

This report provides an update of the high pathogenicity avian influenza (HPAI) situation, according to the information submitted through the World Animal Health Information System of the World Organisation for Animal Health (WAHIS) between 7 April and 27 April 2022.

### Seasonal trend

Using data reported to the OIE between 2005 and 2019 by 76 affected countries and territories for 18,620 outbreaks in poultry, we carried out a Seasonal and Trend decomposition using Loess (STL) analysis to determine the seasonal pattern of the disease (detailed methodology presented in Awada et al., 2018<sup>1</sup>). Based on the data reported to the OIE, spread is lowest in September, begins to rise in October, and peaks in February. Figure 1 shows the global seasonal pattern of HPAI in poultry and the red rectangle indicates where we currently are in the cycle based on the period covered in “recent updates” below.

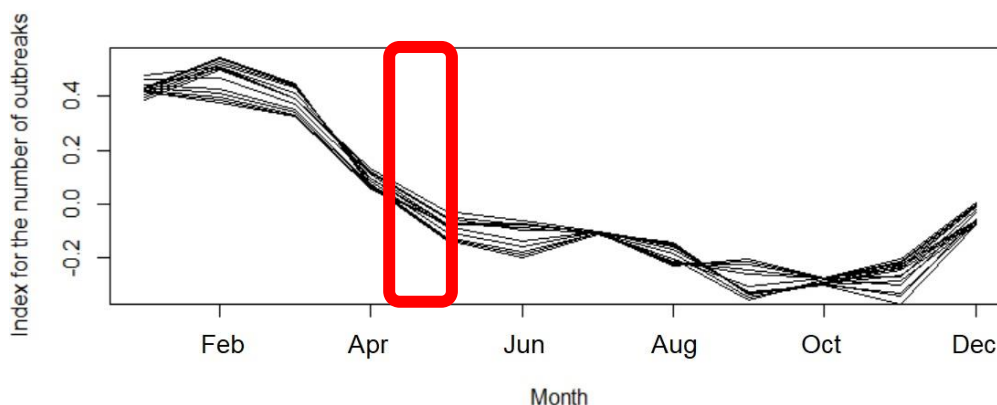


Figure 1. Seasonal trend in global HPAI incidence in poultry

### Recent updates (07/04/2022 – 27/04/2022)

To describe the current disease situation of HPAI in poultry and in non-poultry birds, this section covers: (a) a list of new events<sup>2</sup> which started during the 3-week period (reported through immediate notifications); (b) information on events that started before the 3-week period but were still ongoing during that period; (c) the geographic distribution of new outbreaks<sup>3</sup> that started during the 3-week period and d) events which started before the 3-week period but were reported during the 3-week period. The different subtypes of HPAI circulating during the 3-week period are also listed below. This information is based on the immediate notifications and follow-up reports received by the OIE.

#### HPAI in poultry

##### New events by world region (reported through immediate notifications)

###### Americas

###### Subtype H7N3

This new strain was detected in Mexico (Coahuila) on 21 April 2022.

###### Europe

###### Subtype unknown

Four recurrences started in Bulgaria:

- In Burgas on 8 April 2022,
- In Plovdiv on 14 April 2022,
- In Stara Zagora on 21 April 2022,

<sup>1</sup> Awada L, Tizzani P, Noh SM, Ducrot C, Ntsama F, Caceres P, Mapitse N and Chalvet-Monfray K, 2018. Global dynamics of highly pathogenic avian influenza outbreaks in poultry between 2005 and 2016—focus on distance and rate of spread. *Transboundary and Emerging Diseases*, 65, 2006–2016. <https://doi.org/10.1111/tbed.12986>

<sup>2</sup> As defined in [Article 1.1.2](#), of the OIE Terrestrial Animal Health Code, an “event” means a single outbreak or a group of epidemiologically related outbreaks of a given listed disease or emerging disease that is the subject of a notification. An event is specific to a pathogenic agent and strain, when appropriate, and includes all related outbreaks reported from the time of the initial notification through to the final report. Reports of an event include susceptible species, the number and geographical distribution of affected animals and epidemiological units.

