Animal & Plant Health Agency

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Our ref: FOI2023/10042
14 June 2023

Dear [redacted]

REQUEST FOR INFORMATION: Avian Influenza Testing

Thank you for your request for information of 20th May about Avian Influenza Testing. APHA have handled your request under the Freedom of Information Act 2000 (FOIA).

Your information request and our response are set out below.

"On your website it states "Highly pathogenic avian influenza (HPAI) H5N1 was confirmed at a premises near Stranraer, Wigtownshire, Dumfries and Galloway on 28 January 2023." (https://www.gov.scot/publications/avian-influenza-outbreaks/).

Under the Freedom of Information (Scotland) Act 2002, I require the following information:

1.Please specify which diagnostic test was used for this purpose (eg, PCR/antigen, etc)."

PCR (Polymerase Chain Reaction) and virus isolation.

"2.How many tests were carried out?"

PCR tests were carried out on a total of 45 samples from the 22 sampled chickens (comprising two swabs from each bird and pooled brain sample from 2 birds). Virus isolation was carried on the pooled brain sample.

"3.How many were positive vs how many were negative?"

The PCR results were positive on 44/45 samples (only one swab was PCR-negative) while the virus isolation result for the pooled brain sample was also positive.

"4.Please provide test particulars (eg, if PCR was used, please specify the precise test (make + model, etc) along with manufacturer's data sheet, and also the cycle threshold of the test(s); OR any other data relevant to the test(s) in question."

The PCRs employed are each validated (at APHA) and published tests:

Influenza virus detection: Nagy A, Černíková L, Kunteová K, Dirbáková Z, Thomas SS, Slomka MJ, Dán Á, Varga T, Máté M, Jiřincová H, Brown IH. A universal RT-qPCR assay for "One Health" detection of influenza A viruses. PLoS One. 2021 Jan 20;16(1):e0244669. doi: 10.1371/journal.pone.0244669. PMID: 33471840; PMCID: PMC7817021.

Detection of high pathogenicity H5 avian influenza virus: James J, Seekings AH, Skinner P, Purchase K, Mahmood S, Brown IH, Hansen RDE, Banyard AC, Reid SM. Rapid and sensitive detection of high pathogenicity Eurasian clade 2.3.4.4b avian influenza viruses in wild birds and poultry. J Virol Methods. 2022 Mar;301:114454. doi: 10.1016/j.jviromet.2022.114454. Epub 2022 Jan 6. PMID: 34998830.
Detection of subtype N1 avian influenza virus: Payungporn, S., Chutinimitkul, S., Chaisingh, A., Damrongwantanapokin, S., Buranathai, C., Amonsin, A., Theamboonlers, A., Poovorawan, Y., 2006. Single step multiplex real-time RT-PCR for H5N1 influenza A virus detection. J. Virol. Methods 131, 143-147.

Nucleic acid extraction from clinical samples was carried out using an automated procedure on KingFisher Flex extraction robots (ThermoFisher).

PCR amplifications were carried out in AriaMx qPCR instruments (Agilent).

For all PCRs, the amplification threshold cycle used to test samples from England, Wales and Scotland from the current outbreak (and for 'business as usual' testing) has an amplification threshold cycle of 36.00 as the positive to negative cut-off point. Forty cycles of amplification are run. Samples with a Cq value of less than or equal to 36.00 are considered positive while those samples giving a Cq value of 36.01 or higher are considered negative. All of our diagnostic real-time RT-PCR tests for avian influenza and for subtype-specific detection of avian influenza viruses have the same positive/negative Cq value threshold of 36.00 which works well.

"5.Which laboratory (or laboratories) was (or were) used for these tests?"

The laboratory in the Department of Virology at APHA-Weybridge was used for all tests.

"6.Which confirmatory tests were employed on top of the above tests to confirm diagnosis?"

Whole genome sequencing was also performed on the isolated virus to confirm not only that the virus was HPAIV (Highly Pathogenic Avian Influenza) H5N1 but also to determine what particular lineage the virus from this case belonged to.

Information disclosed in response to this FOI request is releasable to the public. In keeping with the spirit and effect of the FOIA and the government's Transparency Agenda, this letter and the information disclosed to you may be placed on GOV.UK, together with any related information that will provide a key to its wider context. No information identifying you will be placed on the GOV.UK website.

An Annex is attached which explains the copyright that applies to the information being released to you and contact details should you be unhappy with the service you have received.

If you have any queries about this letter, please contact the Access to Information Team at the email address below or postal address at the top of this letter.

Yours sincerely

Access to Information Team
enquiries@apha.gov.uk

Annex

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Complaints

If you are unhappy with the service you have received in relation to your request, you may make a complaint or appeal against our decision under section 17(7) of the FOIA within 40 working days of the date of this letter. Please write to the Access to Information Team at the address at the top of this letter or email enquiries@apha.gov.uk and the team will arrange for an internal review of your case.

If you are not content with the outcome of the internal review, section 50 of the FOIA gives you the right to apply directly to the Information Commissioner's Office (ICO) for a decision. Please note that generally the ICO cannot make a decision unless you have first exhausted APHA's own complaints procedure.

The ICO can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF

Please click here for further contact details.