

# WOAH Reference Laboratory Reports Activities 2024

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## LABORATORY INFORMATION

<b>*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:</b>	Trichinellosis
<b>*Address of laboratory:</b>	Centre for Food-borne and Animal Parasitology, Canadian Food Inspection Agency (CFIA) Saskatoon Laboratory, 116 Veterinary Road, Saskatoon, SK, Canada, S7N 2R3
<b>*Tel:</b>	1-306-385-7824
<b>*E-mail address:</b>	brad.scandrett@inspection.gc.ca
<b>Website:</b>	<a href="https://inspection.canada.ca/science-and-research/our-laboratories/saskatoon/eng/1549576715254/1549576742564">https://inspection.canada.ca/science-and-research/our-laboratories/saskatoon/eng/1549576715254/1549576742564</a>
<b>*Name (including Title) of Head of Laboratory (Responsible Official):</b>	David McKinnon, Director, CFIA Saskatoon Laboratory
<b>*Name (including Title and Position) of WOAH Reference Expert:</b>	Brad Scandrett, Head, Centre for Food-borne and Animal Parasitology, CFIA Saskatoon Laboratory
<b>*Which of the following defines your laboratory? Check all that apply:</b>	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 WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally

### Brad Scandrett - - CANADA

Direct diagnostic tests		Nationally	Internationally
Artificial Digestion	No	645	0
ITS-1 Next Generation Sequencing (Lobanov et al., 2023)	No	76	39
Multiplex PCR (Zarlenga et al., 1999)	No	1	1

## 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 testing samples	Artificial digestion	Produced	308 samples	12 samples	2	CANADA, FRANCE,

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?

No

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

No

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 WOA?H Members?

No

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

Yes

**Brad Scandrett - - CANADA**

Name of the WOA 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)

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

13. In exercising your activities, have you identified any regulatory research needs\* relevant for WOA?

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 21151 samples at our laboratory as per annual Sample Plan M215 under the CFIA National Microbiological Monitoring Program (NMMP). (Information on the NMMP M215 Sample Plan can be accessed at <https://inspection.canada.ca/food-safety-for-industry/food-chemistry-and-microbiology/food-safety-testing-reports-and-journalarticles/eng/1453324778043/1453327843364>). In collaboration with the University of Saskatchewan, new data have been accrued on the geographic and host distribution of the recently described new *Trichinella* species, *T. chanchalensis*.

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 annual reports. (Annual reports can be accessed via <https://inspection.canada.ca/food-safety-for-industry/food-chemistry-and-microbiology/food-safety-testing-reports-and-journal-articles/eng/1453324778043/1453327843364>).

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:

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b) International conferences:

1

Queiroz, C., Lobanov, V., Konecni, K., Scandrett, B. Applying DNA metabarcoding and bioinformatic tools to enhance identification of parasites of One Health relevance. American Association of Veterinary Parasitology, Atlanta, GA, 27-30 July, 2024

c) National conferences:

1

Queiroz, C., Lobanov, V., Lalonde, L., Scandrett, B. The application of next generation DNA sequencing and bioinformatics to improve detection of parasites of human and animal health relevance. Canadian Animal Health Laboratorian Network, Ottawa, 2-5 June, 2024.

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

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## 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?

**Brad Scandrett - - CANADA**

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025:2017	See attached PDF	Saskatoon Laboratory-SCC Scope of Accreditation 2024.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)
Test Method Development and Evaluation and Non-routine Testing (TMDNRT)	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 continues to maintain 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 work with terrestrial animal pathogens in accordance with the Canadian Biosafety Standard (3rd 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 WOAHP?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAHP?

No

## TOR10: NETWORK WITH WOAHP REFERENCE LABORATORIES

23. Did your laboratory exchange information with other WOAHP Reference Laboratories designated for the same pathogen or disease?

Yes

24. Do you network (collaborate or share information) with other WOAHP Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS
Trichinellosis	Participant in information exchange (via e-mail) regarding morphometrics and establishment in rodent models of Trichinella spp.	2	WOAHP Reference Laboratory for Trichinellosis, Istituto Superiore di Sanità, viale Regina Elena 299 00161 Roma, Italy

25. Did you organise or participate in inter-laboratory proficiency tests with WOA Reference Laboratories designated for the same pathogen during the past 2 years?

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
Ecology and biology of a new species of <i>Trichinella</i> in the North American Arctic	Information exchange (via e-mail) regarding recommendations on morphometrics and establishment in rodent models for recently described species <i>Trichinella chanchalensis</i>	WOAH Reference Laboratory for Trichinellosis, Istituto Superiore di Sanità, 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 during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
Ongoing validation/verification of respective magnetic stirrer artificial digestion assays for <i>Trichinella</i> and of analyst competence at participating laboratories	Organiser and participant	10	The double separatory funnel digestion procedure for the detection of <i>Trichinella</i> larvae in pork. The double separatory funnel digestion procedure for the detection of <i>Trichinella</i> larvae in horse meat.	CANADA, FRANCE,

## TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

Report prepared by Laura Lalonde