<sup>3</sup> As defined in the [glossary](#) of the OIE Terrestrial Animal Health Code, an “outbreak” means the occurrence of one or more cases in an epidemiological unit.

- In Plevén on 27 April 2022.

Subtype H5N1

Three recurrences started in Hungary

- In Bács-Kiskun on 13 April 2022,
- In Békés on 17 April 2022,
- In Csongrád-Csanád on 19 April 2022.

**Africa, Asia and Oceania**

No new events reported

**On-going events for which there were new reported outbreaks, by world region (reported through follow-up reports):**

**Africa**

Subtype H5N1

Nigeria

**Americas**

Subtype H5N1

Canada, United States of America

**Asia**

Subtype H5N1

Japan, Korea (Rep. of)

**Europe**

Subtype H5N1

Germany, Netherlands, Poland, United Kingdom

**Oceania**

No new outbreaks reported in the on-going events, or no on-going events

**New outbreaks and associated subtypes**

During the period covered by this report, a total of 128 new outbreaks in poultry were reported by 12 countries (Bulgaria, Canada, Germany, Hungary, Japan, Korea (Rep. of), Mexico, Netherlands, Nigeria, Poland, United Kingdom, and United States of America). Details are presented in Figures 2 and 3.

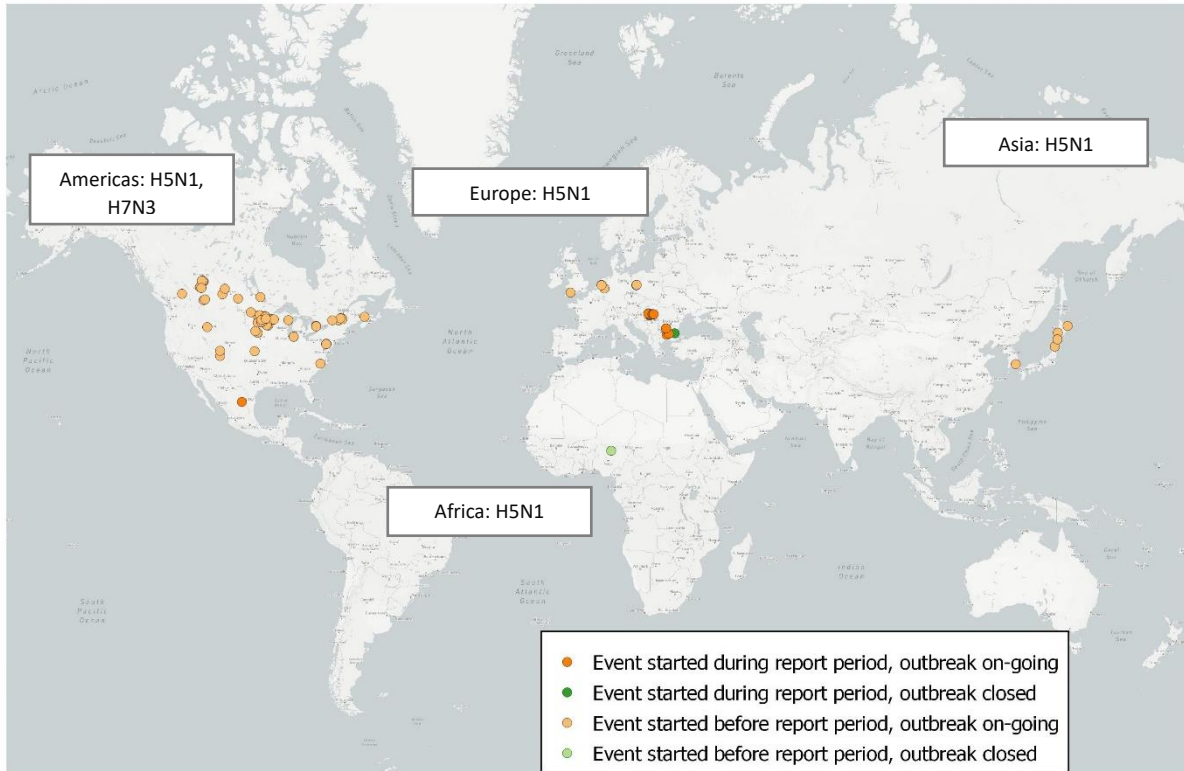


Figure 2. Distribution of HPAI new outbreaks in poultry, and corresponding subtypes

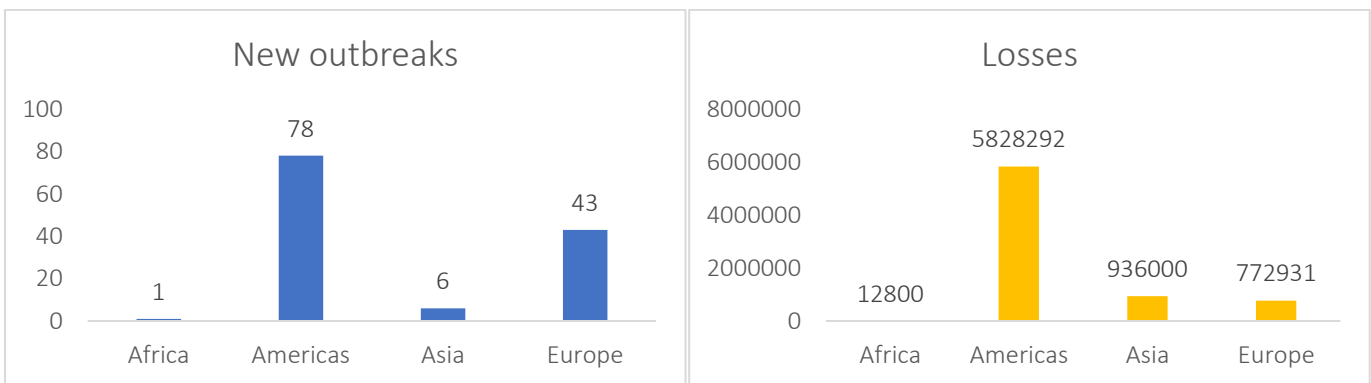


