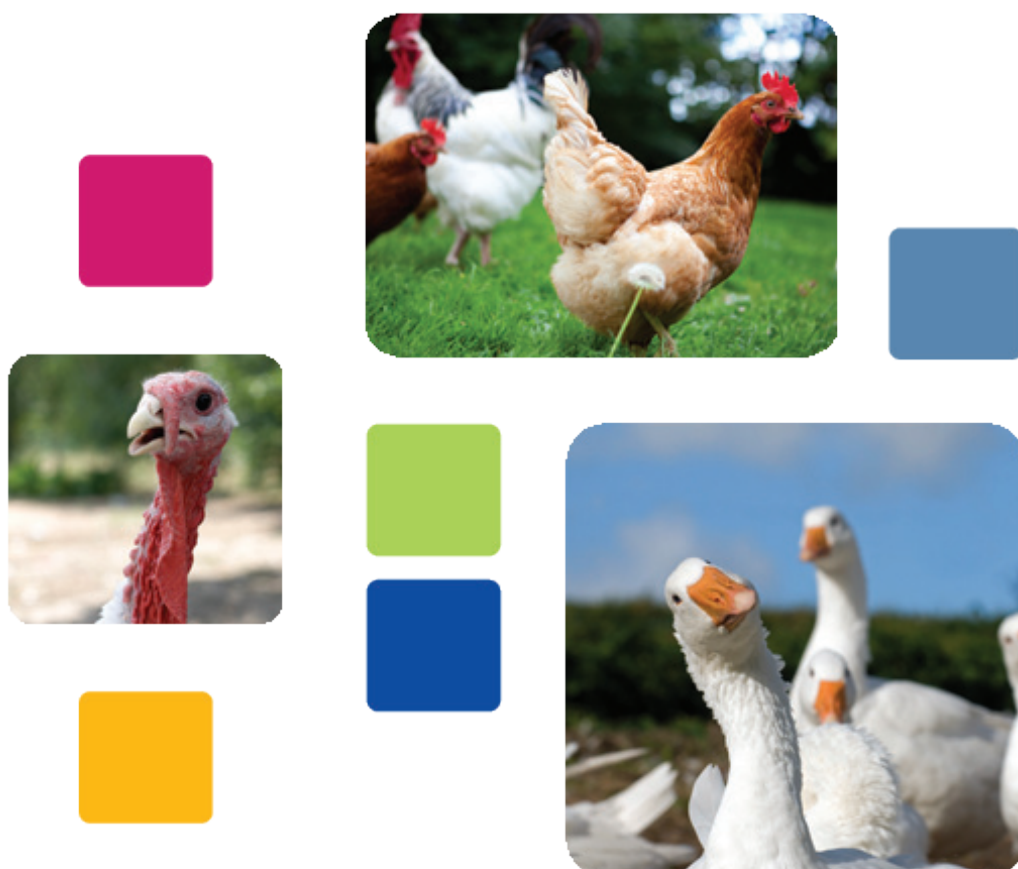


Annual Report on surveillance for avian influenza in poultry in Member States of the European Union in 2010



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About the report

The work of EU Member States' veterinary administrations, veterinary laboratories and others involved in sampling, laboratory testing and gathering of data for the avian influenza surveys in poultry is specifically acknowledged.

This Report was prepared and delivered within agreed timelines by the European Union Reference Laboratory for avian influenza, Animal Health and Veterinary Laboratories Agency - Weybridge (AHVLA), Woodham Lane, New Haw, Addlestone, Surrey, KT15 3NB, United Kingdom according to its work programme.

It was prepared by Nicole Batey, Hannah Reeves and Rose Nicholson under the main responsibility of:

Andrew C. Breed

Tel: +44 1932 357 773

Email: Andrew.Breed@ahvla.gsi.gov.uk

and the Director of EU reference laboratory for avian influenza:

Prof. Ian H. Brown

Tel: +44 1932 357 339

Email: Ian.Brown@ahvla.gsi.gov.uk

The European Commission is responsible for the collection of surveillance data from MSs which is done via an online reporting system operated by the Commission services of Directorate General for Health and Consumers (DG SANCO). For more information on the Commission's online reporting system please contact:

Dr Valentina Piazza, Unit G5 - Veterinary programmes

Tel: +32-2-29 62975

Email: valentina.piazza@ec.europa.eu

The European Commission is responsible for the final revision of the Annual Report on surveillance for avian influenza in poultry in the European Union and its publication on the Commission's website:

http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm

For more information about the report please contact:

Dr. Maria Pittman, Unit G2-Animal Health

Tel: +32-2-29 92842

Email: maria.pittman@ec.europa.eu

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1 EXECUTIVE SUMMARY

Avian influenza (AI) is an infectious viral disease of poultry. The majority of AI infections in poultry are of low pathogenicity, causing mild to moderate clinical signs. Some AI viruses (subtypes H5 and H7) have the potential to mutate into highly pathogenic strains that can cause very high mortality in some poultry species. In 2003 the European Union (EU) introduced an annual serological survey with two objectives: firstly to detect subclinical infections with low-pathogenicity AI (LPAI), of subtypes H5 and H7, to complement early detection systems; secondly, to contribute to demonstration of disease free status of a country, region or compartment from notifiable avian influenza, according to the rules of the World Organisation for Animal Health (OIE).

The survey was conducted between January and December 2010 according to Council Directive 2005/94/EC on Community measures to control avian influenza and specific guidelines laid down in Commission Decision 2007/268/EC.

Twenty-six EU Member States (MS) participated in the survey in 2010. A total of 29,484 poultry holdings was sampled, which compares to 35,016 in 2009, 34,985 in 2008, 126,912 in 2007 and 29,005 in 2006. The most frequently sampled poultry category was Backyard Flocks (26.8% of total holdings sampled by EU MS), closely followed by Laying Hens (Free-range and conventional) (23.1%). The least sampled poultry category was Ratites (0.81%) reflecting the low proportion of ratite holdings across the EU (0.04% of total holdings). In addition, one non-EU MS, Switzerland (CH), submitted data for this report.

In the 2010 EU serological survey for avian influenza in poultry, evidence of previous infection with H5 or H7 avian influenza according to Directive 2005/94/EC was detected in 59 holdings (0.20% of total holdings sampled). Forty-eight holdings were positive for subtype H5, 11 for subtype H7, and on one holding both H5 and H7 were detected. The detection rate in Breeder Ducks (9.44%) and Breeder Geese (6.20%) was considerably higher than other poultry categories across the EU, and Game Birds had the third highest detection rate at 0.81%.

In 2010 50 holdings were positive for subtype H5, of which 48 holdings were serologically positive (0.16% of holdings sampled). This is comparable to 2008 and 2009 where 52 holdings were found serologically positive for H5. In 2007, more than double the number of H5 positive holdings were serologically positive (n=97), however, approximately four times as many holdings were sampled in that year and overall the percentage of holdings positive for H5 was less (0.08%). Of the 48 seropositive holdings in 2010, one holding tested positive for subtype H5 by PCR or virus isolation; indicating that in 2.1% of the holdings positive for subtype H5 infection was still active.

In 2010 there were 14 holdings found positive by serology or PCR/virology for subtype H7, of which 11 holdings were serologically positive, this is less than half the number found in 2009 (n=38). Of the 11 seropositive holdings in 2010, four holdings tested positive by PCR or virus isolation, indicating that in 36.4% of the H7 positive holdings the infection was still active.

The survey continues to improve knowledge on which sectors of the poultry industry are more likely to be infected by H5 or H7 avian influenza viruses (e.g. Breeder Ducks and Breeder Geese) and identified other sectors which are consistently less likely to be affected (e.g. Broilers and Turkey Breeders). Ongoing review of the results of avian influenza surveillance, the global picture of avian influenza and scientific research in this field, accompanied by revision of the EU guidelines for AI surveillance to strengthen targeting will further improve AI disease prevention and control including the appropriate allocation of resources in this area.

GLOSSARY AND ABBREVIATIONS

Table 1 Key to Member State abbreviations

Abb.	Country
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovak Republic
UK	United Kingdom
CH*	Switzerland
NO*	Norway

***Non-EU MS**

ADNS: Animal Disease Notification System

AI: Avian Influenza as defined in Directive 2005/94/EC (EC 2006a)

EURL: European Union Reference Laboratory for avian influenza

DG SANCO: Directorate General for Health and Consumers

EFSA: European Food Safety Authority

EU: European Union

EU 27: Refers to the 27 Member States of the European Union

HPAI: Highly Pathogenic Avian Influenza

HPAIV: Highly Pathogenic Avian Influenza virus

LPAI: Low Pathogenicity Avian Influenza defined as LPAI caused by AI viruses of the H5 and H7 subtype (according to Directive 2005/94/EC)

LPAIV: Low Pathogenicity Avian Influenza virus of the H5 and H7 subtype

LPAIV of 'other subtype': Low Pathogenicity Avian Influenza virus of subtype other than H5 or H7

MS: Member State(s)

NAI: Notifiable Avian Influenza. Influenza A virus of subtypes H5 or H7 according to the World Organisation for Animal Health (OIE) definition.

NRL: National Reference Laboratory for avian influenza

NUTS: Nomenclature of Units for Territorial Statistics. For example, at NUTS 3 level this refers to a region, district, county, municipal or unitary authority (depending on the MS).

PCR: Polymerase chain reaction is a laboratory methodology that acts through the amplification of specific viral nucleic acid from clinical specimens.

Positive/ Infected: For the purpose of this report, a positive or infected case of avian influenza is defined as a poultry holding, from which at least one sample tested positive on either serology or PCR or viral isolation.

VI: Virus isolation is a laboratory methodology that enables the propagation of infectious virus directly from clinical specimens.

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2 INTRODUCTION

2.1 Objectives

The objectives of the serological surveillance for LPAI subtypes H5 and H7 in poultry in 2010 were:

1. Detection of sub-clinical infections with LPAI of subtypes H5 and H7 thereby complementing early detection systems and subsequently preventing possible mutation of these viruses to HPAIV.
2. Detection of infections of LPAI H5 and H7 subtypes in specifically targeted poultry populations at specific risk of infection due to their husbandry system or the susceptibility of specific species.
3. Contributing to the demonstration of a free status of a certain country, region or compartment from notifiable avian influenza in the frame of international trade according to OIE rules.

2.2 Framework of Reporting

Low pathogenicity avian influenza viruses of the H5 and H7 subtypes have the potential to mutate to highly pathogenic strains while circulating within poultry populations.

The Scientific Committee on Animal Health and Animal Welfare (SCAHAW) recommended the implementation of serological surveys of poultry populations in MS in order to detect the presence of low pathogenic avian influenza (LPAI) viruses of H5 and H7 subtypes.

Surveys for avian influenza in poultry and wild birds in MS were first carried out in 2003 under Commission Decision [2002/649/EC \(EC 2002\)](#).

Directive [2005/94/EC \(EC 2006a\)](#) on Community measures to control avian influenza introduced with Article 4, a new legal basis for the obligatory conduct of surveillance programmes in poultry populations, to detect infections with LPAI of H5 and H7 subtype.

In 2010, as in 2008 and 2009, the surveys were performed according to the guidelines laid down in Commission Decision [2007/268/EC \(EC 2007\)](#) which are available under: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:115:0003:0017:EN:PDF>

For 2010, the survey programmes of the MS were evaluated and approved through the Decision [2009/883/EC \(EC 2009\)](#).

Details of the survey programmes for each MS are available on the internet at: http://ec.europa.eu/food/animal/diseases/eradication/programme2010/2010_programmes_en.pdf

Samples were tested in accordance with the [diagnostic Manual for avian influenza \(EC 2006\)](#).

Previous Annual Reports on surveillance for avian influenza in poultry can be found at: http://ec.europa.eu/food/animal/diseases/controlmeasures/avian/eu_resp_surveillance_en.htm

2.3 *Structure of Report*

This report provides information on the surveillance of poultry undertaken by the EU MS. It is structured to provide summary information on sampling and results in addition to more detailed analysis.

- The Executive Summary provides an outline of the main findings and conclusions that can be drawn from these.
- The Introduction gives information on the objectives and framework for the surveillance carried out by the MS and also provides links to the Commission Decisions on which the surveillance is based.
- The Overview section provides general information and conclusions on the sampling carried out across the EU for this survey and on the results in 2010.
- The Results section contains more detailed information on the results by poultry category and MS.
- The Discussion section provides a summary of the findings and information on their importance in relation to the objectives of the survey.
- The Methods section gives information on the data received from the MS, its limitations and methods of analysis of this data.
- The Annexes contain additional detailed tables on the sampling and testing results.

3 OVERVIEW

3.1 *Survey design and Sampling*

3.1.1 **Survey design**

The survey design was based upon the surveillance guidelines of Commission Decision [2007/268/EC \(EC 2007\)](#).

MS sampled holdings and submitted data for some or all of the following poultry categories:

- Chicken Breeders (CB)
- Laying Hens (LH) and Free-range Laying Hens (FR LH)
- Broilers (B) and Free-range Broilers (FR B)
- Fattening Turkeys (FT)
- Turkey Breeders (TB)
- Fattening Ducks (FD)
- Breeder Ducks (BD)
- Fattening Geese (FG)
- Breeder Geese (BG)
- Backyard Flocks (BYF)
- Farmed Game Birds (FGB)
- Ratites (R)
- Others/Other Poultry (O)

The required number of holdings to be sampled for specified poultry categories was determined according to [Tables 2](#) and [3](#) below as laid down in the EU guidelines. A number of MS did not sample the number of holdings indicated in their programme for specific poultry categories based on the total holding figures given; however this was often by only a few holdings. Conversely, other MS sampled far in excess of the minimum number required.

Table 2 Number of holdings to be sampled of each poultry category (except turkey, duck and goose holdings)

Number of holdings per poultry category Member State	Number of holdings to be per sampled
Up to 34	All
35 –50	35
51-80	42
81-250	53
>250	60

Table 3 Number of turkey, duck and goose holdings to be sampled

Number of holdings per poultry category per Member State	Number of holdings to be sampled
Up to 46	All
47 -60	47
61-100	59
101-350	80
>350	90

3.1.2 Sampling

Unless specified otherwise, all totals and overall proportions refer to 26 EU MS, as Malta did not submit any data for the annual poultry survey 2010.

- In 2010, a total of 1,160,188 poultry holdings were reported to be present among all EU MS, and 29,484 of these were sampled by the MS in their approved AI surveillance programmes. This compares to 35,016 holdings sampled in 2009, 34,985 holdings sampled in 2008 and 126,912 holdings sampled in 2007.
- In addition, Switzerland submitted data for 64 holdings for the 2010 EU Poultry Survey.
- The total numbers of holdings present and numbers sampled by MS in 2010 are displayed by poultry category in [Table 4](#).
- The total numbers of holdings sampled and found positive by MS are displayed in [Figure 1](#).
- The most frequently sampled poultry category in 2010 was Backyard Flocks, mainly sampled in ES (2,337), RO (1,936) and IT (1,628).
- There was considerable variation in the number of holdings sampled among MS. Some MS sampled only the requested sample size or less, whilst a number of others (for example IT, NL and RO) sampled much higher numbers of holdings. Some MS sampled individual holdings more than once during the period of the survey and hence the total reported number of holdings sampled during the survey exceeded the total number of holdings present for MS in certain poultry categories.
- The total number of holdings sampled in the survey varied from 18 (EE and LU) to 9,174 (IT). Ten MS sampled more holdings in total when compared to 2009 (CY, DE, DK, EE, EL, FR, HU, LT, PL and RO); the UK sampled the same number of holdings (n=453) in 2009 and 2010, the other MS sampled, (16 overall), less holdings in 2010.
- Some MS targeted sampling towards Free-range holdings of Layers and Broilers by sampling more Free-range than conventional holdings in these poultry categories. CY, DK, FR, and IE sampled more Free-range Laying Hen holdings than conventional Laying Hen holdings. Twelve MS that sampled Laying Hen holdings did not sample Free-range Laying Hen holdings. A total of eight MS sampled conventional Broiler holdings in 2010, two of which also sampled Free-range Broiler holdings. Seven MS sampled Free-range Broiler holdings, and of these DK, EL, FR, IE and PT sampled more Free-range than conventional Broiler holdings.

