

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-15 18:51:50

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Highly and low pathogenic avian influenza
Address of laboratory:	New Haw, Addlestone Surrey KT15 3NB Weybridge UNITED KINGDOM
Tel.:	+44 208 206 9680
Fax:	+44 1932 35 72 39
E-mail address:	lan.Brown@apha.gov.uk
Website:	https://www.gov.uk/government/organisations/animal-and-plant-health-agency https://science.vla.gov.uk/fluglobalnet/
Name (including Title) of Head of Laboratory (Responsible Official):	Mr Christopher Hadkiss, Chief Executive
Name (including Title and Position) of OIE Reference Expert:	Professor Ian Brown Director of OIE/FAO International Reference Laboratory for Avian Influenza, Newcastle Disease and Swine Influenza
Which of the following defines your laboratory? Check all that apply:	Governmental

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
HI	Yes	11662	6
AGP	Yes	16331	0
ELISA	Yes	330	0
Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR M gene	Yes	4143	50
Real-time RT-PCR H5	Yes	1815	579
H5 genetic analyses by Sangar sequencing	Yes	9	4
Real-time RT-PCR N8	Yes	11	49
Real-time RT-PCR N6	Yes	10	39
Real-time RT-PCR N1	No	18	42
Real-time RT-PCR H7	Yes	821	10
H7 genetic analyses by Sangar sequencing	Yes	0	0
Next Generation Sequencing	No	9	182
Egg inoculation/HA	Yes	540	30

ToR 2: To develop reference material in accordance with OIE requirements, and

implement and promote the application of OIE Standards.

To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by the OIE?

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Antisera	HI	Provide	127ml	112ml	13	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Antigen	HI	Provide	244ml	109ml	13	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

Yes

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
<p>Real-time RT-PCR assays for specific detection of contemporary avian influenza subtype N2, N3, N4, N5, N6, N7, N8 and N9 viruses Real-time RT-PCR (RRT-PCR) for the specific detection of AIV subtypes N5, N6, N7, N8 and N9 are quality-assured to the UKAS 17025 standard and available for use as front-line diagnostic tools for statutory notifiable avian disease response and for wild bird surveillance in conjunction with the M-gene influenza A screening and H5-specific RRT-PCR assays. Validation of the AIV N2, N3 and N4-specific RRT-PCR assays is close to completion, however, the N2 and N3-specific RRT-PCRs have already proven their value in confirming the presence of LPAIV H5N2 and H5N3, respectively in "found-dead" wild birds.</p>	<p>JAMES J; SLOMKA MJ; REID SM; THOMAS SS; MAHMOOD S; BYRNE AMP; COOPER J; RUSSELL C; MOLLETT BC; AGYEMAN-DUA E; ESSEN S; BROWN IH; BROOKES SM 2019 Proceedings Paper - Avian Diseases 10th AI Symposium issue development and application of real-time PCR assays for specific detection of contemporary avian influenza virus subtypes N5, N6, N7, N8, and N9. Avian Diseases 63 (sp 1) 209-218. https://doi.org/10.1637/11900-051518-Reg.1</p>
<p>Reduction in the length of the rapid passage virus isolation protocol Further studies have indicated the potential for a reduction of the rapid passage OIE standard length from the '2+4' (six days) protocol to the shorter total overall length of three to four days duration without loss of test sensitivity.</p>	

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
BULGARIA	January	0	1
IRAQ	April	3	0
BELGIUM	June	0	1
ISRAEL	July	0	1
BANGLADESH	July	150	0
AFGHANISTAN	July	0	5
NEPAL	August	2	0
BELGIUM	August	0	2
CROATIA	September	0	64
KAZAKHSTAN	November	0	8
GEORGIA	November	308	100

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
ISRAEL	Science Visit - Jacob Pitcovski	Email
CROATIA	Proficiency test query	Email
GERMANY	Proficiency test query	Email
AUSTRIA	Proficiency test participation query	Email
KOREA (DEM. PEOPLE'S. REP. OF)	OFFLU telecom	Email
IRELAND	Proficiency test query	Email
IRAN	Requiring the vaccine seed of HPAI virus	Email
DENMARK	Compartmentalisation of poultry query	Email
UNITED STATES OF AMERICA	Science Visit - Silvia Carnaccini	Email
SPAIN	Proficiency test query	Email