Figure 3. Number of new outbreaks and associated losses by geographical region (losses include animals dead and killed and disposed of)

**Events which started before the 3-week period but were reported during the 3-week period (reported through immediate notifications)**

Africa, Americas, Asia, Europe, and Oceania  
 No events reported

**HPAI in non-poultry**

**New events by world region (reported through immediate notifications)**

**Europe**

Subtype unknown

The first occurrence HPAI in non-poultry birds in the area of Burgas started in Bulgaria on 8 April 2022.

H5N1

The first occurrence HPAI in non-poultry birds in the area of Khabarovsk started in Russia on 15 April 2022.

**Africa, Americas, Asia and Oceania**

No new events reported

**On-going events for which there were new reported outbreaks, by world region (reported through follow-up reports):**

**Americas**

Subtype H5N1

Canada, United States of America

**Asia**

Subtype H5N1

Japan

**Europe**

Subtype H5N1

Belgium, Czech Republic, Germany, Greece, Lithuania, Netherlands

**Africa and Oceania**

No new outbreaks reported in the on-going events, or no on-going events.

**New outbreaks**

During the period covered by this report, a total of 74 outbreaks in non-poultry were reported by 11 countries (Belgium, Bulgaria, Canada, Czech Republic, Germany, Greece, Japan, Lithuania, Netherlands, Russia, United States of America). Details are presented in Figures 4 and 5.

