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Avian Influenza surveillance programme

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 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, the haemagglutinin (HA) and neuraminidase (NA). H5 and H7 subtypes have been associated with acute clinical disease in chickens, turkeys and other birds of economic importance.

Active surveillance:

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 and '*Council Directive 2009/158/EC of 30 November 2009 on animal health conditions governing intra-Community trade in, and imports from third countries of, poultry and hatching eggs'.* The PHP also includes testing for Mycoplasma and Salmonella. Approximately 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 uses the representative sampling method described in the *Commission Implementing Decision 2010/367/EU of 25 June 2010 on the implementation by Member States of surveillance programmes for avian influenza in poultry and wild birds*. Approximately 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). 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 by the *Commission Implementing Decision 2010/367/EU* in accordance with the scientific opinion provided by EFSA. This list is amended according to the demographics of each country. See list here:

https://www.agriculture.gov.ie/media/migration/animalhealthwelfare/diseasecontrols/avianinfluenzabirdflu/informationonwildbirds/ListOfWildBirdSpeciesForTargetedAIsurveillance170118.pdf

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.

Poultry/captive bird samples and carcasses are submitted routinely to the RVLs and CVRL by the PVP for PCR testing for the purposes of diagnosis, screening and exports/imports.

Farmers/owners are encouraged to report suspicions of avian influenza to their local Regional Veterinary Office, and to make use of their local Regional Veterinary Laboratory to aid with diagnosis of 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 2016-2019:

2016	N° Animals tested	N° Positive	HPAI Strain
Poultry- Poultry Health Programme (AGID test) *	15153	0	0
Poultry –H5 and H7-EU Surveillance (HI test) **	6920	0	0
Wild birds - PCR	81	1	H5N8
Poultry - PCR	585	0	0

2017	N° Animals tested	N° Positive	HPAI Strain
Poultry- Poultry Health Programme (AGID test) *	15911	0	0
Poultry –H5 and H7-EU Surveillance (HI test) **	8455	0	0
Wild birds - PCR	138	11	H5N8
Poultry - PCR	920	0	0

2018	N° Animals tested	N° Positive	HPAI Strain
Poultry- Poultry Health Programme (AGID test) *	13301	0	0
Poultry –H5 and H7-EU Surveillance (HI test) **	10263	0	0
Wild birds - PCR	148	3	H5N6
Poultry - PCR	696	0	0

2019	N° Animals tested	N° Positive	HPAI Strain
Poultry- Poultry Health Programme (AGID test)*	12921	0	0
Poultry –H5 and H7-EU Surveillance (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

*AGID: Agar Gel Immunodiffusion test for Avian Influenza

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

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