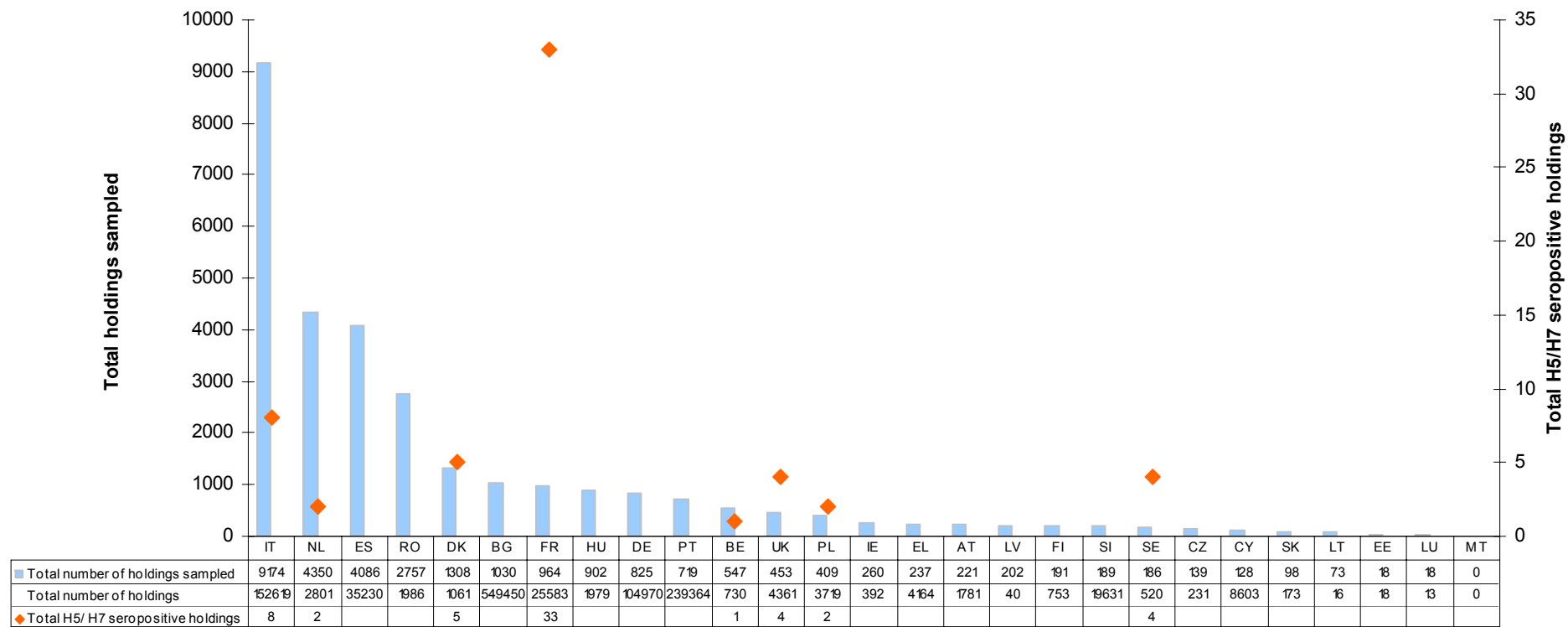


Figure 1 Total holdings sampled and serologically positive for AI H5/H7 across 26 EU MS in 2010

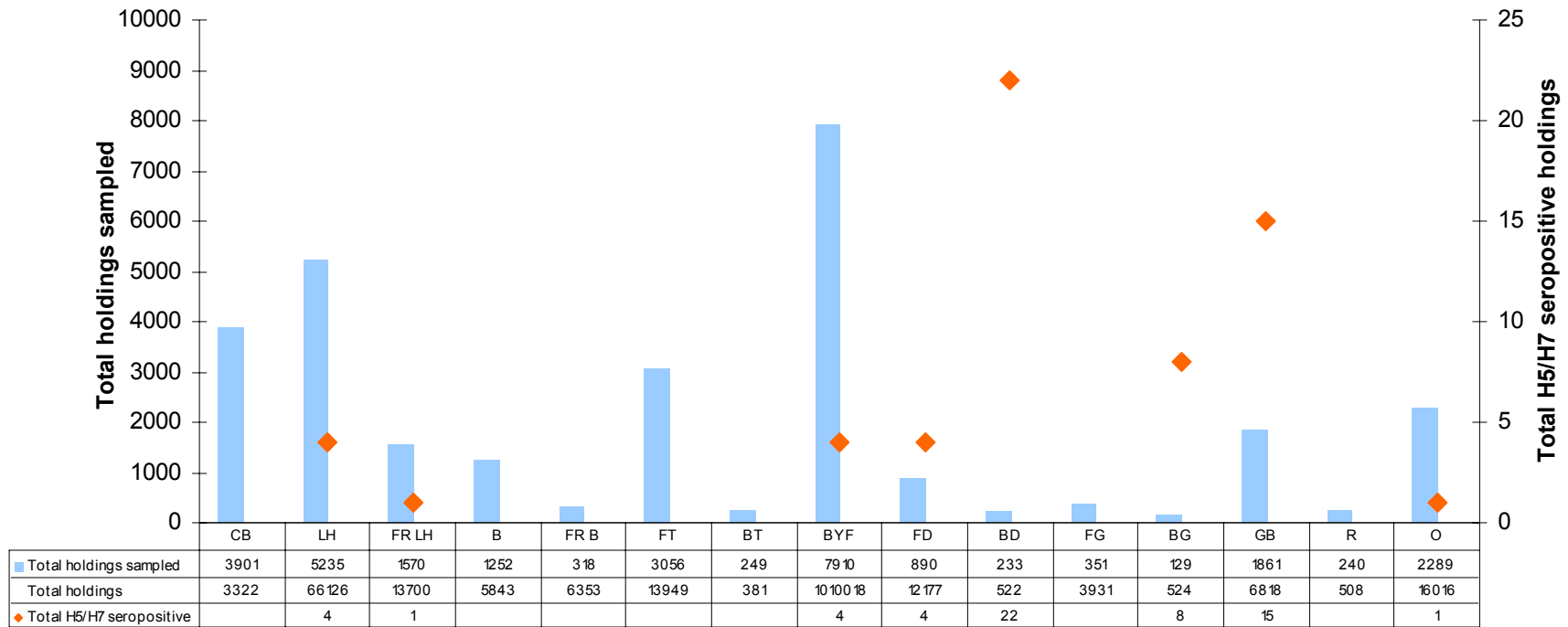


Figure 2 Total holdings sampled and serologically positive for AI H5/H7 in the 26 EU MS submitting data according to poultry category

See Page 10, 3.1.1 'Survey Design' for abbreviations of poultry categories

Table 4 Number of holdings sampled and total holdings reported, according to poultry category and MS.

	Number sampled (total holdings)										Total Holdings sampled and proportion of EU total	Total Holdings reported and proportion of EU total
	Chicken Breeders	Laying Hens and Free Range Laying Hens	Broilers and Free Range Broilers	Turkey Fatteners and Turkey breeders	Backyard Flocks	Fattening Ducks and Breeder Ducks	Fattening Geese and Breeder Geese	Game Birds	Ratites	Others		
AT		60 (1562)		79 (138)		15 (15)	62 (62)		5 (4)		221	1781
BE	205 (202)	285 (443)		31 (34)		14 (20)	2 (3)	10 (28)			547	730
BG	71 (25)	60 (149)	18 (169)	2 (3)	800 (548985)	59 (102)		0 (12)		20 (5)	1030	549450
CY	15 (19)	67 (37)		8 (8)	31 (8530)			7 (8)	0 (1)		128	8603
CZ		51 (126)		55 (72)		15 (15)	6 (6)	12 (12)			139	231
DE		66 (67019)	6 (1271)	223 (2516)	21 (13680)	261 (7236)	21 (2291)	2 (12)	2 (12)	223 (10933)	825	104970
DK	590 (460)	360 (149)	2 (19)	33 (116)		17 (67)	6 (32)	300 (218)			1308	1061
EE		18 (18)									18	18
EL	59 (98)	50 (370)	45 (48)	19 (46)	55 (3589)			5 (8)	4 (5)		237	4164
ES	152 (379)	300 (1014)	184 (1684)	122 (443)	2337 (28006)	39 (42)	7 (9)	269 (672)	41 (107)	635 (2874)	4086	35230
FI	52 (58)	63 (613)		54 (53)		6 (9)		15 (18)	1 (2)		191	753
FR		50 (1030)	134 (6000)	241 (7820)	98 (3000)	261 (4100)	13 (133)	167 (3500)			964	25583
HU	26 (106)	118 (534)		81 (323)	463 (NK)	71 (392)	93 (571)	43 (47)	6 (6)	1 (NK)	902	1979
IE	81 (86)	103 (180)	36 (13)	40 (113)							260	392
IT	706 (368)	2443 (1531)		1859 (905)	1628 (146536)	186 (185)	90 (85)	815 (764)	92 (160)	1355 (2085)	9174	152619
LT		1 (1)	67 (14)	5 (1)							73	16
LU		9 (7)	5 (5)						4 (1)		18	13
LV	1 (1)	33 (33)			162 (NK)	4 (4)	1 (1)		1 (1)		202	40
MT											0	0
NL	1705 (451)	2023 (1385)	475 (810)	103 (74)		44 (81)					4350	2801
PL	67 (531)	66 (996)		94 (825)		13 (89)	85 (1059)	34 (48)	50 (171)		409	3719
PT	62 (127)	76 (200)	80 (1894)	60 (150)	316 (236735)	17 (14)		50 (121)	3 (4)	55 (119)	719	239364
RO		285 (185)	494 (245)	10 (5)	1936 (1535)	4 (2)		21 (13)	4 (1)		2757	1986
SE	34 (39)	62 (382)	24 (24)	24 (27)		4 (4)	11 (11)	23 (27)	4 (6)		186	520
SI	9 (9)	60 (138)		45 (45)	60 (19422)			7 (7)	8 (10)		189	19631
SK	10 (48)	28 (50)		11 (14)		3 (5)	3 (4)	28 (35)	15 (17)		98	173
UK	56 (315)	68 (1674)		106 (599)		90 (317)	80 (188)	53 (1268)			453	4361
EU Total (%)	3901 (3322)	6809 (79626)	1570 (12196)	3309 (14330)	7910 (1010016)	1123 (12699)	480 (4459)	1661 (6618)	240 (106)	2289 (16016)	29484	1160166
	13.23%	23.06%	4.32%	11.21%	26.63%	3.61%	1.63%	6.31%	0.81%	7.76%		
CH		62 (3523)			2 (322)						64	3845

NK = Not known (Total holdings)

1. Numbers of holdings can vary throughout the year; this might result in less holdings sampled than was originally indicated in the submitted programme

2. Proportion figures for the total number of holdings sampled and total number of holdings calculated are based on the proportion of the EU total reported to the survey

3.2 Results

A total of 74 holdings tested positive by serology for previous exposure to AI virus (H5, H7 and other subtypes), and 28 holdings tested positive by PCR/VI in ten MS.

A total of 63 holdings were serologically and/ or virologically positive for H5 or H7 subtypes, i.e. AI that has to be notified to the veterinary authority according to Directive 2005/94/EC. Of these, a total of 59 were positive by serological testing. This compares to 90 found seropositive for H5 or H7 in 2009, 72 holdings in 2008, and 138 holdings in 2007. One holding tested positive for both H5 (serology) and H7 (PCR/VI). In addition, non-EU MS Switzerland did not detect any positive holdings in 2010, unlike in 2009 when one H5 and one H7 positive holding were reported.

Table 5 shows the number of holdings that tested positive by serology and/or PCR/VI for H5 or H7 subtypes, by Member State for 2010.

In this year's survey, nine out of ten MS that found positive holdings had done so in previous annual surveys (2008 or 2009); positive holdings had not been detected in NL prior to 2010. Three MS (ES, IE, and RO) that found positive holdings in 2009, through this active serological surveillance, did not do so in 2010.

Tables 6a and 6b in the Results section show the total number of holdings sampled and found positive by poultry category in the years 2008 to 2010 for H5 and H7 respectively.

Table 5 Number of serological and virological H5 and H7 positive holdings by Member State in 2010

MS	Total positive holdings ^a	Number of H5 seropositive holdings	Number of H5 PCR/ VI positive holdings ^b	Number of H7 seropositive holdings	Number of H7 PCR/ VI positive holdings ^c	Total holdings sampled	Total Holdings Reported
AT	0	0	0	0	0	221	1781
BE	1	1	1	0	0	547	730
BG	15	0	0	0	0	1030	549450
CY	0	0	0	0	0	128	8603
CZ	1	0	0	0	0	139	231
DE	0	0	0	0	0	825	104970
DK*	5	2	0	3	2	1308	1061
EE	0	0	0	0	0	18	18
EL	0	0	0	0	0	237	4164
ES	0	0	0	0	0	4086	35230
FI	0	0	0	0	0	191	753
FR	33	33	0	0	0	964	25583
HU	0	0	0	0	0	902	1979
IE	0	0	0	0	0	260	392
IT	12	2	2	6	4	9174	152619
LT	0	0	0	0	0	73	16
LU	0	0	0	0	0	18	13
LV	0	0	0	0	0	202	40
MT	0	0	0	0	0	0	0
NL	2	0	0	2	1	4350	2801
PL	2	2	0	0	0	409	3719
PT	0	0	0	0	0	719	239364
RO	0	0	0	0	0	2757	1986
SE	4	4	0	0	0	186	520
SI	0	0	0	0	0	189	19631
SK	0	0	0	0	0	98	173
UK	4	4	0	0	0	453	4361
EU Total	79	48	3	11	7	29484	1160188
CH	0	0	0	0	0	64	3845

*One holding positive for both H5 (serology) and H7 (PCR/virology), and this has been included in both relevant columns. However, in the total positive holdings column it has only been included/counted once.

^a This total includes H5, H7, and non H5/H7 subtypes.