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Use of Stable Isotopes to Trace Bird Migrations and Molecular Nuclear Techniques to Investigate the Epidemiology and Ecology of the Highly Pathogenic Avian Influenza (Phase II). IAEA project code: D32034	2018-2023	To employ stable isotope analysis (SIA) to monitor the geographic origins of AIV-infected migratory birds which are infected with AIV, in particularly the clade 2.3.4.4 H5Nx HPAIVs which are currently epidemiologically important and have incurred from Asia to Europe and onwards into Africa in recent years.	The project is funded by the International Atomic Energy Agency (IAEA) Animal Production and Health Section. The partner labs include: Western University, London, Ontario, Canada (to do the SIA), but collection of wild bird specimens is sourced from partners in: Novosibirsk State University, Novosibirsk, Russian Federation University of Jos, Nigeria Agricultural, Medical and Industrial Research School (AMIRS-NSTRI), Karaj, Iran Institute for Diagnosis and Animal Health, Bucharest, Romania APHA (UK) and FLI (Germany) have an AIV consultancy role, with the Leibniz Institute for Zoo and Wildlife Research (Berlin, Germany) providing similar consultancy for the SIA elements of the project.	CANADA
DELTA-FLU: Dynamics of avian influenza in a changing world	June 2017 (60 months)	DELTA-FLU aims to determine the key viral, host-related, and environmental factors that determine the dynamics of avian influenza (AI) in poultry and other host species, with the goal of improving prevention and control strategies against this disease.	Friedrich-Loeffler-Institut (FLI), Germany Erasmus University Medical Center (EMC), Netherlands Istituto Zooprofilattico Sperimentale delle Venezie (IZSVe), Italy University of Ghent (UGENT), Belgium Roslin Institute, University of Edinburgh (UEDIN), United Kingdom Linnaeus University (LNU), Sweden University of Hong Kong (UHK), Hong Kong Southeast Poultry Research Laboratory, United States Department of Agriculture (SEPRL), United States Canadian Food Inspection Agency (CFIA), Canada	BELGIUM CANADA GERMANY ITALY SWEDEN THE NETHERLANDS UNITED STATES OF AMERICA
Antigenic characterisation of H5 HPAI	2017-2020	To develop methods to map and define the antigenic properties of H5 HPAI Asian lineage viruses. The data will be used to map predicted vaccine match in order to improve vaccination control strategies	OFFLU Global Animal Influenza network AI subgroup	
One Health Poultry Hub	2019-2024	Hub researchers are characterising the networks through which chickens are produced and chickens and chicken products distributed to identify points of high disease risk as well as where and how interventions to mitigate disease risk are best made. Hub researchers are assessing how pathogens and genes can transmit between chickens and from chickens to people and back again - focusing in particular on how this is influenced by how chickens are kept and traded. This is vital information to inform potential interventions. https://www.onehealthpoultry.org	Our Hub is led by the Royal Veterinary College (RVC) London, and comprises partners in Asia, Australia, Europe and the UK. 27 partners in total.	

