

**Situation report period covered: 11 November to 1 December 2022**

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 11 November to 1 December 2022.

**Seasonal trend**

Using data reported to the World Organisation for Animal Health (WOAH) 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 WOAH, 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.

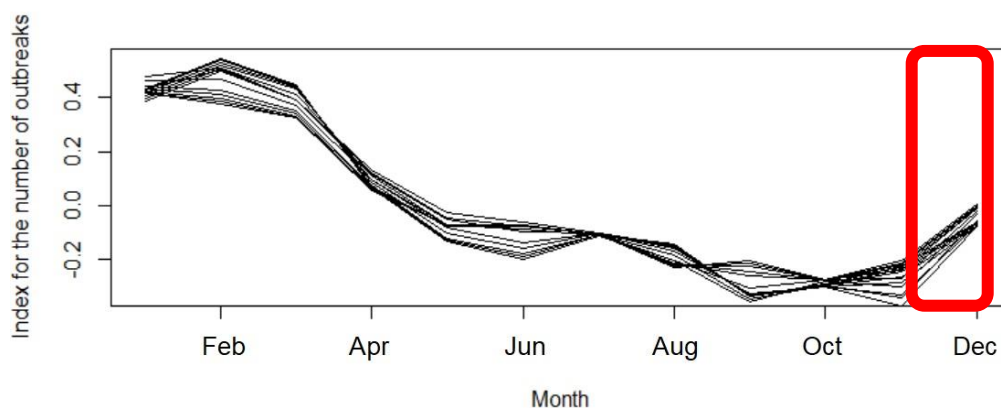


Figure 1. Seasonal trend in global HPAI incidence in poultry

**Recent updates (11/11/2022 – 01/12/2022)**

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 WOAH.

**HPAI in poultry****New events by world region (reported through immediate notifications)****Americas****H5**

The first occurrence started in Ecuador (Cotopaxi) on 24 November 2022.

**Asia****Subtype H5N1**

A recurrence started in Israel (HaMerkaz and HaZafon) on 18 November 2022 (Clade 2.3.4.4b; Lineage: Fully Eurasian)

**Europe****Subtype H5N1**

<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.

A recurrence started in Moldova (Telenești) on 11 November 2022 (Clade 2.3.4.4b; Lineage: Fully Eurasian)

A recurrence started in Ireland (Monaghan) on 12 November 2022

A recurrence started in Hungary (Békés) on 26 November 2022

#### **Africa, 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 (Clade: 2.3.4.4b - Lineage: Reassortment Eurasian and North American), United States of America

#### **Asia**

##### Subtype H5N1

Japan

#### **Europe**

##### Subtype H5N1

France, Germany, Hungary, Italy, Netherlands, United Kingdom

#### **Africa, and 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 90 new outbreaks in poultry were reported by 13 countries (Canada, Ecuador, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Moldova, Netherlands, United Kingdom, United States of America). Details are presented in Figures 2 and 3.