^b Two holdings were reported as H5 PCR/VI positive only (serology negative or not performed)

^c Three holdings were reported as H7 PCR/VI positive only (serology negative or not performed)

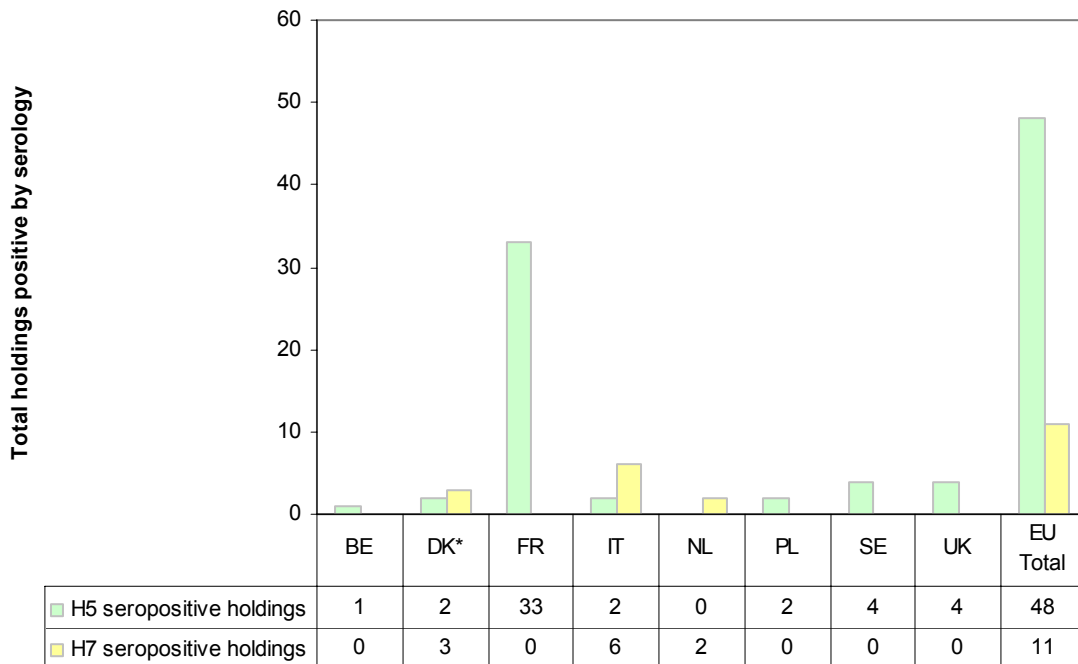


Figure 3 Total H5 and H7 serologically positive holdings by MS in 2010

*One holding positive for both H5 (serology) and H7 (virology).

3.2.1 H5 Influenza

In 2010, 50 holdings (in seven MS) returned positive results for H5 subtypes, 48 of which were positive by serology. The majority (33) of the total H5 (serological) positive holdings were found in FR, and this is very similar to 2009. One holding (2.1%) in EU MS that was positive for H5 by serology, was also positive by PCR or virology indicating active infection of the birds on the holding. In total, 0.17% of EU holdings sampled were positive for subtype H5 (by serology and /or PCR/VI).

Fewer holdings tested positive in 2010 (50) compared to the total H5 positive in 2009 (55). Most (22/52, 42.3%) of the H5 positive holdings were Breeding Ducks, followed by Game Birds (12/52, 23.1%) and Breeder Geese (8/52, 15.4%).

3.2.2 H7 Influenza

In 2010, 14 holdings (in three MS) returned positive results for subtype H7, 11 of which were positive by serology. The majority of the total H7 positive holdings were found in IT (eight), and two of these were positive for H7 by PCR/VI only. This is similar to 2009, when IT also had the highest number of H7 positive holdings.

Overall, a total of 4 holdings (36.4%) were positive for subtype H7 by PCR or virology as well as serology, indicating active infection of the birds on those holdings. In total, 0.05% of EU holdings sampled were positive for subtype H7 (by serology and /or PCR/VI).

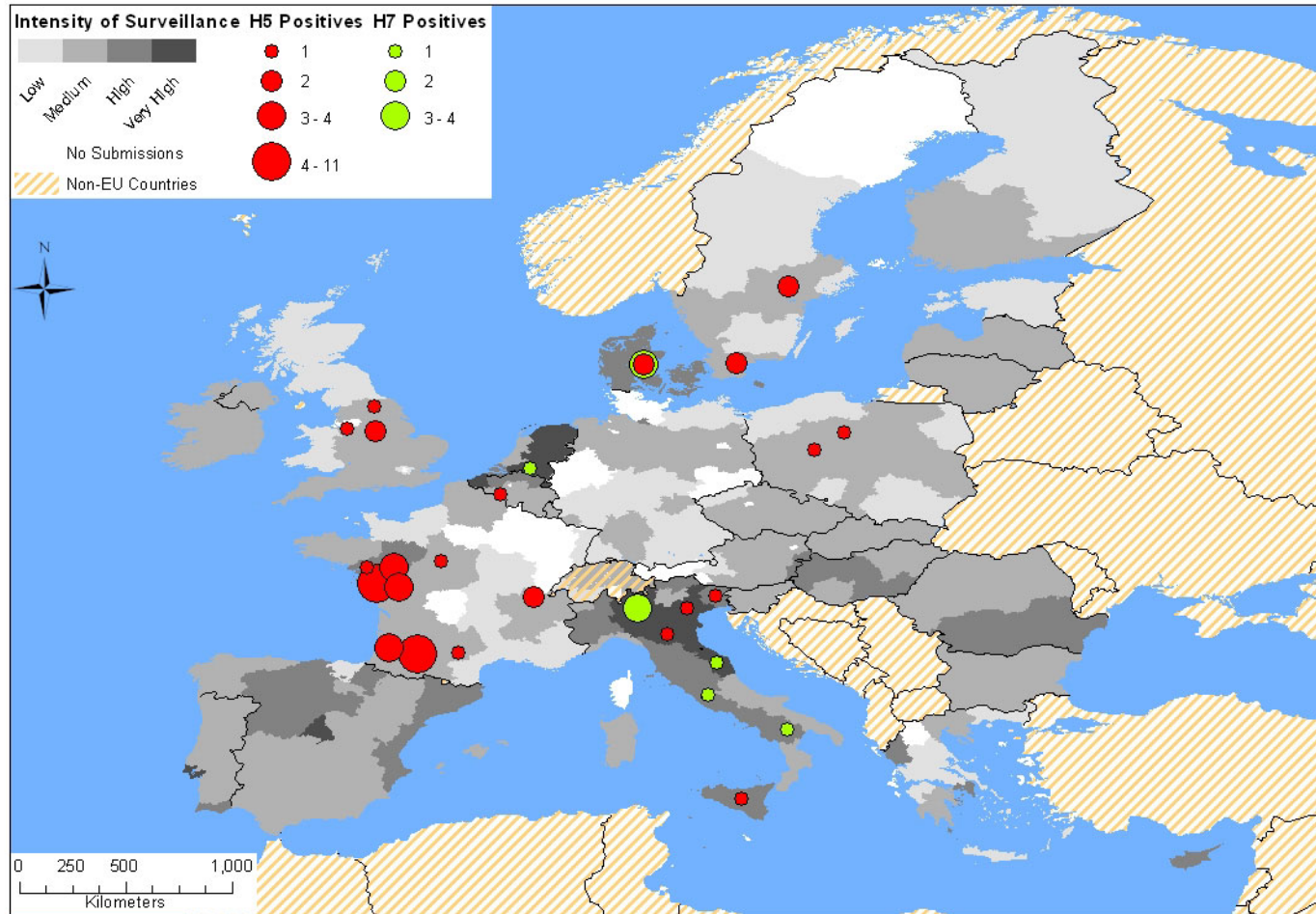
Fewer H7 positive holdings were found in 2010 (14) compared with 2009 (42). The poultry category with the most H7 detections was Game Birds (4/14, 28.6%), which were all from DK. A total of three holdings from the 'Other' category (3/14, 21.4%) and three Backyard Flocks (3/14, 21.4%) also tested positive for subtype H7 from IT.

The number of H5 and H7 subtypes detected in 2010 has decreased compared to previous years.

Figure 4 displays the intensity of sampling as well as the holdings found positive in this survey for subtype H5 (indicated by red circles) and subtype H7 (indicated by green circles).

Figure 4 A map of the intensity of sampling in the EU AI poultry survey and holdings testing positive for H5 and H7 in 2010.

The classification of intensity of surveillance is grouped by holdings sampled per 100km²
 Low: >0 and <10, Medium: >10 and <100, High: >100-<500, Very high: >500



3.2.3 Other LPAI subtypes

In 2010, 16 holdings tested positive for avian influenza subtypes other than H5 or H7 by serology and/ or PCR/ VI in two MS (BG and CZ). One of the 16 holdings tested positive by PCR/ virology only.

The majority of the other LPAI subtypes detected (15) were found in BG in Fattening Duck holdings. The subtypes detected by BG in 2010 were H6, H4 and H3.

CZ reported one PCR positive holding for subtype H6 in a Game Bird holding.

The total reported for 2010 is more than in 2009, where 13 holdings tested positive from four MS.

3.2.4 Poultry categories

Overall, in 2010, there was a decrease in the number of holdings sampled in each poultry category when compared with 2009, with the exception of Free-range Broilers (3 more holdings), Breeder Ducks (23 more holdings), Breeder Geese (21 more holdings), and 'Others' (33 more holdings), which all showed an increase from 2009 to 2010.

The poultry category with the highest number of holdings positive for H5 subtypes by serology and/or PCR/VI was Ducks (n=26), 85% of which were Breeder Ducks. All of the 26 Duck holdings were serologically positive. The number of positive holdings detected in the Geese categories (n = 8) was the same as in 2009 (n = 8), and like 2009 no H5 subtypes were detected in Fattening Geese.

The poultry category with the highest number of holdings positive for H7 was Game Birds (n = 4), followed by 'Others' (n = 3), and Backyard Flocks (n = 3). There was a 66% decrease in the number of H7 subtypes detected in poultry in 2010 compared to 2009. Of the 14 holdings testing positive for H7 subtypes, 11 holdings were positive by serological testing, a further three holdings tested positive by PCR/VI, with serology negative or not performed.

Overall, 15 Fattening Duck holdings were positive (by serology and/or PCR/VI) for a subtype other than H5 or H7. In addition, one Game Bird holding was PCR/ VI positive for a non H5/H7 subtype (serology not performed).

3.3 Conclusions

- In 2010, 29,484 poultry holdings were sampled by 26 EU MS. This was a small decrease compared to the previous two years, and many fewer than was sampled in 2007. In addition, one non-EU MS provided data on poultry holdings sampled, CH (64).
- As in 2009, Backyard Flocks were the most sampled poultry category in 2010 (26.8% of EU total), followed by Laying Hens/Free-range Laying Hens (23.1%). There was a large variation in the total holdings sampled by each MS.
- A total of 59 holdings tested positive for H5 or H7 subtypes by serological testing, 48 of H5 subtypes and 11 of H7 subtypes. One holding tested positive for both H5 and H7.
- The majority of H5 positive holdings were from Breeder Ducks (22), Game Birds (12) and Breeder Geese (eight).
- Most H7 seropositive holdings were from Game Birds (four), Laying Hens (three), Backyard Flocks (three) and Others (three).
- As in 2009, evidence of H5 infection was detected more frequently than H7; however, the number of H7 positive holdings was greatly reduced in 2010 from 42 holdings positive in 2009 (0.12% of total holdings sampled) to 14 in 2010 (0.05% of total holdings sampled) (total by serology and/or PCR/VI).

4 RESULTS

4.1 Poultry Categories

Tables 6a and 6b show the H5 and H7 serological detections by poultry category in the years 2008, 2009 and 2010.

Descriptive results of the 2010 poultry survey by poultry category

Detailed tables displaying the number of holdings, holdings sampled and holdings testing positive by MS and category are shown in [Annex I](#).

Ducks and Geese

- Duck and Goose holdings made up 5.44% of total holdings sampled in the EU in 2010, with the majority (55.52%) of these being tested in the Fattening Ducks category, as in 2009.
- Fattening Ducks were sampled in 18 MS, and the sample sizes varied from three (SK) to 261 (DE).
- Breeder Ducks were sampled in ten MS with sample sizes per MS varying from two (PT) to 112 (FR).
- Fattening Geese were sampled in 11 MS, with total holdings sampled per MS between one (LV) and 78 (HU).
- Breeder Geese were sampled in eight MS with total holdings sampled per MS varying from two (DK and BE) to 39 (IT).
- Seven MS increased the number of Duck and Geese holdings in their surveillance programmes from 2009 (these were AT, DE, FR, LV (by six), PL, RO (by two), PT (by four)).
- Overall, 65 holdings were found to be positive for LPAI. Of these, 34 were of H5/H7 subtype. More than half (65.4%) of the total number of LP H5 positive holdings were Duck and Geese holdings (34/52).
- The positive Duck and Geese holdings were detected in five MS. In three MS (BE, BG, and PL) this was the only category of poultry where positives were found.

Chicken Breeders

- Chicken Breeder holdings made up 13.23% of total holdings sampled in the EU in 2010, which is a decrease on the percentage sampled in 2009 (15.5%), but a slight increase from 2008 (12.75%).
- Chicken Breeder holdings were sampled in 18 MS, with sample sizes varying from one holding (LV) to 1705 (NL). Over 1500 fewer holdings were sampled in 2010 compared to 2009.
- No holdings were reported positive for H5 or H7 subtypes in this category in 2010, as was the case for 2007 and 2008. In 2009, one holding was reported positive for H7 subtype (in IT) in this category.

Laying Hens and Free-range Laying Hens

- As in 2007 to 2009, the Laying Hens category was split into Laying Hens and Free-range Laying Hens. Conventional Laying Hens made up 77% (76.9%) of the total holdings sampled in these poultry categories, the same percentage as in 2009.
- Laying Hen holdings made up 17.76% of the total holdings sampled in the EU in 2010, which is a small decrease on the percentage sampled in 2009 (18.6%). In addition, fewer Free-range Laying Hen holdings were sampled in 2010 than in 2009 (by 342 holdings), accounting for 5.33% of the total holdings sampled in the EU.
- Laying Hen holdings were sampled in 25 MS, as in 2009, (excluding FR and MT) with sample sizes ranging from one (LT) to 2127 (IT). A total of 14 MS sampled Free-range Laying Hens, plus CH, the same number as in 2009. Sample sizes varied from four (LU) to 619 (NL).
- A total of four Laying Hen, and one Free-range Laying Hen holdings were positive for H5 or H7 subtypes in 2010, which is slightly more than in 2009 (by one holding), although the percentage positive was similar (0.07% of total holdings sampled).
- Two MS detected positive holdings in 2010 (IT in conventional laying hens and NL detected one positive in both a conventional and Free-range holding). This is one less MS than in 2009 and 2008.

Broilers and Free-range Broilers

- As in 2007 to 2009, the Broiler poultry category was split into Conventional and Free-range Broilers. Conventional Broilers made up 80 (79.75) % of the total holdings sampled in these poultry categories, and this is a decrease from 2009 (when it was 84%).
- Broiler holdings made up 4.25% of total holdings sampled in the EU in 2010, and Free-range Broilers made up just 1.08% of holdings sampled. For Free-range Broilers, this is a slight increase on the percentage of total holdings sampled from 2009.
- Broiler holdings were sampled in 8 MS with sample sizes ranging from three (LU) to 494 (RO). A total of seven MS sampled Free-range Broilers in their surveillance programmes, with sample sizes ranging from two (DK and LU) to 134 (FR).
- No positive holdings were detected in 2010, as in 2009 and 2008.

Turkey Fatteners

- Turkey Fattener holdings made up 10.36% of total holdings sampled in the EU in 2010, compared with 9.6% in 2009.
- Turkey Fattener holdings were sampled in 22 MS. Sample sizes ranged from five (LT) to 1749 (IT).
- No positive holdings were detected in 2010, in contrast to 2009 where a total of six positive holdings were detected; these were four H5 and one H7 positive holdings in IT, and one holding positive for other subtypes detected in ES. No positive holdings were detected in 2008.

Turkey Breeders

- Turkey Breeder holdings made up 0.85% of the total holdings sampled in the EU in 2010.

- A total of 13 MS sampled holdings from this category, with sample sizes ranging from one (DE and EL) to 110 (IT).
- No positive holdings were found in this category in 2010, as in the survey years 2007 to 2009.

