

# OIE Reference Laboratory Reports Activities

## *Activities in 2020*

**This report has been submitted : 2021-01-18 11:34:50**

|  |   |
|--|---|
| <b>Name of disease (or topic) for which you are a designated OIE Reference Laboratory:</b> | Newcastle disease   |
| <b>Address of laboratory:</b>  | Animal and Plant Health Agency - Weybridge Addlestone Surrey KT15 3NB UNITED KINGDOM  |
| <b>Tel.:</b>   | +44 208 026 9680  |
| <b>Fax:</b>  | +44 1932 35 72 39   |
| <b>E-mail address:</b>   | ian.brown@apha.gov.uk   |
| <b>Website:</b>  | <a href="https://www.gov.uk/government/organisations/animal-and-plant-health-agency">https://www.gov.uk/government/organisations/animal-and-plant-health-agency</a> |
| <b>Name (including Title) of Head of Laboratory (Responsible Official):</b>                | Mr Christopher Hadkiss, Chief Executive   |
| <b>Name (including Title and Position) of OIE Reference Expert:</b>                        | Professor Ian Brown Director of OIE/FAO International Reference Laboratory for Avian Influenza, Newcastle Disease and Swine Influenza                               |
| <b>Which of the following defines your laboratory? Check all that apply:</b>               | 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                              | 3114                                     | 0               |
| Direct diagnostic tests                   |                                  | Nationally                               | Internationally |
| Real-time RT-PCR L gene                   | Yes                              | 2286                                     | 390             |
| Real-time PCR RT-PCR for pathotyping      | No                               | 0  | 38              |
| NDV genetic analysis by Sangar sequencing | Yes                              | 14                                       | 0               |
| Next Generation Sequencing                | Yes                              | 0  | 14              |
| ICPI                                      | Yes                              | 0  | 0               |
| Egg inoculation/HA                        | Yes                              | 1271                                     | 16              |

**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           | 59.5ml                              | 41.5ml                                   | 13                                    | <input checked="" type="checkbox"/> Africa<br><input type="checkbox"/> Americas<br><input checked="" type="checkbox"/> Asia and Pacific<br><input checked="" type="checkbox"/> Europe<br><input type="checkbox"/> Middle East |
| Antigen                   | HI                      | Provide           | 122ml                               | 192ml                                    | 13                                    | <input checked="" type="checkbox"/> Africa<br><input type="checkbox"/> Americas<br><input checked="" type="checkbox"/> Asia and Pacific<br><input checked="" type="checkbox"/> Europe<br><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?

No

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

No

***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 |
|---|--------------|--|--|
| PAKISTAN                                      | February     | 133  | 38   |
| NIGERIA                                       | August       | 352  | 0  |
| IRAN  | October      | 12   | 0  |
| IRAQ  | November     | 0  | 17   |

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 |
|--|--|-----------------------------|
| ETHIOPIA   | Request for NDV sequencing                       | Email                       |
| RUSSIA   | NDV in Russia                                    | Email                       |
| UNITED KINGDOM   | Field testing for ND/AI                          | Email                       |
| TURKEY   | ND Lab Dx training at APHA                       | Email                       |
| IRAN   | ND screening from FTA cards                      | Email                       |
| IRAQ   | BAA Opportunity-CRDF global                      | Email                       |
| ETHIOPIA   | Collaboration on NDV and its oncolytic potential | Email                       |
| UGANDA   | Request for positive and negative control serum  | Email                       |
| CAMBODIA   | ND outbreak offer of support                     | Email                       |
| CHILE  | ND outbreak offer of support                     | Meeting                     |