Ecology and evolution of avian influenza A virus in wild and domestic birds in the Caucasus.	2014-2021	A project to develop a pipeline from sample collection through to both genetic and antigenic characterisation. This project aims to sample and define viruses present at the wild bird: poultry interface in the Caucasus region	National Institute of Allergy and Infectious Diseases Centers of Excellence for Influenza Research and Surveillance (CEIRS) Program.	
COMPARE	Completed 2019	This is a multidisciplinary research network for global data and information sharing for the rapid identification, containment and mitigation of emerging infectious diseases and foodborne outbreaks including influenza.	https://www.compare-europe.eu/people	
Balzac	2018-2019	UK expertise has strengthened Bangladesh's national AIV diagnostic capabilities to provide quicker and more accurate diagnosis of AIV, and to improve biosafety and biosecurity practices in the Bangladesh animal health sector through a series of best-practice workshops and training sessions in country. Improvements in these capabilities have allowed outbreaks to be more quickly and effectively identified and controlled, thus preventing the wider spread of disease.	Bangladesh Livestock Research Institute (BLRI) Chittagong Veterinary and Animal Sciences University (CVASU)	BANGLADESH
Kazakhstan OIE Twinning on AI and ND	2019-2022	The Twinning Project's goal is to enhance the technical expertise and skills of the Candidate Institute's personnel and demonstrate that it possesses the competency required of an OIE reference laboratory for Avian Influenza and Newcastle disease	Kazakh Scientific Research Veterinary Institute KazSRVI	KAZAKHSTAN
Avian Flu Study	2019-2022	Avian Influenza surveillance with relevance to food security in Africa	Coordinated with University of Surrey (Nigeria, Tanzania, Uganda, Ethiopia)	ETHIOPIA NIGERIA TANZANIA UGANDA
OFFLU VCM	Ongoing annual	APHA has contributed, reagents, data and expertise to the biannual WHO VCM activities. During 2019, APHA has held the chair for VCM activities.	OFFLU network	

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

Yes

If the answer is yes, please provide details of the data collected:
Laboratory reports and OFFLU outputs

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

If the answer is yes, please provide details of the data collected:
Laboratory reports and OFFLU outputs

13. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category)

a) Articles published in peer-reviewed journals: 11

1. Reid SM., Manvell R., Seekings J., Ceeraz V., Errington H., Fuller C., Shell W., Essen S., Puranik A., Brown I., Irvine R. (2019) Surveillance and investigative diagnosis of a poultry flock in Great Britain co-infected with an influenza A virus and an avirulent avian avulavirus type 1; *Transboundary and Emerging Diseases*; Issue March 2019, Volume 66, Issue 2, pp 696-704; <https://doi.org/10.1111/tbed.13064>
2. Marek J. Slomka, Anita Puranik, Sahar Mahmood, Saumya S Thomas, Amanda Seekings, Alexander M P Byrne, Alejandro Núñez, Carlo Bianco, Benjamin C Mollett, Samantha Watson, Ian H Brown, and Sharon M Brookes (2019) Ducks are susceptible to infection with a range of doses of H5N8 HPAIV (2016, clade 2.3.4.4b) and are largely resistant to virus-specific mortality, but efficiently transmit infection to contact turkeys; *Avian Diseases*; Volume 63, issue 1, pp 172-180. <https://www.aaapjournals.info/doi/pdf/10.1637/11905-052518-Reg.1>
3. Peacock, T.H.P., James, J., Sealy, J.E., Iqbal, M., 2019. A Global Perspective on H9N2 Avian Influenza Virus. *Viruses* 11.
4. James J, Smith N, Ross C, Iqbal M, Goodbourn S, Digard P, Barclay WS, Shelton H. (2019) The cellular localization of avian influenza virus PB1-F2 protein alters the magnitude of IFN2 promoter and NFκB-dependent promoter antagonism in chicken cells. *J Gen Virol* , 100, 414-430.
5. Poen, Marjolein; Venkatesh, Divya; Bestebroer, Theo; Vuong, Oanh; Scheuer, Rachel; Oude Munnink, Bas; Meulder, de, Dennis; Richard, Mathilde; Kuiken, Thijs; Koopmans, Marion; Kelder, Leon; Kim, Yong Joo; Lee, Youn-Jeong; Steensels, Mieke; Lambrecht, Bénédicte; Dan, Ádám; Pohlmann, Anne; Beer, Martin; Savic, Vladimir; Brown, Ian; Fouchier, Ron; Lewis, Nicola (2019); Co-circulation of genetically distinct highly pathogenic avian influenza A clade 2.3.4.4 (H5N6) viruses in wild waterfowl and poultry in Europe and East Asia, 2017-18; *Virus Evolution*; Volume 5, Issue 1, <https://doi.org/10.1093/ve/vez004>
6. Sarah C Hill, Rowena Hansen, Samantha Watson, Vivien Coward, Christine Russell, Jayne Cooper, Steve Essen, Holly Everest, Kris V Parag, Steven Fiddaman, Scott Reid, Nicola Lewis, Sharon Brookes, Adrian L Smith, Ben Sheldon, Christopher M Perrins, Ian H Brown, Oliver G Pybus (2019) Comparative micro-epidemiology of pathogenic avian influenza virus outbreaks in a wild bird population; *Philosophical Transactions of the Royal Society B*, Volume 374, Issue 1775, <https://doi.org/10.1098/rstb.2018.0259>.
7. Dong-Hun Lee, Mary Killian, Mia Torchetti, Ian Brown, Nicola Lewis, Yohannes Berhane & David Swayne (2019) Intercontinental spread of Asian-origin H7 avian influenza viruses by captive bird trade in 1990`s; *Infection, Genetics and Evolution*, Volume 73, Issue September 2019, pp. 146-150. <https://doi.org/10.1016/j.meegid.2019.04.028>
8. Verity Horigan, Paul Gale, Amie Adkin, Ian Brown, Jane Clark, Louise Kelly (2019); A qualitative risk assessment of cleansing and disinfection requirements after an avian influenza outbreak in commercial poultry CBPS-2019-017, *British Poultry Science*; 60 (6) 691-699 Volume , Issue , pp <https://doi.org/10.1080/00071668.2019.1655707>

