OIE Reference Laboratory Reports Activities

Activities in 2021

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Chronic wasting disease
Address of laboratory:	3851 Fallowfield Road P.O. Box 11300 Station H, Nepean Ontario K2H 8P9 CANADA
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Website:	www.inspection.gc.ca
Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Abed Harchaoui, Executive Director, Ontario Laboratories Network, Canadian Food Inspection Agency
Name (including Title and Position) of OIE Reference Expert:	Dr. Gordon Mitchell, Head, National and OIE Reference Laboratory for Scrapie and CWD
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	
Indirect diagnostic tests		Nationally	Internationally
0	0	0	0
Direct diagnostic tests		Nationally	Internationally
PrP ELISA		3486	0
PrP Immunohistochemistry		1694	0
PrP Western Blot		416	0
PRNP Genotyping		2407	0

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
Tissue Homogenates	PrP ELISA / Western Blot	Provide	Multiple	Multiple	2	☐Africa ☒America s ☐Asia and Pacific ☐Europe ☐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?

No

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
UNITED KINGDOM	Genetic resistance to CWD in cervids	Email
PERU	TSE Diagnostic testing	Email
UNITED STATES OF AMERICA	Surveillance testing, genetic resistance	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
Investigating cross-species transmission of CWD	Ongoing	Characterizing transmission of Korean and Canadian CWD Isolates	Animal and Plant Quarantine Agency	KOREA (REP. OF)
Characterization of CWD Isolates	Ongoing	Investigating variability between CWD isolates in Europe and North America	Norwegian Veterinary Institute, Colorado State University	FRANCE GERMANY ITALY NORWAY UNITED KINGDOM UNITED STATES OF AMERICA
Genetic approaches and tools to prevent, control, and eradicate TSEs	Ongoing	Developing genetic and diagnostic tools to manage CWD	Washington State University, USDA	UNITED STATES OF AMERICA

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:
Data resulting from all surveillance and disease investigation associated diagnostic testing is collected.

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:
Case data from all disease positive herds or regions is collated and communicated to regulatory agencies.

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: 2
Bian J, Kim S, Kane SJ, Crowell J, Sun JL, Christiansen J, Saijo E, Moreno JA, DiLisio J, Burnett E, Pritzkow S, Gorski D, Soto C, Kreeger TJ, Balachandran A, Mitchell G, Miller MW, Nonno R, Vikøren T, Våge J, Madslien K, Tran L, Vuong TT, Benestad SL, Telling GC. Adaptive selection of a prion strain conformer corresponding to established north american CWD during propagation of novel emergent norwegian strains in mice expressing elk or deer prion protein. PLoS Pathog. 2021;17(7): e1009748.

Dudas S, Anderson R, Staskevicus A, Mitchell G, Cross JC, Czub S. Exploration of genetic factors resulting in abnormal disease in cattle experimentally challenged with bovine spongiform encephalopathy. Prion. 2021;15(1):1-11.

b) International conferences: 0

c) National conferences: 0

d) Other:
(Provide website address or link to appropriate information) 1
Information on CWD in Canada:
https://inspection.canada.ca/animal-health/terrestrial-animals/diseases/reportable/cwd/eng/1330143462380/1330143991594

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?

No

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	Accreditation Certificate.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PrP Immunohistochemistry	Standards Council of Canada (SCC)
PrP ELISA	SCC
PrP Western blot	SCC
PRNP Genotyping	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?

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE Reference Laboratories
Investigating cross-species transmission of CWD	Characterizing transmission of Korean and Canadian CWD Isolates	Animal and Plant Quarantine Agency, Republic of Korea
Collaborative framework concerning CWD reference laboratories	Advancing strategies to detect, control and characterize CWD	Norwegian Veterinary Institute

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
PrP Immunohistochemistry proficiency	3	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
PrP ELISA proficiency	6	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
PrP Western blot proficiency	1	☐Africa ☒Americas ☐Asia and Pacific ☐Europe ☐Middle East
PRNP Genotyping proficiency	3	☐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: