OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-10 19:12:00

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Bovine spongiform encephalopathy
Address of laboratory:	Township Road 9-1 P. O. Box 640 Lethbridge Alberta T1J 3Z4 CANADA
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. John Copps, Executive Director, CFIA-NCAD (Winnipeg and Lethbridge Laboratories) National Centre for Foreign Animal Disease (Winnipeg Laboratory - Arlington)
Name (including Title and Position) of OIE Reference Expert:	Dr. Stefanie Czub, DVM/PhD; Manager, Virology/Pathology/TSE sections; Head,National & OIE Reference Laboratories for BSE; Adjunct Professor, PAH/UCVM; CFIA-NCAD
Which of the following defines your laboratory? Check all that apply:	Governmental Research

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	
Indirect diagnostic tests		Nationally	Internationally
0	no	0	0
Direct diagnostic tests		Nationally	Internationally
Prionics-Check PrioStrip	Yes	4388	1
BioRad TeSeElisa	Yes	0	1
IDEXX Herdcheck BSE	Yes	0	1
Prionics Check Western/Hybrid Western Blot	Yes	0	1
OIE Immunoblot	Yes	0	1
BSE IHC	Yes	0	25

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

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
BSE tissue blocks	IHC and H&E	produced and supplied	◉<10mL ○10-100mL ○100-500mL ○>500mL	○<10mL ◉10-100mL ○100-500mL ○>500mL	BRAZIL COLOMBIA DOMINICAN (REP.)
BSE brain homogenate (c-, H-, and L-type)	Panels for rapid tests	produced and supplied	○<10mL ○10-100mL ◉100-500mL ○>500mL	○<10mL ◉10-100mL ○100-500mL ○>500mL	AUSTRALIA BRAZIL CANADA UNITED STATES OF AMERICA
BSE tissue sections	Panels for IHC and H&E	produced and supplied	◉<10mL ○10-100mL ○100-500mL ○>500mL	◉<10mL ○10-100mL ○100-500mL ○>500mL	BRAZIL CANADA GERMANY UNITED STATES OF AMERICA
BSE fresh/frozen tissue from challenged bovine and ovine (C-, H-, or L-type)	Molecular assays & animal challenges	produced	◉<10mL ○10-100mL ○100-500mL ○>500mL	◉<10mL ○10-100mL ○100-500mL ○>500mL	
BSE fixed tissues from challenged bovine and bovine (C-, H-, and L-type)	Research & Development	produced	◉<10mL ○10-100mL ○100-500mL ○>500mL	◉<10mL ○10-100mL ○100-500mL ○>500mL	
Blood, serum, plasma from BSE challenged bovine and ovine (C-, H-, and L-type)	Molecular assays, animal challenges, research & development	produced and supplied	○<10mL ◉10-100mL ○100-500mL ○>500mL	◉<10mL ○10-100mL ○100-500mL ○>500mL	CANADA
F99 Antibody	IHC	supplied	◉<10mL ○10-100mL ○100-500mL ○>500mL	◉<10mL ○10-100mL ○100-500mL ○>500mL	COLOMBIA

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

No

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
BRAZIL	January	24	0
BRAZIL	May	0	1

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
PERU	Troubleshooting IHC staining	Remote (electronically)
BRAZIL	Troubleshooting IHC staining	Remote (electronically)
CUBA	Troubleshooting IHC staining	In person and remote (electronically)

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
Peroral intraspecies transmission of atypical BSE	12 yrs	risk assessment & improved understanding of pathogenesis	Friedrich-Loeffler Institute	GERMANY
Role of microglia cells in 3 types of BSE	4	improved understanding of pathogenesis	Friedrich-Loeffler Institute	GERMANY
Intracranial species transmission of 2 unusual BSE cases	5	risk assessment	Vetsuisse, University of Berne	SWITZERLAND
Identifying genetic factors affecting BSE incubation and presentation in cattle	3	improved understanding of pathogenesis	Friedrich-Loeffler Institute, Animal & Plant Health Agency UK	GERMANY UNITED KINGDOM

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:
BSE surveillance animal information and test results

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:
BSE surveillance animal information and test results

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: 1
Prion 2019, Edmonton, AB Canada May 21-24, 2019
Poster Presented during Prion 2019, entitled: Genetic factors affecting BSE

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 1
Various reports have been produced. Our laboratory is part of the Canadian Animal Health Surveillance Network.

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: 1
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, b and c	Cuba	6

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)
ISO 17025	2017 SCC Certicate of Accreditation.PDF

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Prionics-Check PrioStrip	Standard Councils of Canada (SCC)
Prionics-Check Western	Standard Councils of Canada (SCC)
BioRad TeSeElisa	Standard Councils of Canada (SCC)
IDEXX Herd-Check BSE	Standard Councils of Canada (SCC)
SAF/OIE Immunoblot	Standard Councils of Canada (SCC)
BSE IHC	Standard Councils of Canada (SCC)
BSE H&E	Standard Councils of Canada (SCC)
Hybrid Western Blot	Stanadrd Councils of Canada (SCC)

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?

Yes

Purpose of the proficiency tests: [1]	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Validation of diagnostic protocol: BSE rapid tests	organiser	9	1
Validation of diagnostic protocol: BSE IHC	organiser	5	2
Validation of diagnostic protocol: BSE rapid tests	participant	8	1
Validation of diagnostic protocol: BSE IHC	participant	3	1

[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
Intraspecies transmission of 2 unusual BSE cases	risk assessment and improved understanding of pathogenesis	Vetsuisse, University of Berne/Switzerland
Identifying genetic factors affecting BSE incubation and presentation in cattle	risk assessment and improved understanding of pathogenesis	Animal and Plant Health Agency, UK

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
Validation of laboratories' proficiency and diagnostic assays for the detection of BSE	14	☐Africa ☒Americas ☒Asia and Pacific ☒Europe ☐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?

No

25. Additional comments regarding your report:

Dr. Stefanie Czub was on extended medical in 2019; therefore, there was a reduction in her activities/involvement with the BSE community;

The BSE Reference Laboratory produced a large amount of BSE challenged animals tissues in 2019 which are available for future research and collaborative projects.