

WOAH Reference Laboratory Reports Activities 2022

Activities in 2022

This report has been submitted : 26 avril 2023 12:05

Laboratory Information

Name of disease (or topic) for which you are a designated WOA Reference Laboratory:	Trichinellosis
Address of laboratory:	Centre for Food-borne and Animal Parasitology, Canadian Food Inspection Agency Saskatoon Laboratory, 116 Veterinary Road, Saskatoon, SK, Canada S7N 2R3
Tel.:	13063857824
E-mail address:	brad.scandrett@inspection.gc.ca
Website:	https://inspection.canada.ca/science-and-research/our-laboratories/saskatoon/eng/1549576715254/1549576742564
Name (including Title) of Head of Laboratory (Responsible Official):	David McKinnon, Director, Canadian Food Inspection Agency Saskatoon Laboratory
Name (including Title and Position) of WOA Reference Expert:	Brad Scandrett, Head, Centre for Food-borne and Animal Parasitology
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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally

Indirect E/S ELISA	Yes	70	0
Western Blot	Yes	24	0
Direct diagnostic tests		Nationally	Internationally
Artificial Digestion	Yes	690	0
Multiplex PCR	Yes	1	0

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
Trichinella spiralis proficiency samples	Artificial Digestion	Produced	288	32	3	America 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?

Yes

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

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
Identification of Trichinella taxa using next-generation sequencing on the Illumina platform	'Identification of Trichinella taxa by ITS-1 amplicon next-generation sequencing' (manuscript in preparation)

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 WOAH Members?

No

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

Yes

NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
CANADA	Ongoing training and/or proficiency assessment of industry analysts to perform the artificial digestion assay for Trichinella and to facilitate effective oversight of industry labs performing this testing on horse meat or pork to meet requirements for export and domestic food safety (i.e., ready-to-eat products)	In-person, remote (e-mail/virtual meetings)
CANADA	Ongoing provision of scientific advice and proficiency assessment of analysts performing the artificial digestion assay for Trichinella in walrus meat, a food safety concern in the Arctic	Remote (e-mail/virtual meetings)
FRANCE	Ongoing assessment of Trichinella artificial digestion assay proficiency sample testing results	Remote (e-mail)
NEW ZEALAND	Ongoing assessment of Trichinella artificial digestion assay proficiency sample testing results	Remote (e-mail)

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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:

Data on prevalence of *Trichinella spiralis* in the national swine herd were collected via digestion testing of approximately 18965 samples annually at our laboratory as per Sample Plan M_215 under the CFIA National Microbiological Monitoring Program (NMMP). (Information on the 2021 NMMP M_215 Sample Plan can be accessed at <https://inspection.canada.ca/food-safety-for-industry/food-chemistry-and-microbiology/food-safety-testing-bulletin-and-reports/national-microbiological-monitoring-program/eng/1649082709385/1649082710088>)

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:

Data from the CFIA T. spiralis monitoring program for breeder and market hogs and captive wild boar at slaughter are published in the National Microbiological Monitoring Program and Food Safety Oversight Program annual reports. (Annual reports for 2021 can be accessed via <https://inspection.canada.ca/food-safety-for-industry/food-chemistry-and-microbiology/food-safety-testing-bulletin-and-reports/national-microbiological-monitoring-program/eng/1649082709385/1649082710088>)

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:

1

Lobanov V.A., Konecsni K.A., Purves R.W., Scandrett W.B. 2022. Performance of indirect enzyme-linked immunosorbent assay using *Trichinella spiralis*-derived Serpin as antigen for the detection of exposure to *Trichinella* spp. in swine. *Veterinary Parasitology*, 309:109744. DOI: 10.1016/j.vetpar.2022.109744

*Additionally, an article by Martin Cheung, Daisy Yu, Tracy Chan, Navdeep Chahil, Christine Tchao, Michael Slatnik, Shobhit Maruti, Nina Sidhu, Brad Scandrett, Natalie Prystajek, Muhammad Morshed, and Catherine Hogan entitled 'The Brief Case: An infectious hazard of hunting' was accepted July 10, 2022 for publication in the *Journal of Clinical Microbiology*.

b) International conferences:

0

c) National conferences:

0

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

1

First meeting (virtual) of the OIE (WOAH) Network of Collaborating Centres for Food-borne Zoonotic Parasites (Americas, European and Asia Pacific Regions), held May 24, 2022.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025:2017		Saskatoon Laboratory-SCC Scope of Accreditation.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
The double separatory funnel digestion procedure for the detection of Trichinella larvae in pork	ILAC Signatory SCC (Standards Council of Canada)
The double separatory funnel digestion procedure for the detection of Trichinella larvae in horse meat	ILAC Signatory SCC (Standards Council of Canada)

20. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

Yes

Our laboratory maintains a "biorisk management system" with all commensurate policies, procedures and documentation in accordance with our Human Pathogens and Toxins Act (HPTA) licensure issued by the Public Health Agency of Canada (PHAC) and Letters of Compliance for Level 2 in-vitro and in-vivo work with terrestrial animal pathogens in accordance with the Canadian Biosafety Standard (2nd Ed.) issued by the Office of Biohazard Containment and Safety, CFIA.

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
First meeting (virtual) of the OIE (WOAH) Network of Collaborating Centres for Food-borne Zoonotic Parasites (Americas, European and Asia Pacific Regions)	2022-05-24	Virtual	Speaker	The Canadian Food Inspection Agency's Centre for Food-borne and Animal Parasitology: General Overview and Priorities as a WOA Collaborating Centre

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 WOA REF. LABS/ ORGANISING WOA REF. LAB.
-------------------------------------	--	------------------	---

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

No

26. Did your laboratory collaborate with other WOA 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 WOA REFERENCE LABORATORIES
Dr. María Ángeles Gómez Morales	Provision of selected reference strains and wildlife-derived isolates of <i>Trichinella</i> spp. from the International <i>Trichinella</i> Reference Centre Repository for validation of newly-developed amplicon-based next-generation sequencing method for genotyping of these parasitic nematodes	Istituto Superiore di Sanità, European Union Reference Laboratory for Parasites, viale Regina Elena 299, 00161 Roma, Italy

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA 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 WOA Member Countries
--	---	--------------------------------	---

Ongoing validation/verification of respective magnetic stirrer artificial digestion assays for *Trichinella* and of analyst competence at participating laboratories

Organiser and participant

8

America
Asia and Pacific
Europe

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Invited expert review (conducted jointly with WOA Reference Laboratory in Rome) of WOA (OIE) Terrestrial Code Chapter 8.17		

'Infection with <i>Trichinella</i> spp.' for alignment with previously-reviewed Terrestrial Manual Chapter 3.1.21 'Trichinellosis'	Virtual	Review of WOA H Standards
--	---------	---------------------------

29. Additional comments regarding your report:

No