Updated Outbreak Assessment

Avian Influenza of high pathogenicity (H5N1, H5N2, and H5N9) and low pathogenicity (H5N2, H5N3) in poultry in France

16 December 2015

Ref: VITT/1200 LPAI & HPAI in France

Disease Report

Since the last update on the 7th December, several new outbreaks in poultry have now been reported as a result of increased surveillance in South West France (Ministère de l'Agriculture, France, 2015; see map – not all outbreaks visible at this scale). To date there are 15 outbreaks of HPAI H5 (N1, N2 and N9) and seven outbreaks of LPAI H5 (N2 and N3) which have been reported to the EU Animal Disease Notification System and in addition there may be a further 15 cases of HPAI reported on the French Surveillance platform (Hamon & Fediaevsky, 2015). Several of the outbreaks are linked to one another, according to the disease reports, and the species affected include commercial ducks, geese and guinea fowl. While ducks and geese are not exhibiting severe clinical signs, the guinea fowl may show severe clinical signs and high levels of mortality as expected for a galliforme host infected with HPAI. The developing situation still carries significant uncertainties as the French Authorities are using the legislative tools to limit further spread through the use of restriction zones around each outbreak and enhanced surveillance and restrictions beyond the EU requirements for the Dordogne region as well as several communes in the Landes region preventing international trade from these areas (hatched area in map). Movements of live birds from any control zone is subject to pre-movement testing, which has led to the detection of more infected flocks, but does provide additional assurance (http://agriculture.gouv.fr/sites/minagri/files/listes_communes_ia_11dec15.pdf)
Situation Assessment

The latest outbreaks have been detected as a result of both epidemiological investigations linked to existing cases, as well as further poultry survey results (for the LPAI cases) and in the case of 15 new outbreaks, as a result of pre-movement testing to allow for movement out of zones. However, the French authorities have indicated that all these viruses are European in origin and not Asian strains the latter of which have been associated with transglobal spread of H5 HPAI since 2003. This is an area where there are large numbers of wild waterfowl and high density of commercial birds (geese and ducks) which often increase in number approaching the festive celebrations. The EU Poultry Survey often detects H5 seropositive flocks but virus negative birds in this area however in the absence of disease presentation only intensive surveillance, as now being deployed, may reveal the true extent of infection in these sectors creating the uncertainty and relative increase in cases.

These are apparently all European origin LPAI and HPAI viruses, but publicly available detailed genetic data are not available yet. Until the epidemiology and genetic sequencing of the viruses associated with the current outbreaks in France is known, the index case(s) identified, the extent of virus evolution/diversity, level of spread, the wider impact or risk to other regions and Member States cannot be defined at present. However, as we have stated before, these highly pathogenic viruses of European origin are not usually transmitted by wild birds but until there is information on infection kinetics in commercial ducks this is difficult to predict. The main risk pathways are through trade in live birds or contaminated products or poor biosecurity after contact with contaminated holdings.

The EU Trade Notification system has been interrogated again in the light of these new reports. There have been no recent consignments of live poultry, hatching eggs or day old chicks from any of the affected regions. While there may well be products of poultry origin from these regions in circulation on the EU market, the French Authorities and European Centre for Disease Control (ECDC) have reported there is only an extremely low risk to public health through consumption of such products (ECDC, 2015), however in the absence of certainty about the outbreak development and without better understanding of the different strains, including the transmissibility between domestic anseriformes, virus tropism, the risk from movement of products via international trade is not easy to define.

Conclusion

As before, there are still many unknowns and a lot of uncertainty. The risk to the UK as a result of these outbreaks is primarily around pathways which involve lapses in biosecurity or trade routes, rather than through wild birds as these are apparently wholly European origin viruses. However the situation in France simply reinforces what we already knew, that these LPAI viruses circulate in wild birds and cause occasional spill-over outbreaks in
poultry may be difficult to detect in domestic waterfowl species and which may then mutate into HPAI viruses following infection of galliforme hosts.

Whilst there is uncertainty over the identity of the index case(s) and the pathways for virus evolution (including the genesis of three HPAI subtypes) and the host populations/networks in which these occurred introduction by other transmission pathways from other undisclosed sources cannot be excluded. However it would appear based on information available to date and knowledge of the biology of these viruses that the new cases in France may be related. Detailed genetic analyses of the causative viruses will be critical to understanding these events and defining with greater certainty risk pathways and periods for spread of infection. Whether the index case for the LPAI to HPAI mutation (s) has been found is uncertain.

We will continue to monitor the situation closely. We would like to remind all poultry keepers to maintain high standards of biosecurity, remain vigilant and report any suspect clinical signs promptly and in addition using the testing to exclude scheme for avian notifiable disease where appropriate for early safeguard. For more information, please see www.defra.gov.uk/ahvla-en/disease-control/nad

The risk level for the UK remains at low, but heightened.

Authors
Professor Ian Brown
Dr Helen Roberts

References