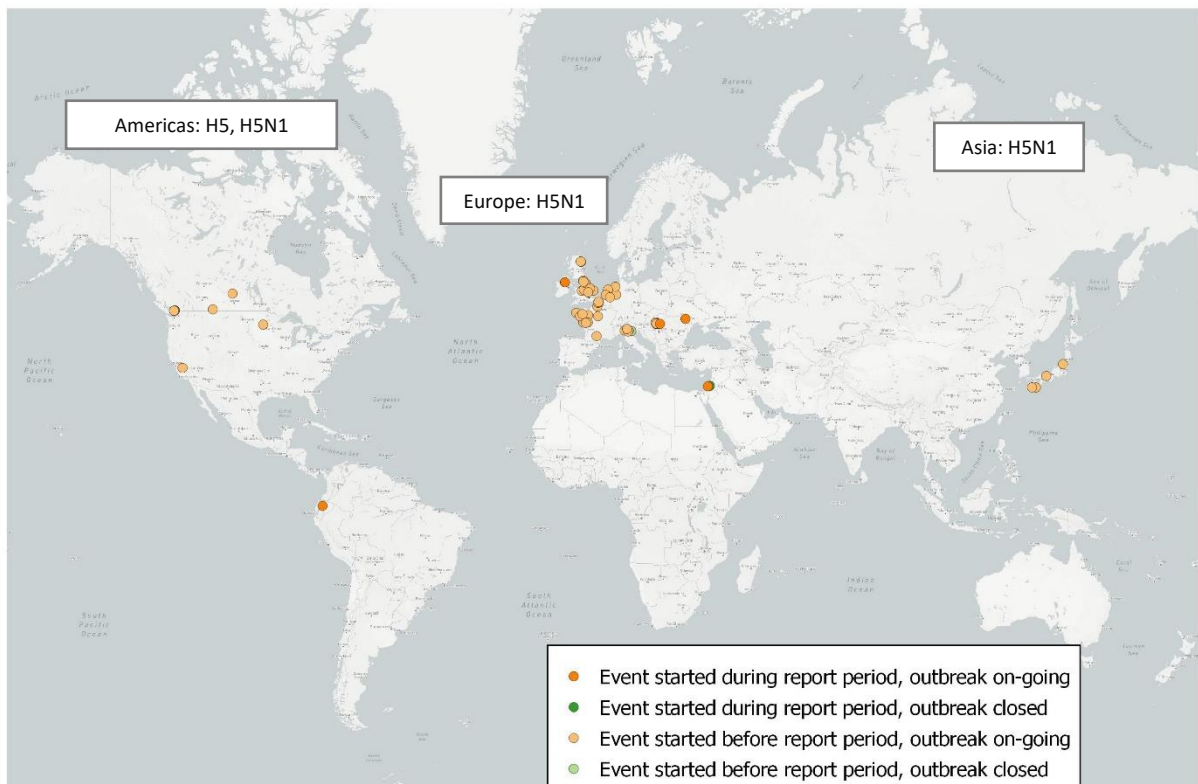


Figure 2. Distribution of HPAI new outbreaks in poultry, and corresponding subtypes

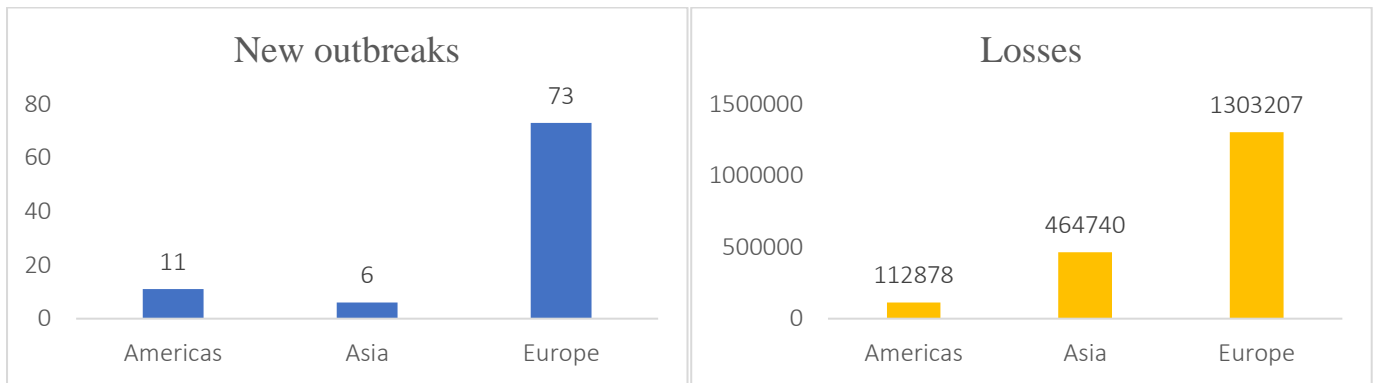


Figure 3. Number of new outbreaks and associated losses by geographical region (losses include animals dead and killed and disposed of within outbreaks – they do not include culling around outbreaks)

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

##### **Africa**

##### Subtype H5N2

A recurrence started in South Africa (KwaZulu-Natal) on 24 October 2022.

##### **Europe**

##### Subtype H5N1

A recurrence started in Russia (Sakhalin) on 26 October 2022.

##### **Americas, Asia, and Oceania**

No events reported

## HPAI in non-poultry

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

##### **Europe**

##### Subtype H5N1

A recurrence started in Ireland (Offaly) on 11 November 2022.

A recurrence started in Russia (Khabarovsk) on 13 November 2022.