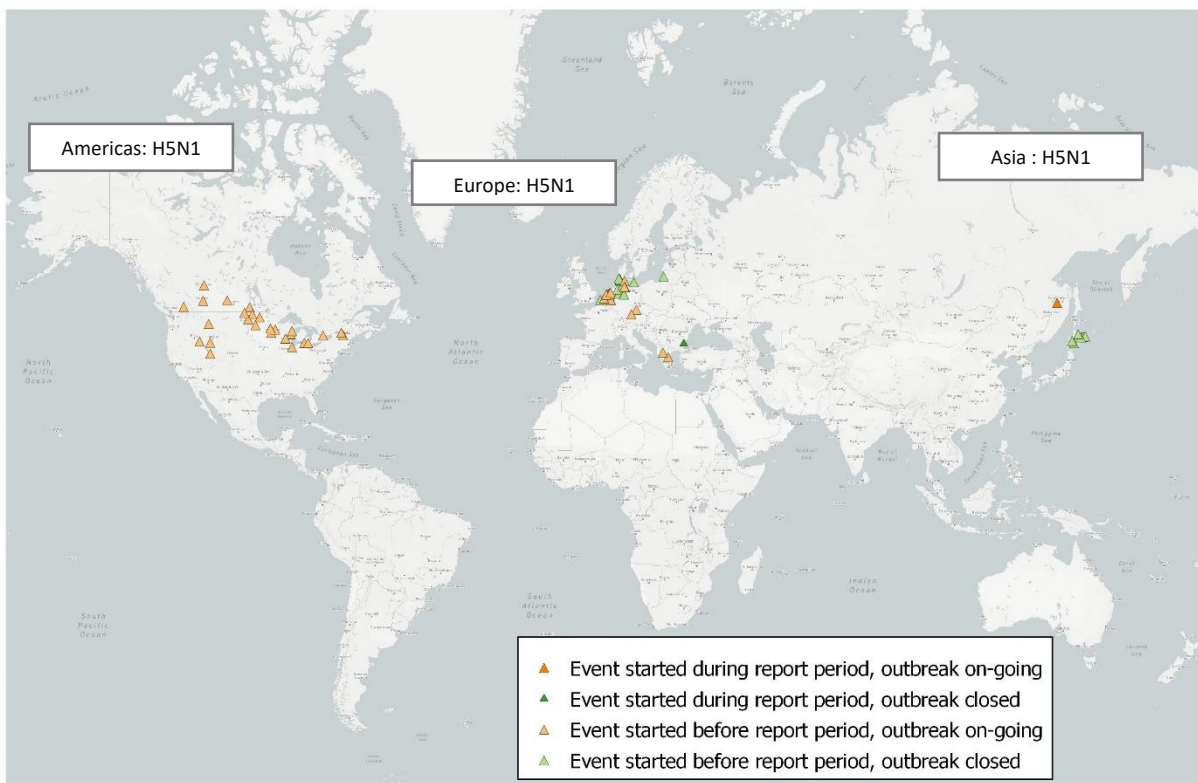


Figure 4. Distribution of HPAI new outbreaks in non-poultry birds, and corresponding subtypes.

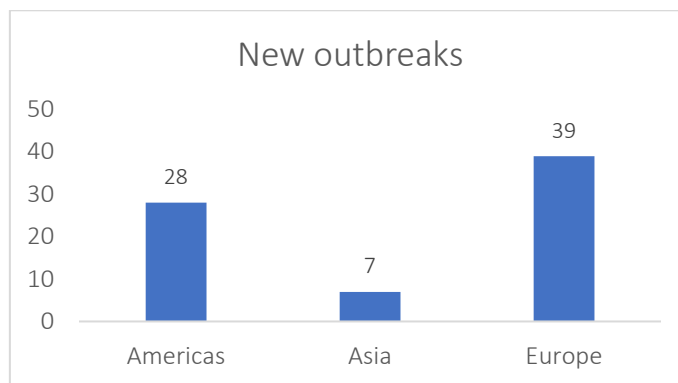


Figure 5. Number of new outbreaks by geographical region

### Events which started before the 3-week period but were reported during the 3-week period (reported through immediate notifications)

#### Asia

##### Subtype H5N1

The occurrence of HPAI H5N1 was detected in Japan (Hokkaido) in an unusual host (red fox, *Vulpes vulpes*) on 31 March 2022.