Backyard Flocks

- Backyard Flocks accounted for 26.83% of the total holdings sampled in the EU during 2010. In 2009, more Backyard Flock holdings were sampled (9359), however, the percentage of total holdings sampled in the EU was very similar (26.7%). For both 2010 and 2009, this is nearly 10% less than in 2008 when more Backyard Flocks were sampled, accounting for 35.76% of the EU total.
- A total of 12 MS sampled holdings in 2010, plus CH. Sample sizes varied from 21 (DE) to 2337 (ES).
- Three MS provided the majority of Backyard Flocks sampled in 2010; ES (2337, 29.55%), IT (1628, 20.58%) and RO (1939, 24.51%). This is similar to 2009 and 2008, when these MS, and BG, sampled a large proportion of the Backyard Flocks.
- One MS detected positive holdings in 2010 as part of this active serological surveillance; one H5 (IT), and three H7 (IT). Twenty-two more positive holdings were found in 2009 compared with 2010 (two H5 and 24 H7 in FR, SE and IT). In addition, in 2009 Switzerland detected one H5 and one H7 positive holding in Backyard Flocks sampled.

Game Birds

- Game Birds accounted for 6.31% of the total holdings sampled in the EU in 2010. Slightly less Game Bird holdings were sampled in 2010 compared with 2009 (a decrease of 68 holdings).
- A total of 18 MS sampled holdings in 2010. Sample sizes varied from two (DE) to 815 (IT).
- The majority of Game Bird holdings were sampled by IT (815, 43.79%), DK (300, 16.12%), and ES (269, 14.45%).
- Five MS detected positive holdings in 2010, as was the case in 2009; 12 H5 (DK, FR, SE, and UK) and four H7 (DK). One of the holdings in DK positive for H5 was also positive for H7 so is only counted once in the total positive holdings. CZ also detected one positive holding for subtype other than H5 or H7, in this category.
- There was an increase in the number of positive detections compared with 2009, from ten game bird holdings testing positive for avian influenza in 2009, to 15 positive holdings in 2010. The total number of positives in 2010 is nearly double those found in this category in 2008, when eight holdings were detected positive.

Ratites

- Ratite holdings accounted for 0.81% of total holdings sampled in 2010 across the EU.
- A total of 15 MS sampled Ratite holdings in 2010 with sample sizes ranging from one (FI and LV) to 92 (IT). Of these, 11 MS sampled fewer than ten holdings.

- Three MS sampled the majority of Ratite holdings; IT (92, 38.3%), PL (50, 20.83%), and ES (41, 17.08%).
- No positive holdings were detected in Ratites in 2010, as in 2009, 2008, and 2007.

Others

- This category accounted for 7.76% of the total sampled in the EU in 2010.
- The types of poultry reported in this category included: exotic birds, birds from rescue centres, pet shops and zoos, and incubators (see p.48 6.2.1 Data Processing for further information).
- A total of six MS sampled Other holdings in 2010, with sample sizes ranging from one (HU) to 1355 (IT).
- As in 2009, two MS sampled the majority of Other holdings; IT (1355, 59.2%) and ES (635, 27.74%).
- Overall 2289 holdings were sampled in this poultry category in 2010 which is similar to 2009 (2255), and more than 2008 (1761).
- One MS detected positive holdings in 2010; two H5 (IT) and three H7 (IT). This is less than detected in 2009 (12 holdings), but an increase of the number of positive holdings detected in 2008 (n=4).

Table 6a Number of LP H5 positive holdings and total sampled (n) between 2008 and 2010 by Poultry Category			
	2010	2009	2008
Poultry Category	Positive/ (n)	Positive/ (n)	Positive/ (n)
Chicken Breeders	0/3901	0/5433	0/4462
Laying Hens and Free-range laying hens	1/6799	2/8434	2/7389
Broilers and Free-range Broilers	0/1570	0/1993	0/1897
Fattening Turkeys	0/3056	4/3361	0/3022
Breeder Turkey	0/249	0/298	0/275
Backyard Flocks	1/7910	2/9359	2/12536
Fattening and Breeder Ducks	26/1123	28/1136	26/963
Fattening and Breeder Geese	8/480	8/549	14/569
Game Bird	12/1861	10/1929	8/1832
Ratite	0/240	0/270	0/329
Other	2/2289	1/2255	2/1760
EU Total (excluding CH and NO)	50/29484	55/35016	54/35034

In 2010: One Game Bird holding positive for both H5 and H7
 In 2009: One Duck and Geese holding positive for both H5 and Influenza A; One Game Bird holding positive for both H5 and H7.
 In 2008: Two Duck and Geese holdings positive for both H5 and H7; One Game Bird holding positive for both H5 and H7.

Table 6b Number of LP H7 positive holdings and total sampled (n) between 2008 and 2010 by Poultry Category			
	2010	2009	2008
Poultry Category	Positive/ (n)	Positive/ (n)	Positive/ (n)
Chicken Breeders	0/3901	0/5433	0/4462
Laying Hens and Free-range laying hens	4/6799	2/8434	5/7389
Broilers and Free-range Broilers	0/1570	0/1993	0/1897
Fattening Turkeys	0/3305	4/3361	0/3022
Breeder Turkey	0/7910	0/298	0/275
Backyard Flocks	3/1123	24/9359	10/12536
Fattening and Breeder Ducks	0/1123	1/1136	2/963
Fattening and Breeder Geese	0/480	1/549	2/569
Game Bird	4/1861	1/1929	1/1832
Ratite	0/240	0/270	0/329
Other	3/2289	11/2255	1/1760
EU Total (excluding CH and NO)	14/29484	42/35016	21/35034

In 2010: One Game Bird holding positive for H5 and H7
 In 2009: One Game Bird holding positive for both H5 and H7.
 In 2008: Two Duck and Geese holdings positive for both H5 and H7; One Game Bird holding positive for both H5 and H7.

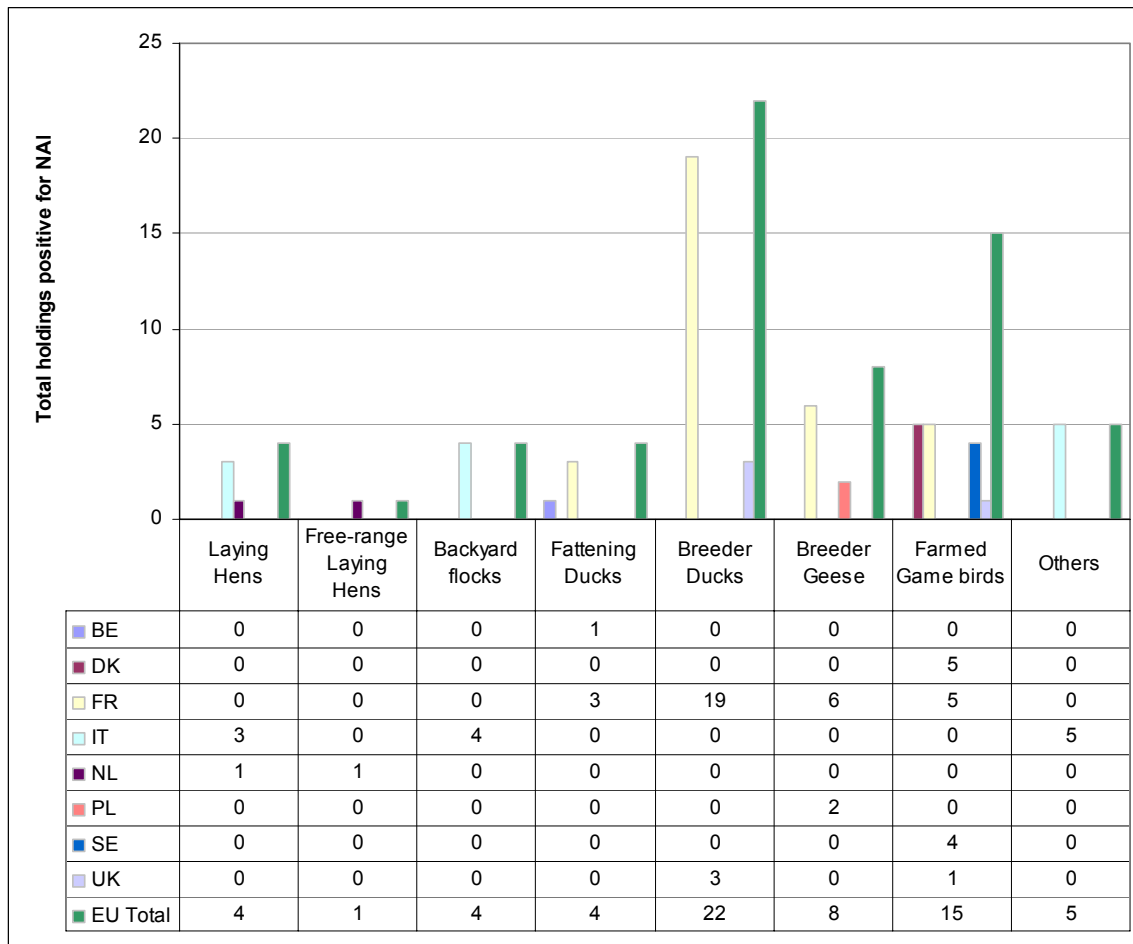


Figure 5 Total number of H5/H7 AI detections in 2010, by MS and poultry category (only EU MS with positive holdings- by serology and/or PCR/VI).

Table 7: Number of holdings sampled and the number of positive holdings (by serology and/or PCR/VI) according to MS and poultry category, the subtypes are split into H5 and H7 subtypes and subtypes other than H5 and H7.

Table 7 Total number of sampled and positive (by serology and/ or PCR/ VI) holdings by Member States and poultry category in 2010																
Member States	Chicken Breeders	Laying Hens	Free Range Laying Hens	Broilers	Free Range Broilers	Turkey Fatteners	Turkey breeders	Backyard Flocks	Fattening Ducks	Breeder Ducks	Fattening Geese	Breeder Geese	Game Birds	Ratites	Others	Total
AT		60				79			15		62			5		221
BE	205	231	54			31			1/ 14			2	10			547
BG	71	60		18			2	800	15/ 56	3					20	1030
CY	15	33	34			8		31					7			128
CZ		51				55				15		6	1/ 12			139
DE		43	23	6		222	1	21	261		21		2	2	223	825
DK*	590	52	308		2	33			13	4	4	2	2/ 300 4/300			1308
EE		18														18
EL	59	50			45	18	1	55					5	4		237
ES	152	257	43	165	19	109	13	2337	39		7		269	41	635	4086
FI	52	47	16			54			6				15	1		191
FR			50		134	155	86	98	3/ 149	19/ 112		6/ 13	5/ 167			964
HU	26	108	10			76	5	463	67	4	78	15	43	6	1	902
IE	81	47	56		36	38	2									260
IT	706	1/ 2127 2/ 2127	316			1749	110	1/ 1628 3/ 1628	155	31	51	39	815	92	2/ 1355 3/1355	9174
LT		1		67		5										73
LU		5	4	3	2									4		18
LV	1	33						162	4		1			1		202
MT																0
NL	1705	1/ 1404	1/ 619	475		101	2		25	19						4350
PL	67	66				83	11		5	8	47	2/38	34	50		409
PT	62	76			80	60		316	15	2			50	3	55	719
RO		285		494		10		1939	4				21	4		2757
SE	34	35	27	24		21	3		4		11		4/ 23	4		186
SI	9	60				45		60					7	8		189
SK	10	28				6	5		3		3		28	15		98
UK	56	58	10			98	8		55	3/ 35	66	14	1/ 53			453
EU Total	3901	5235	1570	1252	318	3056	249	7910	890	233	351	129	1861	240	2289	29484
Total H5/ H7 positive	0	4	1	0	0	0	0	4	4	22	0	8	15	0	5	63
% positive	0	0.08%	0.06%	0.00%	0.00%	0.00%	0.00%	0.05%	0.45%	9.44%	0.00%	6.20%	0.81%	0.00%	0.22%	0.21
CH			62					2								64

* One holding positive for both H5 and H7

Positive H5
 Positive H7
 Positive for subtypes other than H5 or H7

4.2 Member States

Descriptive results relating to individual Member State's programmes

The total number of holdings reported for each poultry category per MS is given in parentheses in the text below. Where the number of sampled holdings exceeds the total number of holdings reported, holdings are assumed to have been sampled more than once.

Austria

- Testing results from holdings sampled were reported from Laying Hens, Fattening Turkeys, Fattening Ducks, Fattening Geese and Ratites.
- 60 Laying Hen holdings were sampled (1,562 total).
- 79 Fattening Turkey holdings were sampled (138 total).
- 77 Duck and Goose holdings were sampled (77 total), submitted and reported as;
 - 15 Fattening Duck holdings (15 total).
 - 62 Fattening Geese holdings (62 total).
- Five Ratite holdings were sampled (Four total).
- Austria sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens, Fattening Ducks, Fattening Geese, and Ratites; however, fewer holdings were sampled in the Fattening Turkeys category.
- Austria reported from six regions overall. The number of regions sampled varied across poultry categories.
- **No positive holdings were reported in 2010, as in previous survey years 2004-2009.**

Belgium

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Fattening Ducks, Breeder Geese, and Game Birds.
- 205 Chicken Breeder holdings were sampled (202 total).
- 231 Laying Hen holdings were sampled (361 total).
- 54 Free-range Laying Hen holdings were sampled (82 total).
- 31 Fattening Turkey holdings were sampled (34 total).
- 16 Duck and Geese holdings were sampled (23 total) and reported as;
 - 14 Fattening Duck holdings were sampled (20 total).
 - Three Breeder Geese holdings were sampled (Two total).
- 10 Game Bird holdings were sampled (28 total).

- Belgium sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, and Laying Hens/Free-range Laying Hens; however, fewer holdings were sampled in Fattening Turkeys, Fattening Ducks, Breeder Geese, and Game Birds.
- Belgium reported from ten regions overall. The number of regions sampled varied by poultry category.
- **One positive holding was reported in 2010, unlike in 2009, when no positive holdings were detected.**
- **One Fattening Duck holding was serologically and PCR positive for influenza A virus, subtype H5.**
- *However, in both 2008 and 2007 positive holdings were reported.*

In 2008, 11 holdings were positive overall; two Laying Hen holdings were serologically positive for H7 influenza A virus and one Free-range Laying Hen holding was serologically positive for H5 influenza A virus. Two Backyard Flock holdings were serologically positive (one for H5 and one for H7 influenza A virus). Two Fattening Duck holdings were serologically positive for influenza A virus (one holding for H5, and one holding positive for H5 subtype, H7 subtype and virologically positive for influenza A virus). Two Breeder Geese holdings tested serologically positive for influenza A virus (one for subtype H5, and one for H5 and H7). In addition, two 'Others' holdings were reported positive for influenza A virus subtype H5, one serologically and one virologically.

- *In 2007, one Laying Hen holding and one Free Range Laying Hen holding were serologically positive for H7 influenza virus. One Backyard Flock holding, two Breeder Duck holdings, one Breeder Geese holding and one 'Other' holding were serologically positive for H5 influenza virus. Three of these, one positive Backyard Flock, one positive Breeder Duck and the 'Other' positive, were from the same holding, but reported in the separate categories.*

Bulgaria

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Broilers, Turkey Breeders, Backyard Flocks, Fattening Ducks, Breeder Ducks, and Others.
- 71 Chicken Breeder holdings were sampled (25 total).
- 60 Laying Hen holdings were sampled (149 total).
- 18 Broiler holdings were sampled (169 total).
- Two Turkey Breeder holdings were sampled (Two total).
- 800 Backyard Flock holdings were sampled (548, 985 total).
- 56 Fattening Duck holdings were sampled (97 total).
- Three Breeder Duck holdings were sampled (Five total).
- 20 Other holdings were sampled (Five total).
- Bulgaria sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens, Turkey Breeder, Backyard Flocks and Others; however, fewer holdings were sampled in Broilers, Fattening Ducks, and Breeder Ducks.

