020/688. The PHP also includes testing for Mycoplasma and Salmonella. Typically, 10,000 -15,000 samples are tested for avian influenza within the programme each year (see table below).



## **b) Avian influenza H5 and H7 serology testing of poultry under the EU Poultry Surveillance Scheme**

Ireland's avian influenza surveillance programme is based on representative sampling, which takes into account criteria in Annex II of Commission Delegated Regulation (EU) 2020/689 at a level reflective of Annex I of Commission Decision 2010/367/EU. More than 7,000 samples each year are tested this way. Up to 2018 the results have been reported to the European Commission (EC), and from 2019 onwards results are submitted to EFSA, which is mandated to analyse and report the data by the EC. (See table below).

The categories sampled for the EU Poultry Surveillance Scheme include:

Broilers – Free Range	Chicken Breeders
Layers – Free Range	Layers – Non Free Range
Fattening Turkeys	Turkey Breeders
Fattening Ducks	Fattening Geese

### **Passive surveillance:**

#### **a) PCR testing of wild birds**

Wild bird surveillance for avian influenza in Ireland is risk based. It is implemented as a passive surveillance scheme, as dead, moribund or sick birds are reported to DAFM by members of the public or the National Parks and Wildlife Service (NPWS) by ringing the Avian Influenza Hotline (076 1064403) or the after-hours number (1850 200456). Sick or dead birds can also be reported to DAFM directly using the Wild Bird-Avian Check App (<https://aviancheck.apps.rhos.agriculture.gov.ie/>), which can be accessed via smart phones, tablets, PCs and laptops. The birds are collected by trained personnel and submitted to the Regional Veterinary Laboratories (RVL) for sampling. Samples are then submitted to the Central Veterinary Research Laboratory (CVRL) where Avian Influenza testing is carried out.

A list of species of wild birds to be targeted for surveillance for avian influenza is provided on the website of European Union Reference Laboratory for Avian Influenza [[wild-bird-target-species-for-passive-surveillance.pdf \(izsvenezie.com\)](https://www.izsvenezie.com/wild-bird-target-species-for-passive-surveillance.pdf)]. DAFM then tailors this list to include only species of birds likely to be found in Ireland.

[List of wild bird species to be targeted for Avian Influenza](#)



Up to 2018 the results have been reported to the European Commission (EC), and from 2019 onwards results are submitted to EFSA, which is mandated to analyse and report the data by the EC (See table below).

**b) Passive surveillance of poultry and other captive birds**

Avian influenza is a notifiable disease in Ireland, meaning that anyone who suspects that an animal/bird may have the disease is legally obliged to notify DAFM. Following notification, an official investigation will be carried out by DAFM with official samples submitted to the CVRL for testing. In addition, flockowners and PVPs are encouraged to engage with their Regional Veterinary Laboratory to aid with diagnosis of other avian disease conditions.

All data on Avian Influenza surveillance must be provided to the European Reference Laboratory (EURL) every year. Please see tables below for details of numbers tested in recent years.

**Avian influenza testing from 2016-2020:**

2016	N <sup>o</sup> Animals tested	Non- notifiable AI subtypes	Notifiable H5 and H7 subtypes
<b>Poultry- Poultry Health Programme (AGID test) *</b>	15153	0	0
<b>Poultry –H5 and H7 (HI test) **</b>	6920	0	0
<b>Wild birds - PCR</b>	81	0	1 x HPAI H5N8
<b>Poultry - PCR</b>	585	0	0

2017	N <sup>o</sup> Animals tested	Non- notifiable AI subtypes	Notifiable H5 and H7 subtypes
<b>Poultry- Poultry Health Programme (AGID test) *</b>	15911	0	0
<b>Poultry –H5 and H7 (HI test) **</b>	8455	0	0
<b>Wild birds - PCR</b>	138	0	11 x HPAI H5N8
<b>Poultry - PCR</b>	920	0	0



2018	N° Animals tested	Non- notifiable AI subtypes	Notifiable H5 and H7 subtypes
Poultry- Poultry Health Programme (AGID test) *	13301	0	0
Poultry –H5 and H7 (HI test) **	10263	0	0
Wild birds - PCR	148	0	3 x HPAI H5N6
Poultry - PCR	696	0	0

2019	N° Animals tested	Non- notifiable AI subtypes	Notifiable H5 and H7 subtypes
Poultry- Poultry Health Programme (AGID test)*	12921	0	0
Poultry –H5 and H7 (HI test)**	8976	0	0
Wild birds - PCR	78	0	0
Poultry - PCR	634	0	0
Captive birds - PCR	27	1 low positive. Non-H5,H7, N1	0

2020	N° Animals tested	Non- notifiable AI subtypes	Notifiable H5 and H7 subtypes
Poultry- Poultry Health Programme (AGID test)*	10700	0	0
Poultry –H5 and H7 (HI test)**	7806	0	0
Poultry - AI ELISA (diagnostics)	1254	14 flocks: LPAI H6N1	0
Wild birds - PCR	165	0	<ul style="list-style-type: none"> <li>• 19 HPAI H5N8</li> <li>• 4 H5N8^</li> </ul>
Poultry - PCR ***	519	<ul style="list-style-type: none"> <li>• 11 layer flocks and 3 turkey flocks: LPAI H6N1</li> <li>• 1 duck flock: AI Non-H5, H7, N1</li> </ul>	<ul style="list-style-type: none"> <li>• 1 turkey flock: H5N8^</li> </ul>
Captive birds - PCR	27	0	0



\*AGID: Agar Gel Immunodiffusion test for Avian Influenza

\*\*HI: Haemagglutination Inhibition test for H5 and H7 Avian Influenza

\*\*\*Poultry- PCR: includes individual animals and pooled swabs from different animals

^ pathogenicity not determined