

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 8 mars 2023 17:13

Laboratory Information

Name of disease (or topic) for which you are a designated WOAHO Reference Laboratory:	Newcastle disease
Address of laboratory:	Animal and Plant Health Agency – Weybridge, Addlestone, Surrey KT15 3NB UNITED KINGDOM
Tel.:	+44 208 206 9680
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 David Holdsworth, Chief Executive
Name (including Title and Position) of WOAHO Reference Expert:	Professor Ian Brown Director of WOAHO/FAO International Reference Laboratory for Avian Influenza, Newcastle Disease and Swine Influenza
Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

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 WOAHO Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
HI	Yes	2,097	0

Direct diagnostic tests		Nationally	Internationally
Real-time RT-PCR L gene	Yes	17,514	323
Real-time PCR RT-PCR for pathotyping	No	107	10
NDV genetic analysis by Sanger sequencing	Yes	5	10
Next Generation Sequencing	Yes	95	17
ICPI	Yes	8	0
Egg inoculation/HA	Yes	873	10

TOR2: REFERENCE MATERIAL

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

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOA?H Members?

Yes

TYPE OF REAGENT AVAILABLE	RELATED DIAGNOSTIC TEST	PRODUCED/ PROVIDE	AMOUNT SUPPLIED NATIONALLY (ML, MG)	AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)	NO. OF RECIPIENT WOA?H MEMBER COUNTRIES	COUNTRY OF RECIPIENTS
Antigens	HI	Provide	31ml	132 ml	7	Africa Asia and Pacific Europe
Antiserum	HI	Provide	7ml	12 ml	7	Africa Asia and Pacific Europe

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA?H Members?

No

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOA?H Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOA?H Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Member?

Yes

NAME OF WOA MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
ETHIOPIA	2022-01-01	L-gene RRT-PCR	232	0
KUWAIT	2022-05-01	L-gene RRT-PCR	10	0
CAMBODIA	2022-02-01	L-gene RRT-PCR	52	0

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOA Member?

Yes

NAME OF THE WOA MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
SINGAPORE	Offer of Assistance	Email
NORTH MACEDONIA (REP. OF)	Offer of Assistance	Email
ISRAEL	Clarification on NDV testing methods	Email
OMAN	WOAH Laboratory Twinning scoping	Visit from designated expert to Oman
SOUTH AFRICA	Clarification on NDV testing design	Email

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA Members other than the own?

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
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, Almaty KazSRVI	KAZAKHSTAN
			Teko Livestock Research Centre (TLRC), Sierra Leone Agricultural	

Ministry of Defence funded project to form a West African hub for AIV and NDV under a Bio-Threat Reduction (BTR) program	2022-2025	Aims to link with laboratories across West Africa and define circulating strains of AIV, NDV and where relevant SWIAV through capacity and capability activities	Research Institute (SLARI) PMB 1313 Tower Hill, Freetown And the Institut Pasteur de Guinée (IPGui), Route de Donka, Quartier Landreah, Commune de Dixinn BP 4416 - Conakry - Guinée And the Laboratoire Central Vétérinaire, Km,8 Route de Koulikoro, BP: 2295 Bamako -MALI	GUINEA MALI SIERRA LEONE
MoD Central Asian Hub-concept developed further through MoD funding	2018-2025	To develop capability for AIV/NDV diagnosis in Tajikistan	Institute of Veterinary Medicine TAAS, Republic of Tajikistan Dushanbe, Tajikistan	TAJIKISTAN
DTRA BAA Kurdistan to undertake One Health integrated bio-surveillance and poultry value chain analyses to assist Kurdistan into international AIV and ND surveillance and research.	2023-2025	Extensive co-ordination among consortium partners to define workplan and write white paper application for funding ;submitted 2022.	Partnership with: Kurdistan Institution for Strategic Studies and Scientific Research (KISSR) through Nabil Ali Wali Logistics support through CDRF	IRAQ

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

Collection and characterisation of a range of AMPV samples including meta data internationally, primarily throughout African countries to provide an epidemiological picture and analysis of viral diversity in key, underreported regions.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:

An analysis of the epidemiological data, collected internationally, was disseminated through peer-reviewed publications, detailing the evolution of APMV and epidemiological picture of with relation to the globally situation.

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

a) Articles published in peer-reviewed journals:

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1. Reid, S. M., S. M. Brookes, V. J. Coward, J. K. Mynn, J. L. Cooper, E. Agyeman-Dua, P. Skinner, C. Ross, R. D. Hansen and I. H. Brown (2022). "Molecular detection of pigeon paramyxovirus type 1." *The Veterinary record* 191(2): 80-81 DOI: <https://doi.org/10.1002/vetr.2057>.