9. A. Hillman, R. Smith, N. Batey, K. Verheyen, M. Pittman, I. H. Brown, A Breed (2019); Serological surveillance reveals patterns of exposure to H5 and H7 avian influenza in European poultry; *Transboundary and Emerging Diseases*; Volume, Issue , pp <https://doi.org/10.1111/tbed.13371>

10. Puranik A, Slomka MJ, Warren CJ, Thomas SS, Mahmood S, Byrne AMP, Ramsay AM, Skinner P, Watson S, Everett HE, Núñez A, Brown IH and Brookes SM (2019). Transmission dynamics between infected waterfowl and terrestrial poultry: Differences between the transmission and tropism of H5N8 highly pathogenic avian influenza virus (clade 2.3.4.4a) among ducks, chickens and turkeys. *Virology* (in press)
<https://doi.org/10.1016/j.virol.2019.10.014>

11. REID SM; NUNEZ A; SEEKING AH; THOMAS SS; SLOMKA MJ; MAHMOOD S; CLARK JR; BANKS J; BROOKES SM; BROWN IH (2019); Two single incursions of H7N7 and H5N1 low pathogenicity avian influenza in U.K. broiler breeders during 2015 and 2016. *Avian Diseases* 63 (sp 1) 181-192. <https://doi.org/10.1637/11898-051418-Reg.1>

b) International conferences: 19

1. Ian H. Brown; Removing Samples from BSL3+; International Veterinary Biosafety Workgroup, Wellington, New Zealand, 18th-21st February 2019.

2. Ian H. Brown; Procedural matrix for BCL3 (SAPO4/ACDP3) and below for Avian viruses and mammalian influenza risk matrices: Laboratory and Animal work; International Veterinary Biosafety Workgroup, Wellington, New Zealand, 18th-21st February 2019.

3. Dominic JF Byrne, Alexander MP Byrne, Sahar Mahmood, Saumya S Thomas, Andrew M. Ramsay, Paul Skinner, Anita Puranik, Richard Ellis, Marek J Slomka, Ian H Brown, Sharon M Brookes and Helen E Everett. Inter-species transmission properties of H5N8 2014 avian influenza virus and identification of emerging genetic changes by whole-genome sequencing (WGS). Compare AGM, Copenhagen Feb -01 March 2019.

4. Alejandro Núñez, Poulos, Christopher, Rowena Hansen, Scott M. Reid, Daniel J. Hicks, Sharon M. Brookes, Caroline J. Warren and Ian H. Brown. Highly pathogenic avian influenza H5N8: pathological presentation of game bird cases during the 2016/2017 epizootic in Great Britain. Abstract for AAAP conference, 2-5 Aug 2019; Washington DC, USA.