#### Europe

##### Subtype H5N1

This new strain was detected in Montenegro (Podgorica) on 4 April 2022.

The first occurrence of HPAI H5N1 in non-poultry in Iceland started in Vestfirðir on 8 October 2021.

##### Subtype H5N5

This new strain was detected in Norway (Møre Og Romsdal and Nordland) on 24 February 2022.

##### Subtype H5N8

The occurrence of HPAI H5N8 was detected in Denmark (Veterinary Inspection Unit East) in an unusual host (harbor seal, *Phoca vitulina*) on 30 September 2021.

#### Africa, Americas, and Oceania

No events reported

## Epidemiological background

High pathogenicity avian influenza (HPAI) is caused by influenza A viruses in the family Orthomyxoviridae. Since its identification in China (People's Rep. of) in 1996, there have been multiple waves of intercontinental transmission of the H5Nx Gs/GD lineage virus. HPAI has resulted in the death and mass slaughter of more than 316 million poultry worldwide between 2005 and 2021, with peaks in 2021, 2020 and 2016. During each of the years 2006, 2016, 2017 and 2021, more than 50 countries and territories in the world were affected with HPAI. In addition, up to now, humans have occasionally been infected with subtypes H5N1 (around 850 cases reported, of which half died), H7N9 (around 1,500 cases reported), H5N6 (around 75 cases reported, of which about 30 died) and sporadic cases have been reported with subtypes H7N7 and H9N2<sup>4,5,6,7,8</sup>. On 26<sup>th</sup> April 2022, there were reports of China (People's Rep. of) detecting its first human infection with the H3N8 strain of avian influenza. Based on genome analysis, this virus is an H3N8 low pathogenic reassortant virus of avian origin with genes from viruses which have been detected previously in poultry and birds<sup>9</sup>. On 28<sup>th</sup> April 2022, there were reports of United States of America detecting its first human infection with avian influenza subtype H5N1<sup>10</sup>.

<sup>4</sup> Chen H. 2019. H7N9 viruses. Cold Spring Harb Perspect Med doi: 10.1101/cshperspect.a038349

<sup>5</sup> WHO. Influenza (Avian and other zoonotic), 2018, available at [https://www.who.int/news-room/fact-sheets/detail/influenza-\(avian-and-other-zoonotic\)](https://www.who.int/news-room/fact-sheets/detail/influenza-(avian-and-other-zoonotic))

<sup>6</sup> WHO. Cumulative number of confirmed human cases for avian influenza A(H5N1) reported to WHO, 2003-2021, 21 May 2021, available at [https://www.who.int/publications/m/item/cumulative-number-of-confirmed-human-cases-for-avian-influenza-a\(h5n1\)-reported-to-who-2003-2021-21-may-2021](https://www.who.int/publications/m/item/cumulative-number-of-confirmed-human-cases-for-avian-influenza-a(h5n1)-reported-to-who-2003-2021-21-may-2021)

<sup>7</sup> Yang L, Zhu W, Li X, Chen M, Wu J, Yu P, Qi S, Huang Y, Shi W, Dong J, Zhao X, Huang W, Li Z, Zeng X, Bo H, Chen T, Chen W, Liu J, Zhang Y, Liang Z, Shi W, Shu Y, Wang D. 2017a. Genesis and spread of newly emerged highly pathogenic H7N9 avian viruses in mainland China. J Virol doi: <https://doi.org/10.1128/JVI.01277-17>