- Bulgaria reported from 28 regions overall. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as in 2009, 2008 and 2007.**
- **Fifteen Fattening Duck holdings were reported serologically and PCR/virologically positive for influenza A virus subtypes H3, H4 and H6.**
- *In 2009, ten Fattening Duck holdings were reported virologically positive for influenza A virus subtypes H3, H4 and H6. Whilst in 2008, two Fattening Duck holdings were reported virologically positive for influenza A virus subtype H6.*

Cyprus

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Backyard Flocks, and Game Birds.
- 15 Chicken Breeder holdings were sampled (19 total).
- 33 Laying Hen holdings were sampled (27 total).
- 34 Free-range Laying Hen holdings were sampled (Ten total).
- Eight Fattening Turkey holdings were sampled (Eight total).
- 31 Backyard Flock holdings were sampled (8,530 total).
- Seven Game Bird holdings were sampled (Eight total).
- Cyprus sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens/Free-range Laying Hens and Fattening Turkeys; however, fewer holdings were sampled in Chicken Breeders, Backyard Flocks, and Game Birds.
- Cyprus reported as one region.
- **No positive holdings were reported in 2010, as in previous survey years 2005-2009.**

Czech Republic

- Testing results from holdings sampled were reported from Laying Hens, Turkey Fatteners, Breeder Ducks, Breeder Geese, and Game Birds.
- 51 Laying Hen holdings were sampled (126 total).
- 55 Turkey Fattener holdings were sampled (72 total).
- 15 Breeder Duck holdings were sampled (15 total).
- Six Breeder Geese holdings were sampled (Six total).
- 12 Game Bird holdings were sampled (12 total).
- The Czech Republic sampled the number of holdings according to the submitted programme for the following poultry categories: Breeder Ducks, Breeder Geese and Game Birds; however, fewer holdings were sampled in Laying Hens, and Fattening Turkeys.

- The Czech Republic reported from 13 regions overall. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as in previous survey years 2007-2009.**
- **One Game Bird holding was virologically (PCR) positive for influenza A virus other subtype H6.**
- *In 2009, two Breeder Duck holdings were serologically positive for influenza A virus, one for subtype H5 and one for other subtype H6. Two Breeder Geese holdings were serologically positive for subtype H5, and one virologically (PCR) positive for subtype H7. In addition, one Game Bird holding was virologically positive for subtype H5.*
- *In 2008, two Breeder Duck holdings were serologically positive for influenza A virus, one for subtype H5 and one for other subtype H6. In addition, six Game Bird (Mallard) holdings were virologically (PCR) positive for influenza A virus - other subtype, neither H5 nor H7.*

Denmark

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Free-range Broilers, Fattening Turkeys, Fattening Ducks, Breeder Ducks, Fattening Geese, Breeder Geese, and Game Birds.
- 590 Chicken Breeder holdings were sampled (460 total).
- 52 Laying Hen holdings were sampled (37 total).
- 308 Free-range Laying Hen holdings were sampled (112 total).
- Two Free-range Broiler holdings were sampled (19 total).
- 33 Fattening Turkey holdings were sampled (116 total).
- 23 Duck and Geese holdings were sampled (99 total), submitted and reported as;
 - 13 Fattening Duck holdings were sampled (54 total).
 - Four Breeder Duck holdings were sampled (13 total).
 - Four Fattening Geese holdings were sampled (23 total).
 - Two Breeder Geese holdings were sampled (Nine total).
- 300 Game Bird holdings were sampled (218 total).
- Denmark sampled the number of holdings according to the submitted programme for the following poultry categories; Chicken Breeders, Laying Hens/Free-range Laying Hens, and Game Birds: however, fewer holdings were sampled in Free-range Broilers, Fattening Turkeys, and Ducks and Geese.
- Denmark reported as one region.
- **Positive holdings were reported in 2010, as in previous survey years 2006-2009.**
- **Five Game Bird holdings were reported as positive for influenza A virus in 2010. Two holdings were reported serologically positive for influenza A virus, subtype H5, and one of these was also virologically positive for H7 subtype. Another three holdings were serologically positive for influenza A virus, subtype H7, and one of these was also virologically (PCR) positive for the same subtype (H7).**

- *In 2009, four holdings were reported as positive. One Breeder Duck holding was serologically positive for influenza A virus, subtype H5. The same holding was also serologically positive for subtype H5 in the Breeder Geese category. In addition, two Game Bird holdings were serologically positive for influenza A virus, one for H5 and one for H5 and H7 subtypes.*
- *In 2008, two Free-range Laying Hen holdings were serologically positive for influenza A virus, one for subtype H5 and one for subtype H7. A further two holdings were positive for influenza A virus in the Breeder Duck category, one was serologically positive for H5 subtype and the other was virologically positive for H7 subtype. The same holdings were also serologically positive in the Breeder Duck category for influenza A virus subtype H5. In addition, three Game Bird holdings (Mallards) were serologically positive for influenza A virus subtype H5, and one of these was also serologically positive for subtype H7.*

Estonia

- Testing results from holdings sampled were reported from Laying Hens.
- 18 Laying Hen holdings were sampled (18 total).
- Estonia sampled the number of holdings according to the submitted programme for the Laying Hens poultry category.
- Estonia reported from one region.
- **No positive holdings were reported in 2010, as in 2008-2009. This differs from 2007.**
- *In 2007, five Laying Hen holdings were serologically positive for influenza A virus for a subtype other than H5 or H7 (subtype H9).*

Finland

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Fattening Ducks, Game Birds and Ratites.
- 52 Chicken Breeder holdings were sampled (58 total).
- 47 Laying Hen holdings were sampled (588 total).
- 16 Free-range Laying Hen holdings were sampled (25 total).
- 54 Fattening Turkey holdings were sampled (53 total).
- Six Fattening Duck holdings were sampled (Nine total).
- 15 Game Bird holdings were sampled (18 total).
- One Ratite holding was sampled (Two total).
- Finland sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens/Free-range Laying Hens, and Fattening Turkeys; however, fewer holdings were sampled in Fattening Ducks, Game Birds, and Ratites.
- Finland reported from four regions overall. The number of regions sampled varied by poultry category.

- **There were no positive holdings reported in 2010, as was the case in 2009, but unlike in 2008.**
- *In 2008, one Fattening Geese holding was serologically positive for influenza A virus subtype H5. The holding was virologically negative.*

France

- Testing results from holdings sampled were reported from Free-range Laying Hens, Free-range Broilers, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Fattening Ducks, Breeder Ducks, Breeder Geese and Game Birds.
- 50 Free-range Laying Hen holdings were sampled (1,030 total).
- 134 Free-range Broiler holdings were sampled (6,000 total).
- 155 Fattening Turkey holdings were sampled (7,590 total).
- 86 Turkey Breeder holdings were sampled (230 total)
- 98 Backyard Flock holdings were sampled (3,000 total)
- 149 Fattening Ducks holdings were sampled (3,850 total).
- 112 Breeder Duck holdings were sampled (250 total).
- 13 Breeder Geese holdings were sampled (133 total).
- 167 Game Bird holdings were sampled (3,500 total).
- France sampled the number of holdings according to the submitted programme for the following poultry categories: Free-range Broilers, Fattening Turkeys, Turkey Breeders, Backyard Flocks, Fattening and Breeder Ducks and Game Birds; however, fewer holdings were sampled in Free-range Laying Hens and Breeder Geese.
- France reported from 41 regions overall. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as in previous survey years 2007-2009.**
- **Thirty-three holdings were reported as positive in 2010. Influenza A viruses were detected in Breeder Ducks (19 holdings), Fattening Ducks (three holdings), Breeder Geese (six holdings) and Game Birds (five holdings), all of which were serologically positive for subtype H5.**
- *In 2009, 32 holdings were reported as positive. Influenza A viruses were detected in Backyard Flocks (one), Fattening Ducks (nine), Breeder Ducks (14), Breeder Geese (four) and Game Birds (four), all of which were positive by serology for subtype H5.*
- *In 2008, one Fattening Duck holding and 17 Breeder Duck holdings were serologically positive for influenza A virus H5 subtype. In addition, four Breeder Geese holdings and one Game Bird holding were all serologically positive for influenza A virus H5 subtype.*

Germany

- Testing results from holdings sampled were reported from Laying Hens, Free-range Laying Hens, Broilers, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Fattening Ducks, Fattening Geese, Game Birds, Ratites and Others.

- 43 Laying Hen holdings were sampled (55, 887 total).
- 23 Free-range Laying Hen holdings were sampled (11,132 total).
- Six Broiler holdings were sampled (1,271 total).
- 222 Fattening Turkey holdings were sampled (2,509 total).
- One Turkey Breeder holding was sampled (7 total).
- 21 Backyard Flock holdings were sampled (13,680 total).
- 261 Fattening Duck were sampled (7,236 total).
- 21 Fattening Geese holdings were sampled (2,291 total).
- Two Game Bird holdings were sampled (12 total).
- Two Ratite holdings were sampled (12 total).
- 223 Other holdings were sampled (10,933 total).
- Germany sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens/Free-range Laying Hens, Fattening Turkeys, Fattening Ducks and Others; however, fewer holdings were sampled in Broilers, Turkey Breeders, Backyard Flocks, Fattening Geese, Game Birds, and Ratites.
- Germany reported from 23 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in 2009 and 2008. This differs from 2007 however.**
- *In 2007, one Free-range Laying Hen holding was serologically and virologically/PCR positive for influenza A virus for a subtype other than H5 or H7 (subtype H6). Eight Backyard Flock holdings were also serologically positive for influenza A virus for a subtype other than H5 or H7. Two Fattening Duck holdings and one Fattening Geese holding were all serologically positive for influenza A virus H5 subtype.*

Greece

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Broilers, Fattening Turkeys, Turkey Breeders, Backyard Flocks, Game Birds and Ratites.
- 59 Chicken Breeder holdings were sampled (98 total).
- 50 Laying Hen holdings were sampled (370 total).
- 45 Free-range Broilers were sampled (48 total).
- 18 Fattening Turkey holdings were sampled (45 total).
- One Turkey Breeder holdings were sampled (One total).
- 55 Backyard Flock holdings were sampled (3,589 total).
- Five Game Bird holdings were sampled (Eight total).

- Four Ratite holdings were sampled (Five total).
- Greece sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Free-range Broilers, and Turkey Breeders; however, fewer holdings were sampled in Laying Hens, Fattening Turkeys, Backyard Flocks, Game Birds, and Ratites.
- Greece reported from 10 regions overall. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in previous survey years.**

Hungary

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Turkey Breeders, Backyard Flocks, Fattening and Breeder Ducks, Fattening and Breeder Geese, Game Birds, Ratites, and Others.
- 26 Chicken Breeder holdings were sampled (106 total).
- 108 Laying Hen holdings were sampled (524 total).
- Ten Free-range Laying Hen holdings were sampled (Ten total).
- 76 Fattening Turkey holdings were sampled (316 total).
- Five Breeder Turkey holdings were sampled (Seven total).
- 463 Backyard Flock holdings were sampled (total not known).
- 164 Duck and Geese holdings were sampled (963 total), submitted and reported as;
 - 67 Fattening Duck holdings were sampled (385 total).
 - Four Breeder Duck holdings were sampled (Seven total).
 - 78 Fattening Geese holdings were sampled (552 total).
 - 15 Breeder Geese holdings were sampled (19 total).
- 43 Game Bird holdings were sampled (47 total).
- Six Ratite holdings were sampled (Six total).
- One Others holding was sampled (total not known)
- Hungary sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens, Free-range Laying Hens, Fattening/Breeder Turkeys, Fattening/ Breeder Geese, Game Birds, Ratites, and Backyard Flocks (although the total number of Backyard Flocks was not known); however, fewer holdings were sampled for the Chicken Breeders, and Fattening/Breeder Ducks. It is not known whether the total holdings sampled for Others was according to the submitted programme, as the total number of holdings was unknown.
- Hungary reported from 19 regions, but the number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in previous survey years 2005-2009.**

Ireland

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Free-range Broilers, Fattening Turkeys, and Breeder Turkeys.
- 81 Chicken Breeder holdings were sampled (86 total).
- 47 Laying Hen holdings were sampled (83 total).
- 56 Free-range Laying Hen holdings were sampled (97 total).
- 36 Free-range Broiler holdings were sampled (13 total).
- 38 Fattening Turkey holdings were sampled (105 total).
- Two Breeder Turkey holdings were sampled (Eight total).
- Ireland sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens/Free-range Laying Hens, and Free-range Broilers; however, fewer holdings were sampled in Fattening Turkeys, and Breeder Turkeys.
- Ireland reported from two regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010 unlike in 2009. However, this was similar to 2008 when no positive holdings were reported.**
- *In 2009, one Free-range Laying Hen holding was serologically positive for influenza A virus of subtype H5.*
- *In 2007, one Free-range Laying Hen holding was serologically and virologically/PCR positive for influenza A virus for a subtype other than H5 or H7 (subtype H6). In addition, one Game Bird holding (Mallard) was virologically/PCR positive for influenza A virus for a subtype other than H5 or H7 (subtype H11). This was serologically negative.*
- *No positive holdings were reported in 2008, 2006, 2005 and 2004.*

Italy

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Fattening and Breeder Ducks, Fattening and Breeder Geese, Game Birds, Ratites and Others. Birds which were submitted in the Others category as Quail and Guinea fowl were reassigned to Game Birds.
- 706 Chicken Breeder holdings were sampled (368 total).
- 2,127 Laying Hen holdings were sampled (1,274 total).
- 316 Free-range Laying Hen holdings were sampled (257 total).
- 1,749 Fattening Turkey holdings were sampled (853 total).
- 110 Breeder Turkey holdings were sampled (52 total).
- 1,628 Backyard Flock holdings were sampled (146,536 total).

- 276 Duck and Geese holdings were sampled (270 total), submitted and reported as;
 - 155 Fattening Duck holdings were sampled (174 total).
 - 31 Breeder Duck holdings were sampled (11 total).
 - 51 Fattening Geese holdings were sampled (75 total).
 - 39 Breeder Geese holdings were sampled (Ten total).
- 815 Game Bird holdings were sampled (764 total)
- 92 Ratite holdings were sampled (160 total).
- 1,355 Other holdings were sampled (2,085 total).
- Italy sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens/Free-range Laying Hens, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Fattening/Breeder Ducks, Fattening/Breeder Geese, Game Birds, Ratites and Others.
- Italy reported from 21 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as in 2009-2008.**
- **A total of 12 holdings were reported positive in 2010. Four Backyard Flock holdings were serologically positive for influenza A virus, one for subtype H5, and three for subtype H7. Three Laying Hen holdings were serologically positive for influenza A virus, again one for H5 subtype, and two for H7 (one of these was also PCR/virologically positive). In addition, five 'Other' holdings were reported positive for influenza A virus; two were virologically (PCR) positive for H5 subtype, and three holdings were positive for subtype H7 (one of these was serologically and virologically positive, and two were virologically positive).**
- *In 2009 a total of 45 holdings tested positive. One Chicken Breeder holding was serologically positive for influenza A virus for subtype H7. One Laying Hen holding was also positive for subtype H5. Five Fattening Turkey holdings were serologically positive, four for subtype H5 and one for H7. A total of 24 Backyard Flock holdings were serologically positive for subtype H7. One Fattening Duck holding tested positive by virology for subtype H2, this holding was not tested by serology. Two Game bird holdings were positive for subtype H5 by serology. In addition, a total of eleven 'Other' holdings were positive for subtype H7; one holding was positive twice for H7 (only counted once), six holdings were positive by serology and virology (PCR), three holdings were serology positive and two holdings were positive by virology (PCR) alone.*
- *In 2008 a total of 18 holdings tested positive. Two Laying Hen holdings were serologically positive for influenza A virus for subtype H7. Ten Backyard Flock holdings were found to be positive for influenza A viruses, one was serologically and virologically positive for subtype H5, whilst the other nine were serologically positive for subtype H7. In addition, four Fattening Duck holdings were virologically positive for influenza A virus - other subtype, neither H5 nor H7. One Breeder Duck holding was virologically positive for influenza A virus - other subtype (H3), neither H5 nor H7. In addition, one 'Other' poultry holding was virologically positive for influenza A virus H7 subtype.*

Latvia

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Backyard Flocks, Fattening Ducks, Fattening Geese and Ratites.
- One Chicken Breeder holdings was sampled (One total).

