

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-29 13:26:37

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Equine influenza
Address of laboratory:	Johnstown Naas Co. Kildare IRELAND
Tel.:	+353-45 86.62.66
Fax:	+353-45 86. 62.73
E-mail address:	acullinane@irishequinecentre.ie
Website:	www.irishequinecentre.ie
Name (including Title) of Head of Laboratory (Responsible Official):	Sarah McNicholas BBS MSc Chief Executive Officer
Name (including Title and Position) of OIE Reference Expert:	Professor Ann Cullinane Head of Virology
Which of the following defines your laboratory? Check all that apply:	Other: Registered Charity

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
Single radial haemolysis	Yes	3	757
Haemagglutination Inhibition	Yes	652	19
Direct diagnostic tests		Nationally	Internationally
RT-PCR	Yes	4641	29

**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?

Yes

NOTE: Currently, there are 22 laboratories that produce Standard Reference Reagents officially recognised by the OIE for 19 diseases/pathogens. Please click the following link to the list of OIE-approved International Standard Sera: <http://www.oie.int/en/our-scientific-expertise/veterinary-products/reference-reagents/>. If the reagent is not listed on this page, it is NOT considered OIE-approved. The next two questions allow you to indicate non-OIE-approved diagnostic reagents.

Disease	Test	Available from
Equine influenza	Haemagglutination inhibition; single radial haemolysis	Dr Marie-Emmanuelle Behr-Gross European Directorate for the Quality of Medicines, Council of Europe, 224 avenue de Colmar (entrée rue Schertz), F-67100 Strasbourg, France Tel: 33 (0)3 90.21.41.08 Fax: 33(0)3. 88.41.27.71 marie-emmanuelle.behr-gross@pheur.org

Type of reagent available	Related diagnostic test	Produced/ Supply imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient OIE Member Countries
Antiserum to A/eq/Newmarket/77 H7N7	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	CHINA (PEOPLE'S REP. OF)
Antiserum to A/eq/South Africa/4/03 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	CHINA (PEOPLE'S REP. OF)
Antiserum to A/eq/Richmond/1/07 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	CHINA (PEOPLE'S REP. OF)
Antiserum to A/eq/Newmarket/77 H7N7	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	SERBIA
Antiserum to A/eq/South Africa/4/03 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	SERBIA
Antiserum to A/eq/Richmond/1/07 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	SERBIA
Antiserum to A/eq/Newmarket/77 H7N7	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	
Antiserum to A/eq/Newmarket/77 H7N7	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	
Antiserum to A/eq/Newmarket/77 H7N7	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	
Antiserum to A/eq/Richmond/1/07 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	MOROCCO

Antiserum to A/eq/Richmond/1/07 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	NIGERIA
Antiserum to A/eq/Richmond/1/07 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	SENEGAL
Antiserum to A/eq/South Africa/4/03 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	MOROCCO
Antiserum to A/eq/South Africa/4/03 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	SENEGAL
Antiserum to A/eq/South Africa/4/03 (H3N8)	SRH and HI	Imported	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	<input checked="" type="radio"/> <10mL <input type="radio"/> 10-100mL <input type="radio"/> 100-500mL <input type="radio"/> >500mL	NIGERIA

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
Ether extracted H3N8 viruses	HI	Produced	0	30ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Ether extracted H3N8 viruses	HI	Produced	0	171ml	3	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
H7N7 Virus A/eq/Newmarket/77	HI	Produced	0	15ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
H7N7 Virus A/eq/Newmarket/77	HI	Produced	0	5ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
H7N7 Virus A/eq/Newmarket/77	HI	Produced	0	24ml	3	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

A/eq/Wexford/2014	RT-PCR control	Produced	0	30 x 120ul	3	<input checked="" type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
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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
THE NETHERLANDS	January	0	13
FRANCE	June	35	0

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
ARGENTINA	Sensitivity and specificity of diagnostic techniques	E mail
SPAIN	Excretion lengths for equine influenza	E mail
UNITED KINGDOM	Harmonisation of mandatory equine influenza regulations in racing jurisdictions in Europe.	Expert Report as requested by the European Horserace Scientific Liaison Committee (EHSLC) Chief Regulatory Veterinary Officers working committee
THE NETHERLANDS	Protocol for sequencing equine influenza virus	E mail
AUSTRALIA	Mitigation of economic impact of influenza outbreaks	E mail
UNITED KINGDOM	Efficacy of influenza vaccines	E-mail
CHINA (PEOPLE'S REP. OF)	Adverse effects of vaccination	E-mail and at OIE Headquarters

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
Characterisation of Clade 1 virus responsible for 2019 epidemic in Europe	2019-2021	Genetic and antigenic characterisation to determine relatedness to current vaccine strains, elucidate epidemiology and determine basis for rapid spread and vaccination breakdown	Japanese Racing Association and GD Animal Health Deventer	JAPAN THE NETHERLANDS
Concurrent Vaccination Regimes for Young Sporthorses	2018- 2020	Development of Science based vaccination regimes	Hanover University	GERMANY

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:
Epidemiological investigation of outbreaks with particular emphasis on vaccination status, serology, virus detection by real time RT-PCR, whole genome sequencing, antigenic characterisation with specific ferret antisera.