<sup>8</sup> WHO, Avian Influenza Weekly Update Number 838, [https://www.who.int/docs/default-source/wpro---documents/emergency/surveillance/avian-influenza/ai-20220401.pdf?sfvrsn=30d65594\\_220](https://www.who.int/docs/default-source/wpro---documents/emergency/surveillance/avian-influenza/ai-20220401.pdf?sfvrsn=30d65594_220)

<sup>9</sup> OFFLU genome analysis of H3N8 human case, <https://www.offlu.org/wp-content/uploads/2022/04/Human-H3N8-Genome-Analysis.pdf>

<sup>10</sup> CDC, U.S. Case of Human Avian Influenza A(H5) Virus Reported <https://www.cdc.gov/media/releases/2022/s0428-avian-flu.html>

## Highlight on unusual hosts

In accordance with OIE standards, OIE Members are required to submit an immediate notification when an OIE-listed disease is detected in an unusual host. As of 27 April 2022, six countries have reported the detection of HPAI in unusual hosts: 1) Israel in 2012 for HPAI H5 in cats; 2) China (People's Rep. of) in 2015 for HPAI H5N1 in a tiger (*Panthera tigris*); 3) United Kingdom in 2020 for HPAI H5N8 in a gray seal (*Halichoerus grypus*), harbor seal (*Phoca vitulina*) and red fox (*Vulpes vulpes*); 4) Denmark in 2021 for HPAI H5N8 in a harbor seal (*Phoca vitulina*); 5) Estonia in 2021 for HPAI H5N1 in a red fox (*Vulpes vulpes*); 6) Ireland in 2022 for HPAI H5N1 in a red fox (*Vulpes vulpes*); and 7) Japan in 2022 for HPAI H5N1 in a raccoon dog (*Nyctereutes procyonoides*) and red fox (*Vulpes vulpes*). Given the report of sporadic detection of HPAI in these unusual hosts, it is important to raise awareness regarding this emergent wildlife disease and to investigate as a potential influenza reservoir host.

## Key messages

The current HPAI epidemic season continues with outbreaks being reported in poultry and non-poultry mainly in the Americas and Europe, and also in Africa and Asia over the 3 weeks covered by the report. Significant losses have been reported in the Americas. The predominant subtype noticed in the current epidemic season is subtype H5N1. Compared with previous reports, the number of new events remains low globally, and based on the known global annual seasonal trend of HPAI cases, the spread of HPAI is expected to continue to decline in the coming weeks and months. However, the trend can vary between years and world sub-regions. Given the continued reports of wild bird cases and the detection of new avian influenza strains causing human cases including the recent first detection of H3N8 in humans, the World Organisation for Animal Health (OIE) urges countries to maintain their surveillance efforts, implement strict biosecurity measures at farm level to prevent the introduction of the disease, continue timely reporting of avian influenza outbreaks in both poultry and non-poultry species, and maintain the high quality of the information provided to support early detection and rapid response to potential threats to both animal and public health.

## Other relevant resources

- [OFFLU avian influenza statement](#)
- [OFFLU statement on outbreak of H5N1 high pathogenicity avian influenza in Newfoundland, Canada](#)
- [WHO, Human infection with avian influenza A\(H5\) viruses](#)
- [The World Organisation for Animal Health calls for increased surveillance of avian influenza as outbreaks in poultry and wild birds intensify – Press release](#)
- WHO 2021, [Assessment of risk associated with highly pathogenic avian influenza A\(H5N6\) virus](#)
- World Organisation for Animal Health (OIE), [Self-declared Disease Status](#)
- OIE World Animal Health Information System ([WAHIS](#))
- [OFFLU Influenza A Cleavage sites update 2021](#)
- [OFFLU avian influenza VCM report for WHO vaccine composition meetings \(February 2022\)](#)
- [OFFLU annual report 2021](#)
- [OFFLU genome analysis of H3N8 human case](#)