- 33 Laying Hen holdings were sampled (33 total).
- 162 Backyard Flock holdings were sampled (total not known).
- Four Fattening Duck holdings were sampled (Four total).
- One Fattening Geese holding was sampled (One total).
- One Ratite holding was sampled (One total).
- Latvia sampled the required numbers of holdings for Chicken Breeders, Laying Hens, Fattening Ducks, Fattening Geese, Ratites and Backyard Flocks, although the total number of Backyard Flocks was not known.
- Latvia reported from five regions, but the number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in previous survey years 2005-2009.**

Lithuania

- Testing results from holdings sampled were reported from Laying Hens, Broilers, and Fattening Turkeys.
- One Laying Hen holding was sampled (One total).
- 67 Broiler holdings were sampled (14 total).
- Five Fattening Turkey holdings were sampled (One total).
- Lithuania sampled the number of holdings according to the submitted programme for Laying Hens, Broilers and Fattening Turkeys.
- Lithuania reported as seven regions, but the number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in previous survey years 2004-2009.**

Luxembourg

- Testing results from holdings sampled were reported from Laying Hens, Free-range Laying Hens, Broilers, Free-range Broilers, and Ratites.
- Five Laying Hen holdings were sampled (Four total).
- Four Free-range Laying Hen holdings were sampled (Three total).
- Three Broiler holdings were sampled (Three total).
- Two Free-range Broiler holdings were sampled (Two total).
- Four Ratite holdings were sampled (One total).
- Luxembourg sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens/ Free-range Laying Hens, Broilers/ Free-range Broilers and Ratites.
- Luxembourg reported from one region.

- **No positive holdings were reported in 2010, as in previous survey years 2004-2009.**

Malta

- In 2010 Malta did not submit any data for the annual poultry surveillance.
- *In 2009, no positive holdings were reported, as in previous survey years 2004-2007. In 2008, Malta did not submit any data for the annual poultry surveillance.*

The Netherlands

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Broilers, Fattening Turkeys, Breeder Turkeys, Fattening Ducks, and Breeder Ducks.
- 1,705 Chicken Breeder holdings were sampled (451 total).
- 1,404 Laying Hen holdings were sampled (1,088 total).
- 619 Free-range Laying Hen holdings were sampled (297 total).
- 475 Broiler holdings were sampled (810 total).
- 101 Fattening Turkey holdings were sampled (62 total).
- Two Breeder Turkey holdings were sampled (12 total).
- 25 Fattening Duck holdings were sampled (66 total).
- 19 Breeder Duck holdings were sampled (15 total).
- The Netherlands sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens/Free-range Laying Hens, Broilers, and Fattening Turkeys; however, fewer holdings were sampled in Breeder Turkeys, Fattening Ducks, and Breeder Ducks.
- The Netherlands reported from 12 regions. The number of regions sampled varied by poultry category.
- **Two positive holdings were reported in 2010, unlike in previous survey years 2007-2009.**
- **One Laying Hen holding was serologically and virologically (PCR) positive for influenza A virus subtype H7. Whilst one Free-range Laying Hen holding was serologically positive, also for subtype H7.**

Poland

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Fattening Turkeys, Breeder Turkeys, Fattening and Breeder Ducks, Fattening and Breeder Geese, Game Birds and Ratites.
- 67 Chicken Breeder holdings were sampled (531 total).
- 66 Laying Hen holdings were sampled (996 total).

- 83 Turkey Fattener holdings were sampled (809 total).
- 11 Turkey Breeder holdings were sampled (16 total).
- 98 Duck and Geese holdings were sampled (1,148 total), submitted and reported as;
 - Five Fattening Duck holdings were sampled (35 total).
 - Eight Breeder Duck holdings were sampled (54 total).
 - 47 Fattening Geese holdings were sampled (749 total).
 - 38 Breeder Geese holdings were sampled (310 total).
- 34 Game Bird holdings were sampled (48 total).
- 50 Ratite holdings were sampled (171 total).
- Poland sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens and Fattening/ Breeder Turkeys; however, fewer holdings were sampled in Fattening/Breeder Ducks, Fattening/Breeder Geese, Game Birds and Ratites.
- Poland reported from 16 regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as was the case in 2009.**
- **Two Breeder Geese holdings tested positive by serology for H5 influenza A virus.**
- *In 2009, one Breeding Geese holding tested positive by serology for H5 influenza A virus. In 2008, no positive holdings were reported, however 2007, two Breeder Geese holdings were serologically positive for H5 influenza A virus.*

Portugal

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Broilers, Fattening Turkeys, Backyard Flocks, Fattening and Breeder Ducks, Game Birds, Ratites and Others. Quail reported in the Others category were reassigned to Game Birds.
- 62 Chicken Breeder holdings were sampled (127 total).
- 76 Laying Hen holdings were sampled (200 total).
- 80 Free-range Broiler holdings were sampled (238 total).
- 60 Fattening Turkey holdings were sampled (150 total).
- 316 Backyard Flock holdings were sampled (236,735 total).
- 15 Fattening Duck holdings were sampled (12 total).
- Two Breeder Duck holdings were sampled (Two total).
- 50 Game Bird holdings were sampled (121 total).
- Three Ratite holdings were sampled (Four total).

- 55 Other holdings were sampled (119 total).
- Portugal sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens, Free-range Broilers, Backyard Flocks, Fattening/Breeder Ducks, and Others; however, fewer holdings were sampled in Broilers, Fattening Turkeys, Game Birds, and Ratites.
- Portugal reported from seven regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in 2009 and 2008.**
- *In 2007, one Broiler holding was virologically and PCR positive for H5 influenza A virus. This holding was located in a restriction zone of an outbreak and it was not a random sample. In addition, three Game Bird holdings were virologically and PCR positive for H5 influenza A virus, serology was not performed. Two were holdings of Red-legged Partridges (*Alectoris rufa*), and one was a Mallard (*Anas platyrhynchos*) holding.*

Romania

- Testing results from holdings sampled were reported from Laying Hens, Broilers, Fattening Turkeys, Backyard Flocks, Fattening Ducks, Game Birds and Ratites. Quail and Pheasants, and Ostriches reported in the Others category were reassigned to Game Birds, and Ratites respectively.
- 285 Laying Hen holdings were sampled (185 total).
- 494 Broiler holdings were sampled (245 total).
- 10 Fattening Turkey holdings were sampled (Five total)
- 1,939 Backyard Flock holdings were sampled (1,535 total).
- Four Fattening Duck holdings were sampled (Two total).
- 21 Game Bird holdings were sampled (13 total).
- Four Ratite holdings were sampled (One total).
- Romania sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens, Broilers, Fattening Turkeys, Backyard Flocks, Fattening Ducks, Game Birds and Ratites.
- Romania reported from 42 regions, although the number of regions sampled varied by poultry category.
- **No positive holdings were reported as part of this active serological surveillance in 2010, which was not the case in 2009.**
- *In 2009, one Breeder Duck holding was found serologically and virologically (PCR) positive for H5 influenza A virus.*
- *In 2008, no positive holdings were reported, however in 2007 positive holdings were reported, with one Backyard Flock holding serologically (and virologically / PCR) positive for H5 influenza A virus.*

Slovak Republic

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Fattening Turkeys, Breeder Turkeys, Fattening Ducks, Fattening Geese, Game Birds, and Ratites.
- 10 Chicken Breeder holdings were sampled (48 total).
- 28 Laying Hen holdings were sampled (50 total)
- Six Fattening Turkey holdings were sampled (Ten total).
- Five Breeder Turkey holdings were sampled (Four total).
- Three Fattening Duck holdings were sampled (Five total).
- Three Fattening Geese holding were sampled (Four total).
- 28 Game Bird holdings were sampled (35 total).
- 15 Ratite holdings were sampled (17 total).
- The Slovak Republic sampled the number of holdings according to the submitted programme for the following poultry categories: Breeder Turkeys; however, fewer holdings were sampled in Chicken Breeders, Laying Hens, Fattening Turkeys, Fattening Ducks, Fattening Geese, Game Birds, and Ratites.
- Slovak Republic reported from four individual regions, although the number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, as in previous survey years 2008-2009.**
- *In 2007, one Fattening Duck holding was serologically (and virologically/PCR) positive for influenza A virus for a subtype other than H5 or H7 (subtype H4).*

Slovenia

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Fattening Turkeys, Backyard Flocks, Game Birds, and Ratites.
- Nine Chicken Breeder holdings were sampled (Nine total).
- 60 Laying Hen holdings were sampled (138 total).
- 45 Fattening Turkey holdings were sampled (45 total).
- 60 Backyard Flock holdings were sampled (19,422 total).
- Seven Game Bird holdings were sampled (Seven total).
- Eight Ratite holdings were sampled (Ten total).
- Slovenia sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens, Fattening Turkeys, Backyard Flocks, and Game Birds; however, fewer holdings were sampled in Ratites.
- Slovenia reported from one region.
- **No positive holdings were reported in 2010, as in previous survey years 2005-2009.**

Spain

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Broilers, Free-range Broilers, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Fattening Ducks, Fattening Geese, Game Birds, Ratites and Others.
- 152 Chicken Breeder holdings were sampled (379 total).
- 257 Laying Hen holdings were sampled (943 total).
- 43 Free-range Laying Hen holdings were sampled (71 total).
- 165 Broiler holdings were sampled (1,651 total).
- 19 Free-range Broiler holding were sampled (33 total).
- 109 Fattening Turkey holdings were sampled (434 total).
- 13 Breeder Turkey holdings were sampled (Nine total).
- 2,337 Backyard Flock holdings were sampled (28,006 total).
- 39 Fattening Duck holdings were sampled (42 total).
- Seven Fattening Geese holdings were sampled (Nine total).
- 269 Game Bird holdings were sampled (672 total).
- 41 Ratite holdings were sampled (107 total).
- 635 Other holdings were sampled (2,874 total).
- Spain sampled the number of holdings according to the submitted programme for the following poultry categories: Chicken Breeders, Laying Hens/Free-range Laying Hens, Broilers, Fattening Turkeys, Breeder Turkeys, Backyard Flocks, Game Birds, and Others; however, fewer holdings were sampled in Free-range Broilers, Ducks and Geese, and Ratites.
- Spain reported from 17 regions. The number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, unlike in previous survey years 2008-2009.**
- *In 2009, a total of five holdings were reported positive. Two Laying Hen holdings were positive for influenza A virus, one of subtype H5 (by serology) and one of subtype H7 (positive by virology/ PCR, serology not performed). One Fattening Turkey holding was found positive for influenza A virus of a subtype other than H5 or H7 (no subtype given), by virology (PCR) but negative by serology. This was the same holding as one Fattening Duck holding reported as positive (not H5 or H7). One further Fattening Duck holding tested positive by virology/ PCR (serology negative) for subtype H5. In addition, one Other holding tested positive by serology for influenza A virus of subtype H5.*
- *In 2008, three Fattening Duck holdings were virologically positive (but serologically negative) for influenza A viruses. Two were positive for a subtype other than H5 or H7 (H16), and one was positive for both subtype H5 and a subtype other than H5/H7 (H16). Two Game Bird holdings were serologically positive for influenza A viruses of H5 subtype. One Other holding was virologically positive for influenza A viruses, no subtype was given.*

Sweden

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens/Free-range Laying Hens, Broilers, Fattening Turkeys, Breeder Turkeys, Fattening Ducks, Fattening Geese, Game Birds and Ratites.
- 34 Chicken Breeder holdings were sampled (39 total).
- 35 Laying Hen holdings were sampled (294 total).
- 27 Free-range Laying Hen holdings were sampled (88 total).
- 24 Broiler holdings were sampled (24 total).
- 21 Fattening Turkey holdings were sampled (23 total).
- Three Turkey Breeder holdings were sampled (Four total).
- Four Fattening Duck holdings were sampled (Four total).
- 11 Fattening Geese holdings were sampled (11 total).
- 23 Game Bird holdings were sampled (27 total).
- Four Ratite holdings were sampled (Six total).
- Sweden sampled the number of holdings according to the submitted programme for the following poultry categories: Laying Hens/ Free-range Laying Hens, Broilers, Fattening Ducks, and Fattening Geese; however, fewer holdings were sampled in Chicken Breeders, Fattening Turkeys, Turkey Breeders, Game Birds, and Ratites.
- Sweden reported from seven regions. The number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as was the case in 2008 and 2009.**
- **Four Game Bird holdings tested serologically positive for influenza A virus, subtype H5 (two of these also tested virologically (PCR) positive for influenza A virus).**
- *In 2009, two holdings tested positive in 2009. One Backyard Flock tested positive by serology for influenza A virus of subtype H5. In addition, one Game Bird holding also tested positive for subtype H5 by serology.*
- *In 2008, one Breeder Geese holding was serologically positive for influenza A virus of subtype H5. In addition, two Game Bird holdings were serologically positive for influenza A viruses, one for subtype H5, and one for both subtype H5 (serologically) and H4 (virologically).*

United Kingdom

- Testing results from holdings sampled were reported from Chicken Breeders, Laying Hens, Free-range Laying Hens, Fattening Turkeys, Breeder Turkeys, Fattening and Breeder Ducks, Fattening and Breeder Geese, and Game Birds.
- 56 Chicken Breeder holdings were sampled (315 total).
- 58 Laying Hen holdings were sampled (1,188 total).

- Ten Free-range Laying Hen holdings were sampled (486 total).
- 98 Fattening Turkey holdings were sampled (570 total).
- Eight Breeder Turkey holdings were sampled (29 total).
- 170 Duck and Geese holdings were sampled (505 total), submitted and reported as;
 - 55 Fattening Duck holdings were sampled (167 total).
 - 35 Breeder Duck holdings were sampled (150 total).
 - 66 Fattening Geese holdings were sampled (154 total).
 - 14 Breeder Geese holdings were sampled (34 total).
- 53 Game Bird holdings were sampled (1,268 total).
- The UK sampled the number of holdings according to the submitted programme in Laying Hens/Free-range Laying Hens, Fattening Turkeys, Fattening/Breeder Ducks, and Fattening/Breeder Geese; however, fewer holdings were sampled in Chicken Breeders, Breeder Turkeys, and Game Birds.
- The UK reported from 34 regions, the number of regions sampled varied by poultry category.
- **Positive holdings were reported in 2010, as in previous survey years 2008-2009.**
- **Overall, four holdings tested positive in 2010. Three Breeder Duck holdings tested serologically positive for influenza A virus subtype H5. In addition, one Game Bird holding (Ducks) also tested serologically positive for influenza A virus H5 subtype.**
- *In 2009, two holdings tested positive. Two Breeder Duck holdings tested positive by serology for influenza A virus, one of subtype H5 and one H7.*
- *In 2008, three Fattening Duck holdings tested serologically positive for influenza A virus of subtype H5. In addition, five Fattening Geese holdings tested positive serologically for influenza A viruses, four for subtype H5 and one for subtype H7.*

Non-EU MS

Norway

- In 2010 Norway did not submit any data for the annual poultry surveillance.
- *In 2009, no positive holdings were reported from the 222 holdings sampled.*

Switzerland

- Testing results from holdings sampled were reported from Free-range Laying Hens and Backyard Flocks.
- 62 Free-range Laying Hen holdings were sampled (3,523 total).
- Two Backyard Flock holdings (Ducks and/or Geese) were sampled (322 total).