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:
As above nationally and internationally. Please see publication list below as representative example.

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: 3

Gahan J, Garvey M, Asmah Abd Samad R, Cullinane A. Whole Genome Sequencing of the First H3N8 Equine Influenza Virus Identified in Malaysia. *Pathogens*. 2019 May 10;8(2)

Sack A, Cullinane A, Daramragchaa U, Chuluunbaatar M, Gonchigoo B, Gray GC. Equine Influenza Virus—A Neglected, Reemergent Disease Threat. *Emerg Infect Dis*. 2019;25(6):1185-1191. doi:10.3201/eid2506.161846

Gildea S, Lyons P, Lyons R, Gahan J, Garvey M, Cullinane A. Annual booster vaccination and the risk of equine influenza to Thoroughbred racehorses. *Equine Vet J*. 2019 Nov 21. doi: 10.1111/evj.13210

b) International conferences: 3

Federation of European Equine Veterinary Associations (FEEVA) Disease Surveillance IV Summit - Presentation entitled "Update on Activities of OIE Expert Surveillance Panel for Equine Influenza"

SIVE National Federation of Equine Veterinarians in Italy - Presentation entitled "Clinical Aspects of Equine Viral Disease"

European Equine Infectious Diseases Meeting, Caen, Normandy -Presentation entitled "Update on Activities of OIE Expert Surveillance Panel for Equine Influenza"

c) National conferences: 1

Update on Equine Influenza and the Activities of the OIE Expert Surveillance Panel at Veterinary Ireland's Annual Equine Veterinary Conference

Irish Thoroughbred Breeders Winter Seminars - Biosecurity for the 2020 Breeding Season- Minimise the Threat of Viral Disease

d) Other:

(Provide website address or link to appropriate information) 1

Educational video "the Equine Influenza Pioneers Circle" <https://www.boehringer-academy.co.uk/>

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	Japan	2
a	France	3
c	Brazil	1

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	-The-Irish-Equine-Foundation-Ltd-151T-Cert.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Single radial haemolysis	INAB
Haemagglutination Inhibition	INAB
Real Time RT-PCR	INAB

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	Expert Surveillance Panel	Gounalan Pavade	April 2019	OIE Headquarters	13
International	Federation of European Equine Veterinary Associations (FEEVA) Disease Surveillance IV Summit	Don Collins, Miguel C Llorca	September 2019	Kildare , Ireland	22

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
13th OIE Seminar at the International Symposium of the World Association of Veterinary Laboratory Diagnosticians (ISWALVD)	June 2019	Chang Mai , Thailand	Speaker	Quality systems: protection against litigation

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.
Quality Control and Maintenance of INAB Accreditation	Organiser/participant	2	Animal Health Trust and Irish Equine Centre

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
Expert Surveillance Panel	Global surveillance, assessment of vaccine efficacy and virus characterisation.	Animal Health Trust Gluck Equine Research Centre

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
Training and quality control	3	<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

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)
Member of Biological Standards Commission	OIE Headquarters	International Standards for Diagnostic Tests and Vaccines
Representative of Biological Standards Commission at Ad hoc Kick-off Meeting of the OIE Virtual Biobank project	OIE Headquarters	Compilation of a Global Veterinary Biobank which will facilitate the distribution of reference standards and diagnostic materials internationally.
Update to OIE Manual in response to queries from OIE member countries	Remote	Equine Influenza
Revision of Manual in response to comments from BSC	Remote	Biotechnology Advances in Diagnosis of Infectious Disease
Compilation of ESP recommendations for publication in OIE Bulletin	Remote	Vaccine Composition
Manuscript review for publication	Remote	Equine Influenza
Epidemiological query	Remote	Equine Influenza in West Africa
Response to Questionnaire for OIE Stakeholders TT1 - 87SG	Remote	Evolution of Consumer Concerns for Animal Welfare, Agricultural Practices and role for Veterinarians
Proposed revisions to the Code chapter on equine influenza	Remote and OIE Headquarters	Vaccination prior to shipment

25. Additional comments regarding your report:

Methods and reagents for the diagnosis and characterisation of equine influenza were supplied to Mr Giovanni Cattoli Joint FAO/IAEA Division for Nuclear Applications in Food and Agriculture who in turn distributed them to laboratories in Africa.

Viruses isolated in 2019 were supplied to the Japanese Racing Association for the production of specific horse antisera for use in antigenic characterisation of viruses.