A recurrence started in Switzerland (Zürich) on 13 November 2022.

A recurrence started in Romania (Neamţ) on 14 November 2022.

A recurrence started in Portugal (Leiria) on 15 November 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

Colombia (Clade: 2.3.4.4b - Lineage: Reassortment Eurasian and North American), United States of America

##### **Asia**

##### Subtype H5N1

Hong Kong, Japan

##### **Europe**

##### Subtype H5N1

Belgium, Denmark, France, Germany, Italy, Slovenia (Clade 2.3.4.4b - Lineage: Fully Eurasian), Sweden, United Kingdom

##### **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 92 outbreaks in non-poultry were reported by 17 countries and territories (Belgium, Colombia, Denmark, France, Germany, Hong Kong, Ireland, Italy, Japan, Portugal, Romania, Russia, Slovenia, Sweden, Switzerland, United Kingdom, United States of America). Details are presented in Figures 4 and 5.

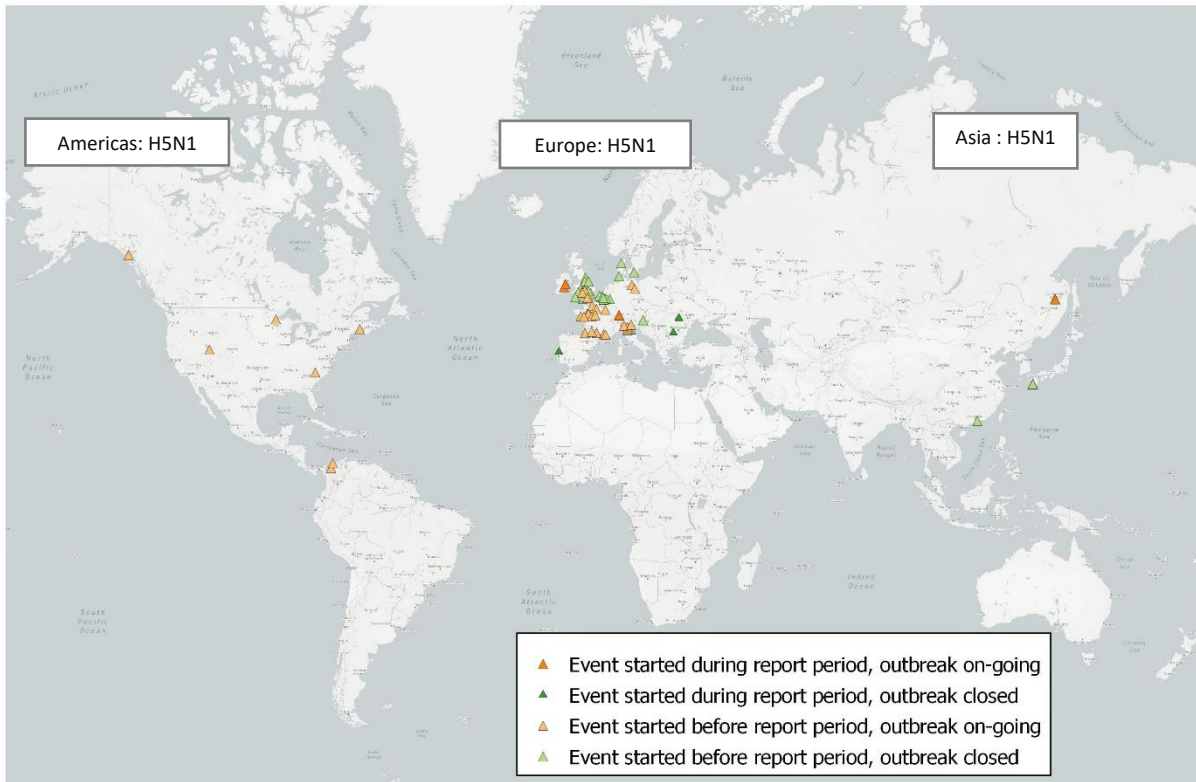


Figure 4. Distribution of HPAI new outbreaks in non-poultry birds, and corresponding subtypes.