- Switzerland sampled the number of holdings according to the submitted programme in Free-range Laying Hens; however, fewer holdings were sampled in Backyard Flocks.
- Switzerland reported from six regions, the number of regions sampled varied by poultry category.
- **No positive holdings were reported in 2010, unlike in 2009.**
- *In 2009, two Backyard Flock holdings were serologically positive for influenza A virus, one of subtype H5 and one H7.*

5 DISCUSSION

In 2010 active surveillance for avian influenza in poultry holdings was carried out in 26 MS (out of 27) according to Directive 2005/94/EC and in one non-MS.

A total of 29,484 poultry holdings was sampled, which compares to 35,016 in 2009, 34,985 in 2008, 126,912 in 2007 and 29,005 in 2006. The most frequently sampled poultry category in 2010 was Backyard Flocks (26.8% of total holdings sampled by EU MS), closely followed by Laying Hens (Free-range and conventional) (23.1%). The least sampled poultry category was Ratites (240, 0.81%) reflecting the low proportion of holdings in this category (0.04% of total holdings across the EU). In addition, one non-EU MS, Switzerland (CH), submitted data for this report.

The number of holdings sampled by each MS varied from 18 in Estonia and Luxemburg to 9,174 in Italy. Italy also sampled the most holdings in 2009 (n= 10,254) and 2008 (n=9,025). There was an increase in the number of holdings sampled from Free-range Broilers, Breeder Ducks, Breeder Geese, and 'Others', compared to 2009, while all other poultry categories saw a decrease in the number of holdings sampled in 2010. Percentage increases in the number of holdings sampled compared with 2009 varied from 0.95% (Free-range Broilers) to 19.4% (Breeder Geese). Some MS targeted sampling towards Free-range holdings of Layers and Broilers by sampling more Free-range than conventional holdings in these poultry categories. Targeting of Free-range flocks was carried out for Layers in Cyprus, Denmark, France, and Ireland (with Italy and the Netherlands also sampling large numbers of Free-range flocks) and for Broilers in Denmark, Greece, France, Ireland and Portugal.

In 2010 evidence of previous infection with AI viruses was detected in 59 holdings (74 if non H5/H7 subtypes included) which is 0.20% of total holdings sampled. This is a similar rate of detection to 2009, when 90 of 35,016 holdings returned positive test results (0.26%). However, a direct comparison among years is of limited value as the holding/category selection process has varied from year to year. In 2010, detection of antibodies to avian influenza (H5 and H7 subtypes) occurred in Laying Hens, Free-range Laying Hens, Backyard Flocks, Fattening Ducks, Breeder Ducks, Breeder Geese, Game Birds and Other Poultry. Subtype H5 infections were responsible for the majority of Duck and Geese positive holdings, whereas H7 subtype infections were more common in Game Birds in 2010.

In 2010 there were 48 holdings found positive for H5 by serological testing. Of these a total of one holding tested positive for subtype H5 by PCR or virus isolation; indicating that in 2.08% of the holdings positive for subtype H5, infection was still active. One holding tested positive for both H5 and H7 subtypes on serology or PCR/ virology. In 2009 two holdings (3.9% of those seropositive for H5) were detected virus-positive for H5, and 12 holdings (31.6% of those seropositive for H7) tested positive for H7 subtypes by PCR or virus isolation. In many species infection with LPAI can result in only mild clinical signs and may not be detected by poultry keepers and veterinary practitioners. A positive PCR or virus isolation result indicates that the infection is still active and potential risk of transmission exists. Such a test result will lead to the implementation of restrictions and depopulation of the flock in accordance with Council Directive 2005/94/EC.

In 2010 11 holdings were found positive for H7 by serological testing. This is less than half the number found in 2009 (n=38). In 2008, 21 holdings tested positive for H7 subtypes. In 2010, 4 holdings were positive for H7 subtype virus by PCR or virus isolation, indicating that in 36.4% of the H7 seropositive holdings the infection was still active.

Three MS (ES, IE, and RO) that detected AI positive holdings in 2009 did not find any positives, as part of this active serological surveillance, in 2010. Conversely, one MS (NL) detected positive holdings in 2010, but found none in 2009. Most (57.1%) of H7 positive holdings were detected in Italy, mainly in Backyard Flocks and Other holdings (as in 2009). The majority (62.3%) of H5 positive holdings were detected in France, particularly in Breeder Ducks and Breeder Geese.

The detection rate in Breeder Ducks (9.4%) and Breeder Geese (6.2%) was considerably higher than other poultry categories across the EU, and Game Birds (mostly Ducks/Mallards) had the third highest detection rate at 0.81%. The high rate of detections in these categories may be due to the following factors: Ducks and Geese are less likely to show clinical signs than other poultry species so infection is less likely to have been detected earlier by passive surveillance, while in

other species clinical disease due to AI may lead to earlier detection and removal of the flock. The Breeder Duck and Breeder Geese birds tend to have a longer lifespan than birds of other poultry categories, and therefore a longer time period in which they could have been exposed to the virus. Ducks and Geese are frequently kept outdoors and therefore may have a higher probability of contact with wild birds, either directly or indirectly, and hence possibly a greater risk of exposure to AI virus. The last factor may also apply to the categories: Fattening Ducks, Others, and Backyard Flocks which had the next three highest numbers of detections.

The sampling regimens among MS are diverse with different degrees of targeting and testing frequencies, varying numbers of samples collected in each flock and likely variance of within-flock seroprevalence at the time of sampling. Hence determination of between flock prevalence for poultry categories or MS needs to be interpreted with great caution. The survey was designed to detect at least one positive flock in a poultry category if the flock level prevalence was at least 5%. Therefore in MS where no positive holdings were observed the between flock prevalence is expected to be below 5% if sufficient holdings were sampled and the sample was randomly selected from the category of interest.

Future surveillance strategies could further develop the risk-based approach by targeting of the survey to focus on poultry categories where previous surveillance has indicated that the presence of LPAI viruses of H5 or H7 subtypes is more likely (e.g. more sampling of Duck and Goose holdings and less sampling of Broilers). Targeting could also be further developed to sample holdings with risk factors for exposure to LPAI viruses of H5 or H7 subtype exposure within poultry categories (e.g. holdings where birds are kept outdoors, or close proximity to water bodies or areas where wild waterfowl aggregate). The validity of risk-based surveillance however, is dependent on sufficient knowledge of the relative risk associated with the selected criteria in the poultry population involved. Ongoing review of the results of avian influenza surveillance, the global picture of avian influenza and scientific research in this field, should further improve avian influenza prevention and control and appropriate allocation of resources in this area.

6 METHODS

6.1 Methods

This report is restricted to data that were collected and submitted to the EC database, in the required format, in 2010 to the Commission under Decisions 2007/268/EC ([EC 2007](#)) and 2009/883/EC ([EC 2009](#)).

Data extracted from the EU database were checked and analysed by the EURL.

6.2 Data Received

Data received from the MS were extracted in a standardised format, containing laboratory testing information and more detailed information on the positive holdings found for each poultry category that the MS sampled.

6.2.1 Data Processing

All EU MS, apart from Malta, submitted data for the 2010 poultry survey. In addition non-EU MS Switzerland also submitted data for the poultry survey. The standardised format for submission of data ensured that in the majority of MS the data were complete and could be analysed effectively.

If the total number of holdings reported by a MS was not consistently reported across quarter periods, the information was supplemented by the 2010 survey programme for the respective MS. The total holdings figure was calculated using the holding figure given for each NUTS region and poultry category where data had been submitted. Where the total holding figure for a particular NUTS region and poultry category varied through the year, the total holding figure given for Q4 (or the last quarter in which the category/NUTS code was sampled) during analysis was used.

Where positives were found in two or more poultry categories on the same holding, they were each reported in the corresponding category as a positive holding.

For the comparison of survey results according to poultry categories across years, and for the assessment of the collected sample size, Free-range and indoor categories were combined, as were the Duck and Geese (fattening and breeder) categories.

A number of MS that submitted data in the 'Others' category provided further species details. Where extra details were given in the data, the category "Others" contains the following type of holdings reported:

Member State	Category Species Detail
BG	Exotic birds, incubators, rescue centre, zoo
PT	Pet shops, and zoo birds

If holdings were reported as "Other", but could be identified as one of the given categories, they were re-assigned to these categories. The following MS submitted data in the 'Other' category which were reassigned to Farmed Game Birds:

BE submitted data for one guinea fowl holding, France submitted data for quail and guinea fowl, Italy submitted data for quail and guinea fowl, Portugal submitted data for quail holdings, and Romania submitted data for quail and pheasant holdings.

In addition, France submitted Free-range Turkeys/Free-range Meat Turkey in the 'Others' category which were reassigned to the Fattening Turkey category, and Meat Ducks in the 'Others' category which were reassigned to the Fattening Duck category.

Romania also submitted ostrich holdings in the 'Others' category that were reassigned to Ratites.

Maps were produced using the ArcMap function of Arc GIS version 9.3.

Samples are displayed at NUTS 2 level and positive holdings at NUTS 2 or 3. However, if the NUTS codes reported were not valid/did not match, holding and sampled numbers were averaged and displayed at NUTS 1 or NUTS 0. The intensity of surveillance was determined by calculating the density of holdings sampled.

7 REFERENCES

EC (2002) Commission Decision 2002/649/EC of 5 August 2002 on the implementation of surveys for avian influenza in poultry and wild birds in the Member States, *Official Journal of the European Union* L 213 , 9.8.2002, p.38.

EC (2006a) Council Directive 2005/94/EC of 20 December 2005 on Community measures for the control of avian influenza and repealing Directive 92/40/EEC, *Official Journal of the European Union*, L 10, 14.1.2006, p. 16.

EC (2006b) Commission Decision 2006/437/EC of 4 August 2006 approving a Diagnostic Manual for avian influenza as provided for in Council Directive 2005/94/EC, *Official Journal of the European Union*, L 237, 31.8.2006, p. 1.

EC (2007) Commission Decision 2007/268/EC of 13 April 2007 on the implementation of surveillance programmes for avian influenza in poultry and wild birds to be carried out in the Member States and amending Decision 2004/450/EC, *Official Journal of the European Union* L115, 3.5.2007, p. 3.

EC (2009) Commission Decision 2009/883/EC of 26 November 2009 approving annual and multi-annual programmes and the financial contribution from the Community for the eradication, control and monitoring of certain animal diseases and zoonoses presented by the Member States for 2010 and following years. *Official Journal of the European Union*, L 317, 3.12.2009, p. 36.

8 ANNEX I DETAILS OF PREVALENCE BY POULTRY CATEGORY AND MS FOR 2009 AND 2010

Annex I Table 1 Total number of Chicken Breeder holdings, total number sampled and total number of positive holdings reported for 2009 and 2010 by Member State										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT										
BE	202	205	0	0	0	209	209	0	0	0
BG	25	71	0	0	0	26	14	0	0	0
CY	19	15	0	0	0	18	18	0	0	0
CZ										
DE						2	2	0	0	0
DK	460	590	0	0	0	472	574	0	0	0
EE										
EL	98	59	0	0	0	96	42	0	0	0
ES	379	152	0	0	0	380	162	0	0	0
FI	58	52	0	0	0	58	51	0	0	0
FR										
HU	106	26	0	0	0	150	50	0	0	0
IE	86	81	0	0	0	86	85	0	0	0
IT	368	706	0	0	0	451	756	1	0	1
LT										
LU										
LV	1	1	0	0	0	2	2			
MT										
NL	451	1705	0	0	0	483	3225	0	0	0
PL	531	67	0	0	0	546	66	0	0	0
PT	127	62	0	0	0	117	66	0	0	0
RO						4	8	0	0	0
SE	39	34	0	0	0	34	33	0	0	0
SI	9	9	0	0	0	10	9	0	0	0
SK	48	10	0	0	0	48	13	0	0	0
UK	315	56	0	0	0	361	48	0	0	0
Total	3322	3901	0	0	0	3553	5433	1	0	1
NO						109	107	0	0	0

Annex I Table 2 Total number of Laying hens (including Free-range) holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State.																				
Member State	2010									2009										
	Laying Hens					Free-range Laying Hens				Laying Hens					Free-range Laying Hens					
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	1562	60	0	0	0					1714	65	0	0	0						
BE	361	231	0	0	0	82	54	0	0	0	344	297	0	0	0	86	84	0	0	0
BG	149	60	0	0	0					145	134	0	0	0						
CY	27	33	0	0	0	10	34	0	0	0	30	34	0	0	0	9	11	0	0	0
CZ	126	51	0	0	0					126	53	0	0	0						
DE	55887	43	0	0	0	11132	23	0	0	0	38159	47	0	0	0	6	6	0	0	0
DK	37	52	0	0	0	112	308	0	0	0	35	49	0	0	0	109	299	0	0	0
EE	18	18	0	0	0					12	11	0	0	0						
EL	370	50	0	0	0					371	43	0	0	0						
ES	943	257	0	0	0	71	43	0	0	0	916	245	2	1	1	62	39	0	0	0
FI	588	47	0	0	0	25	16	0	0	0	588	49	0	0	0	27	14	0	0	0
FR						1030	50	0	0	0						1030	53	0	0	0
HU	524	108	0	0	0	10	10	0	0	0	512	83	0	0	0	9	8	0	0	0
IE	83	47	0	0	0	97	56	0	0	0	83	74	0	0	0	97	73	1	1	0
IT	1274	2127	3(1)	1	2(1)	257	316	0	0	0	1501	2179	1	0	1	209	300	0	0	0
LT	1	1																		
LU	4	5	0	0	0	3	4	0	0	0	5	6	0	0	0	11	5	0	0	0
LV	33	33	0	0	0					20	20	0	0	0						
MT			0	0	0					79	41	0	0	0						
NL	1088	1404	1(1)	0	1(1)	297	619	1	0	1	965	2572	0	0	0	260	991	0	0	0
PL	996	66	0	0	0					1103	66	0	0	0						
PT	200	76	0	0	0					184	80	0	0	0						
RO	185	285	0	0	0					117	194	0	0	0						
SE	294	35	0	0	0	88	27	0	0	0	292	41	0	0	0	82	20	0	0	0
SI	138	60	0	0	0					138	52	0	0	0						
SK	50	28	0	0	0					50	28	0	0	0						
UK	1188	58	0	0	0	486	10	0	0	0	1182	59	0	0	0	538	9	0	0	0
Total	66126	5235	4(2)	1	3(2)	13700	1570	1	0	1	48671	6522	3	1	2	2535	1912	1	1	0
NO										844	51	0	0	0						
CH						3523	62	0	0	0						3660	66	0	0	0

