

OIA25-0115

18 March 2025

Stephan Hokke
fyi-request-30166-08cd489b@requests.fyi.org.nz

Dear Stephan Hokke

Thank you for your email of 21 February 2025, following up on your previous information request (OIA24-0905) relating to testing for high pathogenicity avian influenza (HPAI). Your request has been considered under the Official Information Act 1982 (OIA).

You requested the following:

I made a request earlier "Protocol and results for tests done to detect chicken flu recently at Otago chicken farm" in which you reported that the cycle count was 45. Yet the plateau is at about 32. So why go to 45?

My reference is:

https://assets.publishing.service.gov.uk/media/5f85c727d3bf7f633cfcabd1f/Understanding_Cycle_Threshold_Ct_in_SARS-CoV-2_RT-PCR_.pdf

Figure 1 on page 5 shows the plateau.

Therefore. In the recent testing for the Otago chicken farms, what would be the result at 32 cycles?

Also, does your PCR equipment plateau the same as per figure 1 on page 5? Are you able to run such a calibration test?

The Ct count of 45 caused me to take pause. Perhaps your machines plateau at a higher count as per the UK govt the plateau is at about 32 so why go above that level? I am sending a new request to ascertain that point.

I am not yet convinced that the standard you used is the actual cause of the Avian Flu. Is there a paper that proves this by use of Koch's Postulate?

The Ministry for Primary Industries (MPI)'s Animal Health Laboratory diagnostic protocol for Influenza A Polymerase Chain Reaction (PCR) employs a 45-cycle cut-off. This approach has been validated to ensure high sensitivity, particularly for detecting low viral loads. Although the Public Health England document you referenced shows a plateau around 32 cycles for SARS-CoV-2 reverse transcription (RT)-PCR assays, it is important to clarify that the figure illustrates the stages of RT-PCR, but also includes the number of cycles, with the cut-off in the figure being 40 cycles. This is consistent with the typical PCR cut-off range of 30-45 cycles. It is also important to note that assay characteristics, including amplification kinetics, plateau phases, and cut-off points, are typically assay- and pathogen-specific.

Regarding your concern about establishing Influenza A virus as the cause of the disease, it is important to note that Koch's Postulates, while historically significant, are not always fully applicable to viral pathogens, particularly in the era of molecular diagnostics. Furthermore, although these postulates have been foundational in microbiology, their application in modern diagnostics can present both ethical and practical challenges, especially when considering animal welfare.

Should you have any concerns with this response, I would encourage you to raise these with the Ministry for Primary Industries at Official.InformationAct@mpi.govt.nz. Alternatively, you are advised of your right to also raise any concerns with the Office of the Ombudsman. Contact details are: Office of the Ombudsman, PO Box 10152, Wellington 6143 or at info@ombudsman.parliament.nz.

Yours sincerely

A handwritten signature in cursive script that reads "Fleur Francois".

Fleur Francois
Director, Diagnostics, Readiness and Surveillance