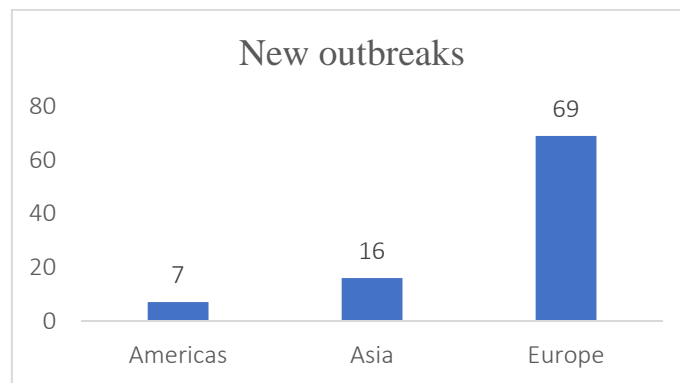


Figure 5. Number of new outbreaks by geographical region

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

**Americas**

Subtype H5

The first occurrence started in Peru (Peruvian Exclusive Economic Zone) on 10 November 2022

**Asia**

Subtype H5N1

A recurrence of H5N1 started in Hong Kong (Yuen Long) on 8 November 2022

**Europe**

Subtype H5N1

A recurrence started in Italy (Sardegna) on 24 October 2022.

**Africa, 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, of which about 600 died), H5N6 (around 80 cases reported, of which about 30 died), H9N2 (around 75 cases reported, of which 2 died) and sporadic cases have been reported with subtypes H3N8, H7N4, H7N7 and H10N3<sup>4,5,6,7,8</sup>.

**Key messages**

The current HPAI epidemic season continues with about 90 outbreaks being reported in poultry and about the same number in non-poultry birds over the 3 weeks covered by the report, mainly in Europe, and also in the Americas and Asia. Many of the countries in these regions are experiencing a larger number of outbreaks compared to last year's wave at the same time. Outbreaks are also spreading further to South America countries. Over 1.3 million birds died or were culled worldwide during the 3 weeks period. The predominant subtype noticed in the current epidemic season is still subtype H5N1. It is worth highlighting the first occurrence of HPAI in Peru and Ecuador. As of 2 December 2022, in Peru, the disease was detected in wild birds and in Ecuador, the disease was detected in poultry. HPAI cases in humans from Spain were also reported to the World Health Organization (WHO) on 3 November 2022<sup>9</sup>. The detection of influenza A(H5N1) in these individuals was likely due to exposure to infected poultry or contaminated environments. Based on the HPAI seasonal pattern, the number of outbreaks in animals is expected to raise in the coming months. The World Organisation for Animal Health (WOAH) recommends that countries maintain their surveillance efforts, biosecurity measures at farm level, and continue timely reporting of avian influenza outbreaks in both poultry and non-poultry species. High quality of information is key to support early detection and rapid response to potential threats to both animal and public health.

Visit our [website](#) for more information on avian influenza. For any press inquiry on the disease, you can email us at [media@woah.org](mailto:media@woah.org)

**Other relevant resources**

- [WHO, Human infection with avian influenza A\(H5\) viruses](#)
- World Organisation for Animal Health (WOAH), [Self-declared Disease Status](#)
- World Animal Health Information System ([WAHIS](#))
- OFFLU avian influenza VCM report for WHO vaccine composition meetings ([September 2022](#))
- [Influenza at the human-animal interface summary and assessment, October 2022](#)
- [One health Joint plan of action \(2022 – 2026\)](#)
- [30th Conference of the Regional Commission for Europe, Catania, Italy, October 2022](#)
- [OFFLU AI situation update \(December 2022\)](#)

<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 873, [https://www.who.int/docs/default-source/wpro---documents/emergency/surveillance/avian-influenza/ai\\_20221202.pdf?sfvrsn=5bc7c406\\_15#:~:text=This%20is%20the%20first%20case,reported%20from%20China%20since%202015.&text=Globally%2C%20from%20January%202003%20to,of%2053%25\)%20\(S](https://www.who.int/docs/default-source/wpro---documents/emergency/surveillance/avian-influenza/ai_20221202.pdf?sfvrsn=5bc7c406_15#:~:text=This%20is%20the%20first%20case,reported%20from%20China%20since%202015.&text=Globally%2C%20from%20January%202003%20to,of%2053%25)%20(S)

<sup>9</sup> WHO. Avian Influenza A (H5N1) – Spain, <https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON420>