Updated Situation Assessment #14

Highly pathogenic avian influenza (HPAI) in Europe

3 April 2020 Ref: VITT/1200 HPAI in Europe

Disease report

Since our last report on 24 March 2020 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874991/hpai-europe-update13-2020.pdf], Hungary has reported a sudden jump south with 40 new outbreaks of HPAI H5N8, all on commercial poultry premises in late March. Poland has reported two new outbreaks on large turkey farms, and Germany has reported a new case in captive birds in a zoo and an outbreak on a large turkey farm. Some preliminary sequence analysis of three of the HPAI outbreaks in Bulgaria have been made available: two of which tested positive for HPAI H5N2, and the other HPAI H5N8.
Situation assessment

Since 24 March, Hungary has reported a total of 40 outbreaks in commercial poultry, including eleven duck farms and three goose farms. This cluster has occurred in Bacs-Kiskun in the south of the country (see map). The previous five H5N8 outbreaks reported in Hungary in early January were in the north of the country, near the border with Slovakia and this new cluster of outbreaks represents a considerable jump or spread south. Other than the H5N8 outbreaks in Bulgaria, these represent the most southerly outbreaks of H5N8 in northern/central Europe this year and their detection this week likely reflects increased surveillance and testing activity in the area, rather than the actual rate of spread within the area. Clinical signs were reported in some flocks, but age dependency could be a factor as reported in previous events of this type. Affected farms ranged in size, from 350 to 141,652 birds, with most having between 5,000 and 25,000 birds. The surviving birds on these premises have been culled, and movement restrictions and surveillance measures have been established in accordance with Council Directive 2005/94/EC and Hungarian legislation. No cases in wild birds have been reported to date.

Poland has reported two new outbreaks in close proximity, both near Sulecin, in the Lubusz province, in the west of the country near the border with Germany. Both outbreaks are on large turkey farms. The first, reported on 24 March, had 94,206 birds, of which 600 had died. The second on 1 April, was a farm with 28,938 turkeys, and reported 200 deaths. On both farms, all measures according to Council Directive 2005/94/EC have been implemented.

On 27 March, Germany reported a case of H5N8 in a captive waterbird (Anatidae) in a zoo collection of 286 captive birds (including 89 Anatidae waterbirds) in Saschen in the east of the country. This is close to outbreaks reported earlier in March in wild birds (Eurasian buzzard) and poultry in Leipzig. Since the initial report, a hen and two geese have also died, however there have been no further reports in this zoo. Germany also reported an outbreak on a turkey fattening farm, in the Börde region, relatively near to the previous outbreaks in Saschen. It was reported on 31 March that 257 animals were affected in a flock of 20,087, and of these 137 had died. Restriction zones have been established and the remaining birds have been culled.

Czech Republic, Bulgaria, Romania, Slovakia and Ukraine have reported no new outbreaks since our last update on 24 March.

Since our last report, information has become available from the EU reference laboratory. They have conducted preliminary genetic analyses of samples from three of the recent HPAI H5 outbreaks in Bulgaria (namely ducks, layer hens and a duck farm). All three had the same H5 HA gene; which is related to the H5 in the HPAI H5N8 viruses of clade 2.3.4.4b identified in Bulgaria previously in 2018-2019 (98.6%-99.4% similarity). These viruses therefore are closely related to strains being maintained in this region since late 2016. This clusters separately from the H5 gene of HPAI H5N8 viruses currently
circulating in East-Central Europe. The outbreak in the duck holding was H5N8, with NA gene sequence data indicating this N8 subtype is also related to the H5N8 viruses previously circulating in poultry in Bulgaria in 2018-2019 (98.9%-99.4% similarity). This is important because it suggests that the HPAI H5N8 in Bulgaria is the same virus, and has been circulating locally in wild birds and/or the poultry industry in Bulgaria since 2016. These epidemiological events are therefore independent and distinct from all other incursions to Europe since late 2017. The outbreaks in the ducks and layer hens which were HPAI H5N2 had N2 sequences that clustered with that of the low pathogenicity avian influenza (LPAI) H6N2 viruses collected in Bulgaria in 2009-2010 (95.7%-96.6% similarity), suggesting that reassortment between H5N8 and LPAI H6N2 (non-notifiable) has taken place in Bulgaria (Platforme ESA, 2020).

According to data available on TRACES\(^1\), GB imported two consignments of eggs for research purposes on 24 March, originating approximately 90km away from the outbreak in Börde, Germany. GB has not imported any live birds or eggs from any of the areas surrounding the other outbreaks in Germany, Poland or Hungary in the weeks prior to and after the detection of disease.

**Conclusion**

The OIE/FAO international reference laboratory/UK national laboratory at Weybridge has the necessary ongoing diagnostic capability for these strains of virus, whether low or high pathogenicity AI, and continually monitors changes in the virus.

Previously, an outbreak of HPAI H5N8 was reported in poultry in north-western Germany near to the eastern border of the Netherlands in March. Since then, there have been no new reports of outbreaks in poultry or cases in wild birds nearer to the UK. The new outbreaks reported here are all further east, with H5N8 spreading south in Hungary at the end of March. As stated previously, the detection of HPAI in poultry along the north-coast of Germany so near to the Netherlands, would be of great concern to the UK were it to occur in the autumn months, when wildfowl are migrating westwards to the UK. However at this time of year, the migration of wild ducks, geese and swans away from their wintering sites in the UK to their breeding grounds in northern Europe/Russia will be commencing. Therefore, the risk of HPAI incursion in wild birds in the UK should be decreasing and is still considered to be LOW (i.e. no change at present). Further the geospatial mapping of the wild bird cases is in direct contrast to previous years where greater infection presence correlated with more poultry incursions in the Baltic/north European region. We are monitoring this very closely.

The genetic data from Bulgaria confirms the HPAI H5N8 outbreaks in Bulgaria are separate from those in central/northern Europe, which are related to West African H5N8 or

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\(^1\) Trade Control and Expert System
undefined common progenitor strains. However, there appears to have been reassortment between HPAI H5N8 and LPAI H6N2 (or other putative LPAIs in the wider region) in Bulgaria, giving the first report of a HPAI H5N2 subtype circulating in Europe since the beginning of the recent H5N8 epidemic, and highlighting the complexity of the relationships between circulating strains of avian influenza virus. It is assumed that the outbreaks reported recently in southern Hungary represent the most southern extension of the ongoing H5N8 outbreak in northern-central Europe, the progenitor of which is related to the African strain of H5N8, and are not the same HPAIV H5N8 strain as that which has been circulating in Bulgaria since 2018.

The overall risk of infection of poultry in the UK remains low, but the risk of introduction to individual premises depends upon the level of biosecurity implemented on farm to prevent direct or indirect contact with wild birds. It should be noted that the virus could potentially survive on pasture in wild bird faeces for several weeks at ambient temperatures at this time of year, emphasising the importance of these measures. We recommend biosecurity measures should be maintained. We are keeping this under review.

Immunity of UK wild birds to H5 HPAI may be low at present. We recommend that all poultry keepers stay vigilant and make themselves aware of the latest information on www.gov.uk, particularly about recommendations for biosecurity and how to register their flocks. We will continue to report on any updates to the situation in Europe and, in particular, any changes in disease distribution or wild bird movements which may increase the risk to the UK.


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References
All outbreaks and cases were taken from the Animal Disease Notification System (ADNS).