

## Preliminary Outbreak Assessment

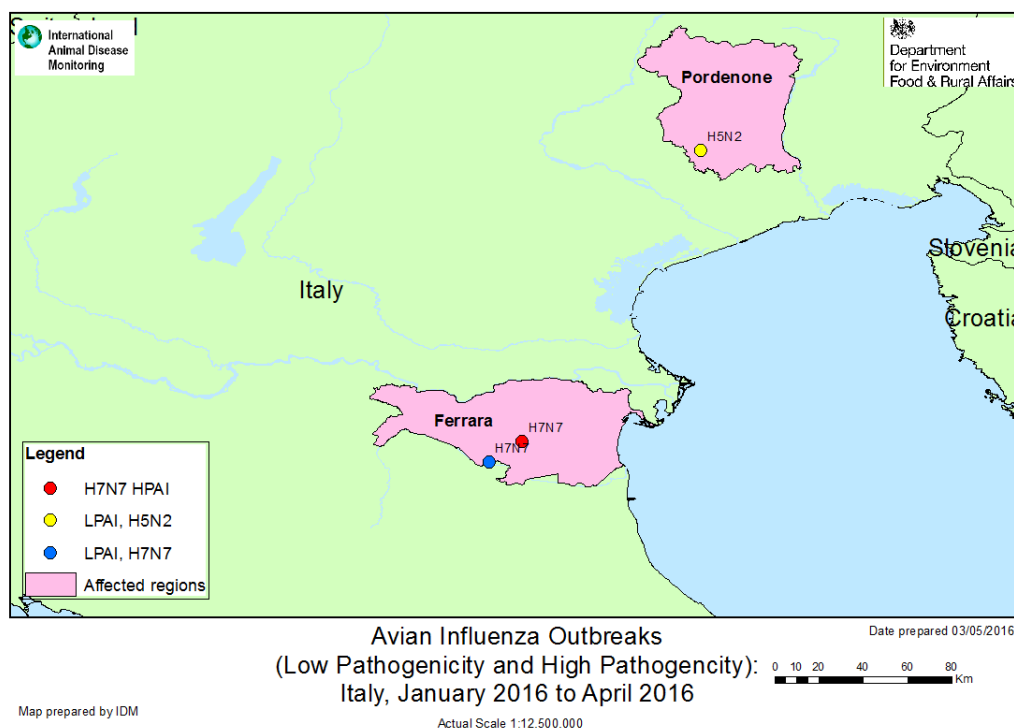
# H7N7 Avian Influenza of high pathogenicity in poultry in Italy

3<sup>rd</sup> May 2016

Ref: VITT/1200 HPAI in Italy

## Disease Report

The Italian Authorities have reported an outbreak of H7N7 HPAI in commercial chicken layers in Ferrara region (OIE, 2016; see map). All 17,000 birds have been humanely destroyed. Restriction zones have been put in place in line with EU rules. In addition, this month two outbreaks of LPAI have been reported in Italy; one of H5N2 LPAI in poultry breeder of various species in Pordenone region, as part of the national surveillance programme and one of H7N7 LPAI in a holding of ornamental birds in Ferrara region, where birds were sampled as part of pre-movement testing requirements for entry at an exhibition. According to the Italian Authorities, the LPAI and HPAI H7N7 viruses are phylogenetically distinct and represent two separate incursions.



## Situation Assessment

In the last two years, there have been several outbreaks in Europe of H7N7 avian influenza of both high and low pathogenicity viruses. H7 viruses have been detected in

outbreaks in poultry several times in Europe in the past few years where an incursion of LPAI has mutated to HPAI. This is more frequently detected in poultry layer farms, which, may be due to a combination of the age of the birds and other risk factors arising from the nature of the production system, such as increased frequency of contact with the environment and increased indirect contact with wild birds affecting the selection pressure for mutation to HPAI. The table below documents recent H7N7 viruses in Europe. Of the seven H7N7 LPAI outbreaks in Europe between 2015 and 2016, only one spread to another premises, where the virus subsequently mutated to HPAI following transmission within the flock. This was in Germany

(<https://www.fli.de/de/aktuelles/tierseuchengeschehen/klassische-gefluegelpest/>). In the UK, the H7N7 HPAI outbreak was the result of an initial incursion of H7N7 LPAI and subsequent mutation within the same poultry farm

([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/469948/ai-epi-report-july-2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/469948/ai-epi-report-july-2015.pdf)).

At present, it is not clear if the Italian HPAI case is the result of an initial incursion with an LPAI virus and consequent mutation, or initial incursion of a HPAI virus however the most probable explanation is that there has been an undetected incursion of LPAI H7N7 virus which has mutated to HPAI as it spread through the flock. The Italian Authorities reported very sudden onset of increased mortality and drop in egg production which they suggest means the an HPAI incursion; however clinical signs of LPAI viruses in poultry, even galliforme poultry, can be difficult to detect, as it relies on record keeping for food and water intake as well as production records.

Country	H7N7 LPAI	H7N7 HPAI	Region	Linked or spread?
Germany	March 2015		Cuxhaven	No
	June 2015	June 2015	Emsland	Yes
Italy	April 2016	May 2016	Ferrara	No
Netherlands	March 2015		Ten	No
	March 2015		One	No
UK	February 2015		Hampshire	No
	July 2015*	July 2015	Lancashire	Yes

\*Not reported separately, but determined by laboratory investigations during the outbreak.

According the EU Electronic Trade Notification System, TRACES, there have been no recent consignments of live poultry or hatching eggs from Italy to the UK.

## Conclusion

If this is a wild bird strain of H7N7 which causes HPAI infection in poultry, as opposed to a mutation from an LPAI strain to an HPAI strain in poultry, then this would be concerning and novel. However it will be important to await full laboratory and epidemiological findings before drawing firm conclusions. It is possible there is an as yet undetected H7N7 HPAI

virus circulating in poultry or captive birds elsewhere which has not caused clinical signs, in which case this reinforces the difficulties experienced with using passive surveillance only for some of these viruses and the need to enhance such systems through early reporting where signs are not suggestive of AI, therefore utilising the Testing to Exclude (TTE) scheme.

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](http://www.defra.gov.uk/ahvla-en/disease-control/nad)

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

## Authors

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## References

OIE (2016) Immediate Notification OIE Report Number 20122 Date 02/05/2016  
[http://www.oie.int/wahis\\_2/temp/reports/en\\_imm\\_0000020122\\_20160502\\_185254.pdf](http://www.oie.int/wahis_2/temp/reports/en_imm_0000020122_20160502_185254.pdf)



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