***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   |
|---|-----------|---|---|---|
| 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  |
| Turkey STEP LEIDOS cancelled because of COVID> Currently trying to reschedule for April 2021.....   | 2019-2021 | The goal of the training is both training of staff in OIE methodologies and both wet laboratory training and data analysis. THE activities also include technology transfer to the linked laboratory in Turkey.   | Bornova Veterinary Control Institute, Turkey.   | TURKEY  |
| MoD Central Asian Hub- concept developed with funder invitation extended; OIE regional office supporting  |           | To work off the back of the OIE twinning project with Kazakhstan and To develop a network of collaborative labs across Central Asia for the detection and diagnosis of NDV  | The project initiation will involve a one- day webinar involving laboratory representatives from: Kazakhstan Tajikistan Turkmenistan Afghanistan Uzbekistan Kyrgystan And the UK Llnkage with Dr. Mereke Taitubayev Head of OIE Sub Regional Office for Central Asian<br>Руководитель Субрегионального офиса МЭБ по Центральной Азии<br>Republic Avenue 50/1<br>010000 Nur-Sultan, Republic of Kazakhstan | AFGHANISTAN<br>KAZAKHSTAN<br>KYRGYZSTAN<br>TAJIKISTAN<br>TURKMENISTAN<br>UNITED KINGDOM<br>UZBEKISTAN |
| DTRA BAA Kurdistan to undertake One Health integrated biosurveillance and poultry value chain analyses to assist Kurdistan into international AIV and ND surveillance and research. |           | Extensive co-ordination among consortium partners to define workplan and write white paper application for funding throughout 2020.   | Partnership with: Kurdistan Institution for Strategic Studies and Scientific Research (KISSR) through Nabil Ali Wali Logistics support through CDRF   |   |

**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  |

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  |

**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: 0

b) International conferences: 3

Fournie, Guillaume; Moyen, Natalie; Hoque, Md Ahasanul; Mahmud, Rashed; Hasan, Mahmudul; Kim, Younjung; Barnett, Tony; Biswas, Paritosh; Giasuddin, Md; Samad, Md Abdus; Henning, Joerg; Lewis, Nicola; Brown, Ian; Mangtani, Punam; Meerjady, Flora; Rahman, Mahmudur; Debnath, Nitish; Pfeiffer, Dirk (2020). The dynamics of avian influenza and Newcastle disease viruses along live poultry trading networks, Bangladesh. 6th World One Health Congress One Health Science 30 October - 3 November 2020

David Sutton, Paul Skinner, Craig Ross, Joanne Mayers, Ian Brown, Sharon Brookes (2020) Transmission and pathogenesis of AOA-1 in game birds. Avian Viral Respiratory Diseases symposium; Utrecht; June

Joanne Mayers, Paul Skinner, Sahar Mahmood, Craig Ross, Nicola Lewis, Ashley Banyard, Ian Brown, Sharon Brookes (2020) Genetic and antigenic analysis of Newcastle Disease Virus vaccines. Avian Viral Respiratory Diseases symposium; Utrecht; June

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 2

Book Chapters:

Ian H. Brown, Peter Cargill, Ralph Woodland and Thierry Van den Berg. IN PRESS Newcastle disease virus IN Veterinary Vaccine for Livestock, 1st Edition: Editors; Samia Metwally, Ahmed Elidrissi, Gerrit Viljoen. FAO publishing.

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

12 laboratory protocols are available on the above website in support of laboratory diagnosis of Newcastle Disease

**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: 1
- b) Seminars: 0
- c) Hands-on training courses: 0
- 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  | Kazakhstan  | 3   |

**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                          | ISO17025 certificate.pdf                |

16. 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                  | UKAS               |
| ICPI   | UKAS               |
| Virus isolation in tissue culture for AOAV-1 (formally APMV-1) | UKAS               |
| Virus isolation in SPF eggs (via allantoic cavity)             | UKAS               |
| Antibody typing of ND isolates                                 | UKAS               |
| Next Generation Sequencing                                     | UKAS               |

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?

No

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

No

**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?



No

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?

No

**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 <sup>1</sup>                                      | No. participating laboratories | Region(s) of participating OIE Member Countries  |
|---|--------------------------------|--|
| PT exercise (extended to other OIE member countries) Conventional and molecular panels for NRLs | 32                             | <input checked="" type="checkbox"/> Africa<br><input type="checkbox"/> Americas<br><input checked="" type="checkbox"/> Asia and Pacific<br><input checked="" type="checkbox"/> Europe<br><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)   |
|---|----------|---|
| Coordination of Reference Laboratories. | Remotely | Ian Brown coordinated amongst all ND OIE reference laboratories review and revisions to the ND chapter in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals and responded to technical comments from Member Countries to further refine in support of the standards commission. |

25. Additional comments regarding your report:

Increased staffing in the reference laboratory in year for 2 full time equivalent.