Annex I Table 3 Total number of Broiler holdings (including Free-range), total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State																				
Member State	2010										2009									
	Broilers					Free-range Broilers					Broilers				Free-range Broilers					
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT																				
BE																				
BG	169	18	0	0	0						481	25	0	0	0					
CY																				
CZ																				
DE	1271	6	0	0	0						2	2	0	0	0	1	1	0	0	0
DK						19	2	0	0	0						77	2	0	0	0
EE																				
EL						48	45	0	0	0						10	3	0	0	0
ES	1651	165	0	0	0	33	19	0	0	0	7087	138	0	0	0	48	13	0	0	0
FI																				
FR						6000	134	0	0	0						6000	135	0	0	0
HU																				
IE						13	36	0	0	0						55	28	0	0	0
IT																				
LT	14	67	0	0	0						1	1	0	0	0					
LU	3	3	0	0	0	2	2	0	0	0	2	2	0	0	0	4	1	0	0	0
LV																				
MT																				
NL	810	475	0	0	0						3295	1140	0	0	0	35	25	0	0	0
PL																				
PT	1656	0	0	0	0	238	80	0	0	0	7892	2	0	0	0	969	107	0	0	0
RO	245	494	0	0	0						573	338	0	0	0					
SE	24	24	0	0	0						101	27	0	0	0					
SI																				
SK			0	0	0						148	3	0	0	0					
UK																				
Total	5843	1252	0	0	0	6353	318	0	0	0	19582	1678	0	0	0	7199	315	0	0	0

Annex I Table 4 Total number of Fattening Turkey holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	138	79	0	0	0	111	82	0	0	0
BE	34	31	0	0	0	31	20	0	0	0
BG	1	0	0	0	0	1	0	0	0	0
CY	8	8	0	0	0	6	6	0	0	0
CZ	72	55	0	0	0	72	56	0	0	0
DE	2509	222	0	0	0	1405	44	0	0	0
DK	116	33	0	0	0	117	59	0	0	0
EE										
EL	45	18	0	0	0	47	28	0	0	0
ES	434	109	0	0	0	434	86	1	0	0
FI	53	54	0	0	0	55	88	0	0	0
FR	7590	155	0	0	0	4070	156	0	0	0
HU	316	76	0	0	0	361	65	0	0	0
IE	105	38	0	0	0	105	41	0	0	0
IT	853	1749	0	0	0	963	2043	5	4	1
LT	1	5								
LU										
LV										
MT										
NL	62	101	0	0	0	59	252	0	0	0
PL	809	83	0	0	0	749	52	0	0	0
PT	150	60	0	0	0	155	127	0	0	0
RO	5	10	0	0	0			0	0	0
SE	23	21	0	0	0	17	17	0	0	0
SI	45	45	0	0	0	46	45	0	0	0
SK	10	6	0	0	0	10	8	0	0	0
UK	570	98	0	0	0	616	86	0	0	0
Total	13949	3056	0	0	0	9430	3361	6	4	1
NO						100	54	0	0	0

Annex I Table 5 Total number of Breeder Turkey holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT										
BE										
BG	2	2	0	0	0	2	0	0	0	0
CY										
CZ										
DE	7	1	0	0	0					
DK										
EE										
EL	1	1	0	0	0	1	1	0	0	0
ES	9	13	0	0	0	8	8	0	0	0
FI										
FR	230	86	0	0	0	230	87	0	0	0
HU	7	5	0	0	0	32	25	0	0	0
IE	8	2	0	0	0	14	4	0	0	0
IT	52	110	0	0	0	60	126	0	0	0
LT										
LU										
LV										
MT										
NL	12	2	0	0	0	4	18	0	0	0
PL	16	11	0	0	0	45	10	0	0	0
PT										
RO										
SE	4	3	0	0	0	4	4	0	0	0
SI										
SK	4	5	0	0	0	4	5	0	0	0
UK	29	8	0	0	0	26	10	0	0	0
Total	381	249	0	0	0	430	298	0	0	0

Annex I Table 6 Total number of Backyard Flock holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State. *Virological data/results in italics in parentheses										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT										
BE										
BG	548985	800	0	0	0	621297	1247	0	0	0
CY	8530	31	0	0	0	3850	20	0	0	0
CZ										
DE	13680	21	0	0	0	55264	84	0	0	0
DK										
EE										
EL	3589	55	0	0	0	130208	77	0	0	0
ES	28006	2337	0	0	0	25334	3336	0	0	0
FI										
FR	3000	98	0	0	0	3000	94	1	1	0
HU	NK	463	0	0	0	NK	359	0	0	0
IE										
IT	146536	1628	4	1	3	121024	2118	24	0	24
LT										
LU			0	0	0	500	8	0	0	0
LV	NK	162	0	0	0	NK	204	0	0	0
MT										
NL										
PL										
PT	236735	316	0	0	0	236735	398	0	0	0
RO	1535	1939	0	0	0	1570	1338	0	0	0
SE						6	6	1	1	0
SI	19422	60	0	0	0	21901	70	0	0	0
SK										
UK										
Total	1010018	7910	4	1	3	1220689	9359	26	2	24
NO						NK	4	0	0	0
CH	322	2	0	0	0	1949	38	2	1	1

Annex I Table 7a Total number of Duck holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State. *Virological data/results in italics in parentheses

Member State	2010										2009									
	Fattening Ducks					Breeder Ducks					Fattening Ducks					Breeder Ducks				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	15	15	0	0	0						17	17	0	0	0					
BE	20	14	1(1)	1(1)	0						23	20	0	0	0					
BG	97	56	15(15)	0	0	5	3	0	0	0	105	173	0(10)	0	0	5	0	0	0	0
CY																				
CZ						15	15	0	0	0						15	15	2	1	0
DE	7236	261	0	0	0						5552	81	0	0	0					
DK	54	13	0	0	0	13	4	0	0	0	54	12	0	0	0	12	4	1	1	0
EE																				
EL																				
ES	42	39	0	0	0						69	47	0(2)	0(1)	0	8	1	0	0	0
FI	9	6	0	0	0						10	8	0	0	0					
FR	3850	149	3	3	0	250	112	19	19	0	7370	169	9	9	0	250	87	14	14	0
HU	385	67	0	0	0	7	4	0	0	0	247	36	0	0	0	5	5	0	0	0
IE											4	2	0	0	0					
IT	174	155	0	0	0	11	31	0	0	0	195	204	0(1)	0	0	16	27	0	0	0
LT																				
LU																				
LV	4	4	0	0	0															
MT																				
NL	66	25	0	0	0	15	19	0	0	0	75	76	0	0	0	12	28	0	0	0
PL	35	5	0	0	0	54	8	0	0	0	37	2	0	0	0	169	9	0	0	0
PT	12	15	0	0	0	2	2	0	0	0	12	11	0	0	0	2	2	0	0	0
RO	2	4	0	0	0								0	0	0	2	2	1(1)	1(1)	0
SE	4	4	0	0	0						3	3	0	0	0					
SI													0	0	0					
SK	5	3	0	0	0						6	3	0	0	0					
UK	167	55	0	0	0	150	35	3	3	0	365	62	0	0	0	359	30	2	1	1
Total	12177	890	19(16)	4(1)	0	522	233	22	22	0	14144	926	9(13)	9(1)	0	855	210	20(1)	17(1)	1
NO											5	4	0	0	0					

Annex I Table 7b Total number of Geese holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State. *Virological data/results in italics in parentheses

Member State	2010										2009									
	Fattening Geese					Breeder Geese					Fattening Geese					Breeder Geese				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7			Total	H5	H7			Total	H5	H7
AT	62	62	0	0	0						54	54	0	0	0					
BE						3	2	0	0	0						2	3	0	0	0
BG																				
CY																				
CZ						6	6	0	0	0						7	7	2 (1)	2	0 (1)
DE	2291	21	0	0	0						495	24	0	0	0	65	8	0	0	0
DK	23	4	0	0	0	9	2	0	0	0	23	7	0	0	0	9	2	1	1	0
EE																				
EL																				
ES	9	7	0	0	0						24	4	0	0	0					
FI																				
FR						133	13	6	6	0						133	13	4	4	0
HU	552	78	0	0	0	19	15	0	0	0	413	141	0	0	0	19	8	0	0	0
IE											1	1	0	0	0					
IT	75	51	0	0	0	10	39	0	0	0	73	70	0	0	0	14	17	0	0	0
LT																				
LU																				
LV	1	1	0	0	0															
MT																				
NL																				
PL	749	47	0	0	0	310	38	2	2	0	1124	45	0	0	0	1053	40	1	1	0
PT																				
RO																				
SE	11	11	0	0	0						13	13	0	0	0					
SI																				
SK	4	3	0	0	0						5	5	0	0	0					
UK	154	66	0	0	0	34	14	0	0	0	230	75	0	0	0	117	10	0	0	0
Total	3931	351	0	0	0	524	129	8	8	0	2455	439	0	0	0	1419	108	8 (1)	8	0 (1)
NO											1	1	0	0	0					

Annex I Table 8 Total number of Game Bird holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State *Virological data/results in italics in parentheses										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT										
BE	28	10	0	0	0	33	31	0	0	0
BG	12	0	0	0	0	17	6	0	0	0
CY	8	7	0	0	0	10	4	0	0	0
CZ	12	12	0 (1)	0	0	14	14	1	1	0
DE	12	2	0	0	0	32	2	0	0	0
DK	218	300	5(2)	2	3(2)	230	296	2	2	1
EE								0	0	0
EL	8	5	0	0	0	12	8	0	0	0
ES	672	269	0	0	0	9302	204	0	0	0
FI	18	15	0	0	0	18	12	0	0	0
FR	3500	167	5	5	0	3500	99	4	4	0
HU	47	43	0	0	0	44	40	0	0	0
IE								0	0	0
IT	764	815	0	0	0	861	939	2	2	0
LT								0	0	0
LU								0	0	0
LV								0	0	0
MT								0	0	0
NL								0	0	0
PL	48	34	0	0	0	50	36	0	0	0
PT	121	50	0	0	0	195	92	0	0	0
RO	13	21	0	0	0	9	22	0	0	0
SE	27	23	4 (2)	4	0	26	26	1	1	0
SI	7	7	0	0	0	7	7	0	0	0
SK	35	28	0	0	0	35	27	0	0	0
UK	1268	53	1	1	0	1720	64	0	0	0
Total	6818	1861	15(5)	12	3(2)	16115	1929	10	10	1
NO						1	1	0	0	0
CH										

Annex I Table 9 Total number of Ratite holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT	4	5	0	0	0	11	7	0	0	0
BE										
BG										
CY	1	0	0	0	0	4	1	0	0	0
CZ										
DE	12	2	0	0	0					
DK										
EE										
EL	5	4	0	0	0	5	3	0	0	0
ES	107	41	0	0	0	108	36	0	0	0
FI	2	1	0	0	0	2	3	0	0	0
FR										
HU	6	6	0	0	0	6	6	0	0	0
IE										
IT	160	92	0	0	0	220	114	0	0	0
LT										
LU	1	4	0	0	0	1	4	0	0	0
LV	1	1	0	0	0					
MT										
NL										
PL	171	50	0	0	0	178	52	0	0	0
PT	4	3	0	0	0	13	10	0	0	0
RO	1	4	0	0	0	1	2	0	0	0
SE	6	4	0	0	0	6	6	0	0	0
SI	10	8	0	0	0	11	9	0	0	0
SK	17	15	0	0	0	17	17	0	0	0
UK										
Total	508	240	0	0	0	583	270	0	0	0

Annex I Table 10 Total number of Other holdings, total number sampled, and total number of positive holdings reported for 2009 and 2010 by Member State. *Virological data/results in parentheses										
Member State	2010					2009				
	Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings			Total No. of Holdings	Total No. of Holdings Sampled	Positive Holdings		
			Total	H5	H7			Total	H5	H7
AT										
BE										
BG	5	20	0	0	0	8	6	0	0	0
CY										
CZ										
DE	10933	223	0	0	0	7914	72	0	0	0
DK										
EE						1	1	0	0	0
EL										
ES	2874	635	0	0	0	13078	751	1	1	0
FI										
FR										
HU	NK	1	0	0	0					
IE										
IT	2085	1355	5(5)	0(2)	1(3)	1709	1361	9(8)	0	9(8)
LT										
LU						3	1	0	0	0
LV										
MT										
NL										
PL										
PT	119	55	0	0	0	88	63	0	0	0
RO										
SE										
SI										
SK										
UK										
Total	16016	2289	5(5)	0(2)	1(3)	22801	2255	10(8)	1(0)	9(8)

9 ANNEX II ADDITIONAL INFORMATION ON RESULTS OF THE 2010 SURVEY

Annex II Table 1 Prevalence of holdings positive for subtype H5						
Member State	Poultry Category	Total Holdings	Total Holdings Sampled	Number of Serological Positive Holdings	Number of PCR/Virological Positive Holdings	Comments
BE	Fattening Ducks	20	14	1	1	Same holding both serologically and pcr positive
DK	Game Birds	218	300	2		One holding tested positive for both H5 (seropositive) and H7(PCR/Virologically positive).
FR	Fattening Ducks	3850	149	3		
	Breeder Ducks	250	112	19		
	Breeder Geese	133	13	6		
	Game Birds	3500	167	5		
IT	Backyard Flocks	146536	1628	1		
	Laying Hens	1274	2127	1		
	Others	2085	1355		2	
PL	Breeder Geese	310	38	2		
SE	Game Birds	27	23	4	2	Two holdings seropositive for H5 and pcr/virologically positive for Influenza A
UK	Breeder Ducks	150	35	3		
	Game Birds	1268	53	1		
Total		161156	7953	48	5	

Annex II Table 2 Prevalence of holdings positive for subtype H7

Member State	Poultry Category	Total Holdings	Total Holdings Sampled	Number of Serological Positive Holdings	Number of Virological Positive Holdings	Comments
DK	Game Birds	218	300	3	2	One holding tested positive for both H5 (seropositive) and H7 (PCR/Virologically positive). One holding both serologically and pcr/virologically positive
IT	Laying Hens	1274	2127	2	1	One holding both serologically and pcr/virologically positive
	Backyard Flocks	146536	1628	3		
	Others	2085	1355	1	3	3 holdings positive overall. One holding both serologically and pcr/virologically positive. Two holdings pcr/virologically positive only
NL	Laying Hens	1088	1404	1	1	One holding both serologically and pcr/virologically positive
	Free-range Laying Hens	297	619	1		
Total		151498	7433	11	7	

Annex II Table 3 Number of holdings positive for subtype H5 by serology, serology and PCR/virology or PCR/virology only				
Member State	Poultry Category	Number Serologically Positive only, PCR/Virology negative or not performed	Number Serologically Positive and PCR/Virology positive	Number PCR/Virologically Positive, Serology negative or not performed
BE	Fattening Ducks		1	
DK	Game Birds	2**		
FR	Fattening Ducks	3		
	Breeder Ducks	19		
	Breeder Geese	6		
	Game Birds	5		
IT	Backyard Flocks	1		
	Laying Hens	1		
	Others			2
PL	Breeder Geese	2		
SE	Game Birds	2	2*	
UK	Breeder Ducks	3		
	Game Birds	1		
EU Total		45	3	2

* Virologically positive for Influenza A

** One holding serologically positive for H5 and also PCR/Virology positive for H7

Annex II Table 4 Number of holdings positive for subtype H7 by serology, serology and PCR/ virology or PCR/ virology only				
Member State	Poultry Category	Number Serologically Positive only, PCR/ Virology negative or not performed	Number Serologically Positive and PCR/ Virology positive	Number PCR/Virology Positive, Serology negative or not performed
DK	Game Birds	2	1	
IT	Laying Hens	1	1	
	Backyard Flocks	3		
	Others		1	2
NL	Laying Hens		1	
	Free-range Laying Hens	1		
EU Total		7	4	2