2. Ross, C. S., S. Mahmood, P. Skinner, J. Mayers, S. M. Reid, R. D. Hansen and A. C. Banyard (2022). "JMM Profile: Avian paramyxovirus type-1 and Newcastle disease: a highly infectious vaccine-preventable viral disease of poultry with low zoonotic potential: This article is part of the JMM Profiles collection." *Journal of Medical Microbiology* 71(8): 001489 DOI: <https://doi.org/10.1099/jmm.0.001489>.

3. Ross, C. S., D. Sutton, P. Skinner, S. Mahmood, F. Wynne, B. Londt, C. M. Fuller, J. Mayers, A. Nunez and D. J. Hicks (2022). "Comparative pathogenesis of two genotype VI. 2 avian paramyxovirus type-1 viruses (APMV-1) in pheasants, partridges and chickens." *Avian pathology: journal of the WVPA*: 1-15 DOI: <https://doi.org/10.1080/03079457.2022.2133680>.

b) International conferences:

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Dr Ashley C. Banyard, Lead presenter for Ministry of Defence funded project to form a West African hub for AIV and NDV under a Bio-Threat Reduction (BTR) program, 'Global aspects of Avian disease: Building capability in West Africa to define international threat (WafFluNNet)', 18.01.2022

Dr Ashley C. Banyard, Guest Lecturer for the ICAR sponsored Winter School on "Recent Molecular Approaches in Livestock and Poultry Disease Diagnosis", Online for the Department of Animal Biotechnology, Madras Veterinary College, Chennai, India- global audience, 'Frontline diagnosis and research at APHA in the area of Influenza and Newcastle disease virus', 28.02.2022

Dr Ashley C. Banyard, Invited speaker for Vietnamese trade delegation UK visit, APHA: Diagnosis of notifiable avian disease (including swine influenza virus), 11.05.22

c) National conferences:

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Dr Ashley C. Banyard, St George's Medical school, University of London- MSc course presentation, 'Influenza and One Health' 18.03.22

Dr Ashley C. Banyard, University of Sussex- MSc course presentation, 'Frontline response to incursions of notifiable avian viruses in the UK and 'One Health' aspects of influenza outbreaks, 21.03.22

d) Other (Provide website address or link to appropriate information):

1

Prof Ian Brown, Technical visit to Oman to assess suitability for WOAHS twinning project, 6th- 10th June 2022

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAHS Members?

Yes

a) Technical visit : Online training laboratory quality materials

b) Seminars :

c) Hands-on training courses:

d) Internships (>1 month)

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	Multiple	N/A

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025		Quality Management System Certification.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Haemagglutination inhibition test	UKAS
L-gene real-time PCR	UKAS
Newcastle disease virus nucleotide sequencing (Sanger)	UKAS
ICPI	UKAS
Virus isolation in tissue culture for APMV-1	UKAS
Virus isolation in SPF eggs (via allantoic cavity)	UKAS
Antibody typing of ND isolates	UKAS
Next Generation Sequencing	UKAS

20. 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 2018, Chapter 3.3.14) APHA maintains a complete and functioning laboratory biological risk management system, which ensures that the laboratory is in compliance with applicable local, national (UK Health and Safety Executive), regional, and international standards and requirements for biosafety and laboratory biosecurity

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOA?

No

TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

24. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS/ ORGANISING WOAHP REF. LAB.
EURL Proficiency test	Participant	40	All EU members states, Belarus, Bosnia and Herzegovina, Montenegro, Norway, Russia, Serbia, Switzerland, North Macedonia, Turkey, Ukraine, UK

25. Did you organise or participate in inter-laboratory proficiency tests with WOAHP Reference Laboratories designated for the same pathogen?

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS/ ORGANISING WOAHP REF. LAB.
EURL Proficiency test	Participant	40	All EU members states, Belarus, Bosnia and Herzegovina, Montenegro, Norway, Russia, Serbia, Switzerland, North Macedonia, Turkey, Ukraine, UK

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

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHP Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAHP Member Countries
PT exercise (extended to other WOAHP member countries) Conventional (antigen and serum) and molecular panels for NRLs	Organiser	21	Africa Asia and Pacific Europe

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAHP?

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
		WOAHP expert provided input to revisions to

Technical papers on diagnostic test procedures	Virtual	the ND chapter in the WOAHP Manual of Diagnostic Tests and Vaccines for Terrestrial Animals
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29. Additional comments regarding your report:

Yes

Successful applications for grant funding to support activities has meant that there has been some growth in the reference laboratory team supporting this work and we hope to continue to grow the programme in 2023.