5. Ian H. Brown, Adam Brouwer, Daisy Duncan, Divya Venkatesh & Nicola Lewis (2019). Monitoring changes in Avian Influenza: Relevance for human health. Options for the Control of Influenza Conference; Singapore, 28th Aug- 1st Sept 2019 (poster presentation)

6. Alexander MP Byrne, Chelsea G Himsworth, Caroline J Warren, Saumya S Thomas, Natalie Prystajecy, Adam Brouwer, Jun Duan, Marek J Slomka, Rowena Hansen, Michelle Coombe, William Hsiao, Ian H Brown, and Sharon M Brookes. Using Sediment, Environmental and Wild Bird Samples as Tools for Avian Influenza Surveillance. EPIZONE Annual Meeting, Berlin, August 2019.

7. Hansen, R., Reid, S., Cross, D., Welchman, D., Byrne, C., Tye, J., Cook, C., Roberts, H., Brookes, S.M. & Brown I.H. (2019). UK Surveillance streams for notifiable avian disease: a network to assess risk, mitigate incursion and improve poultry health. World Veterinary Poultry Association Congress, Thailand, September 2019)

8. C. Bianco, A. Núñez, P Sanchez-Cordon, R. D. E. Hansen, S. M. Reid, I. H. Brown, S. S. Thomas, C. Poulos and S. M. Brookes (2019) Pathology of natural highly pathogenic avian influenza viruses (HPAIV) H5N8 (2017) and HPAIV H5N6 (2018) infection in wild birds in the United Kingdom. ECVF congress (September 2019)

9. M. Steensels & I. Brown (2019), Summary of in ovo characterization of the H3N1 virus, World Veterinary Poultry Association, Belgium, 3rd July 2019

Nicola Lewis participated in following, covering a range of topics on AI epidemiology and ecology, antigenic characterisation and pandemic preparedness:

February 2019: Invited speaker: International Scientific and Practical Conference: "Topical issues of avian infectious disease diagnosis and prevention in the commercial poultry industry" for poultry farm veterinarians of the Russian Federation and CIS-countries. Suzdal, Russian Federation.

April 2019: Invited seminar speaker. University of Nottingham Veterinary School, Sutton Bonington

April 2019: Invited speaker and mentor for the DTRA Centcom Fellowship close-out meeting, Doha, Qatar

June 2019: Invited speaker at the Consortium of Animal Market Networks to Assess Risk of Emerging Infectious

Diseases through Enhanced Surveillance (CANARIES) workshop.

June 2019: Invited speaker at the EURL National Reference Laboratory annual meeting, Padova, Italy

June 2019: NIH Centers of Excellence in Influenza Research and Surveillance (CEIRS) annual meeting in Baltimore, USA

July 2019: Invited Speaker. 2nd Avian Influenza Symposium, APQA, Republic of Korea

July 2019: Invited speaker: Lunchtime seminar series, Pirbright, UK

August 2019: Co-chair for the Influenza Evolution and Human Ecology Session: Options X for the Control of Influenza, Suntec Singapore.

November 2019: Invited Speaker: The 2nd Scientific Conference on Acute Respiratory Infection in the Eastern Mediterranean Region and the 5th Meeting of the Eastern Mediterranean Acute Respiratory Infection Surveillance (EMARIS) Network, In collaboration with the World Health Organisation, Casablanca, Morocco

c) National conferences: 1

1. J James, SS Thomas, MD Kelly, S Mahmood, AH Seekings, S Watson, MJ Slomka, IH Brown and SM Brookes (2019). Evaluating the epizootic risk to poultry of a novel Chinese H7N9 virus variant with increased pathogenicity in turkeys. Microbiology Society meeting, 8-11 April 2019, Belfast, N Ireland.

d) Other:

(Provide website address or link to appropriate information) 3

1. Flu Global Net website: <https://science.vla.gov.uk/fluglobalnet/>

This website is used to host 19 protocols relating to Avian Influenza and laboratory applications.

2. Gale P., Bowen J., Gauntlett F., Roberts H. and Brown I. (2019); Highly pathogenic avian influenza in Europe; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/772995/hpai-europe-update-20190121.pdf

3. Ian Brown (2019) Avian influenza: reduction of threat to UK using active science intelligence, Evidence based veterinary medicine matters guide; RCVS Knowledge <https://knowledge.rcvs.org.uk/document-library/evidence-based-veterinary-medicine-matters/>

ToR 7: To provide scientific and technical training for personnel from OIE Member Countries

To recommend the prescribed and alternative tests or vaccines as OIE Standards

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 2

b) Seminars: 0

c) Hands-on training courses: 1

d) Internships (>1 month): 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	USA	1
A	Republic of Korea	1
C	Ukraine (in country)	8

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO17025	UKAS certificate 2019.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Haemagglutination inhibition test	UKAS
AGIDT	UKAS
Matrix (M)-gene PCR	UKAS
H5 real-time PCR(HA2)	UKAS
H7 real-time PCR (cleavage site)	UKAS
Real-time RT-PCR N8	UKAS
Real-time RT-PCR N5	UKAS
H7 real-time PCR (HA2)	UKAS
Avian influenza virus nucleotide sequencing	UKAS
Neuraminidase inhibition	UKAS
Virus isolation in goose eggs (via allantoic cavity)	UKAS
Virus isolation in SPF chicken eggs (via allantoic cavity)	UKAS
IVPI	

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

Yes

National/ International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	OIE AI/NDTwinning APHA-Kazakhstan	KazSRVI	12/19	Nur-Sultan, Kazakhstan	7

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
OIE working group on AI code revision	06/19	Paris, France	Expert	N/A

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

20. Did your laboratory exchange information with other OIE Reference Laboratories designated for the same pathogen or disease?

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
OFFLU lab harmonisation test	Participant	10	CSIRO, Australian Animal Health Laboratory, AAHL, Geelong, Australia Laboratório Nacional Agropecuário, LNA, Campinas, Brazil Canadian Food Inspection Agency, CFIA, Winnipeg, Canada Friedrich Loeffler Institute, FLI, Riems, Germany National Institute of High Security Animal Diseases, ICAR, Bhopal, India Istituto Zooprofilattico Sperimentale delle Venezie, IZSV, Legnaro, Italy Research Center for Zoonosis Control, RCZC, Sapporo, Japan National Veterinary Services Laboratory, NVSL, Ames, USA Southeast Poultry Research Laboratory, SPRL, Athens, USA St Jude Children's Research Hospital, St Jude, Memphis, USA

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

22. Did your laboratory collaborate with other OIE Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Antigenic characterisation of H5 HPAI	To develop methods to map and define the antigenic properties of H5 HPAI Asian lineage viruses. The data will be used to map predicted vaccine match in order to improve vaccination control strategies.	OFFLU Labs
Production of data for using WHO VCM meeting (February and September)	Produced antigenic and genetic data to inform candidate vaccine preparedness for protecting human health.	APHA-Weybridge; Friedrich Loeffler Institute, Riems, Germany; Istituto Zooprofilattico Sperimentale delle Venezie, IZSV, Legnaro, Italy; CSIRO, Australian Animal Health Laboratory, AAHL, Geelong, Australia; National Veterinary Services Laboratory, NVSL, Ames, USA

ToR 11: To organise inter-laboratory proficiency testing with laboratories other than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at:
<http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
PT exercise (extended to other OIE member countries) Conventional and molecular panels for NRLs	31	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
OIE ad hoc working group on the AI code revision	Paris	AI code revision
OFFLU meetings	Various	Provision of data to the WHO Vaccine Composition Meeting; attendance at OFFLU coordination teleconferences, provision of advice and laboratory data as part of the OFFLU dossier for submission for VCM (February and September meetings). Leading OFFLU representation at September WHO VCM meeting.

25. Additional comments regarding your report:

ToR 1, Question 1 - additional information below as not enough lines:
 IVPI Yes 2 0