WOAH Reference Laboratory Reports Activities 2023
Activities in 2023
This report has been submitted : 25 juin 2024 13:53

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:
Surra (Trypanosoma evansi)

Address of laboratory:
Nationalestraat 155, 2000 Antwerpen, BELGIUM

Tel:
+32-3 247.63.71

E-mail address:
nvanreet@itg.be

Website:
www.itg.be

Name (including Title) of Head of Laboratory (Responsible Official):
Dr. Vet. Rombouts Caroline

Name (including Title and Position) of WOAH Reference Expert:
Dr. Van Reet Nick

Which of the following defines your laboratory?
Check all that apply:
Research agency

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

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Indicated in WOAH Manual (Yes/No)</th>
<th>Total number of test performed last year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nationally</td>
<td>Internationally</td>
</tr>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CATT / T. evansi</td>
<td>Yes</td>
<td>76</td>
</tr>
<tr>
<td>Immune Trypanalysis</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>ELISA / water soluble extract</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>ELISA / RoTat 1.2 VSG</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood smear Giemsa</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?
No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?
Yes

<table>
<thead>
<tr>
<th>TYPE OF REAGENT AVAILABLE</th>
<th>RELATED DIAGNOSTIC TEST</th>
<th>PRODUCED/ PROVIDE</th>
<th>AMOUNT SUPPLIED NATIONALY (ML, MG)</th>
<th>AMOUNT SUPPLIED INTERNATIONL (ML, MG)</th>
<th>NO. OF RECIPIENT WOAH MEMBER COUNTRIES</th>
<th>COUNTRY OF RECIPIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AUSTRALIA, BRAZIL,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BULGARIA, CHILE,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CHINA (PEOPLE'S REP.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OF), EGYPT, FRANCE,</td>
</tr>
</tbody>
</table>
## WOAH Reference Laboratory Reports Activities 2023

**CATT / T. evansi**

- **Surra antibody detection** produced 39,268 tests
- **53,250 tests** produced 24

**DNA of T. evansi type B**

- **PCR** to provide 1 aliquot
  - 0 tests
  - 1x 0.05 ml
- **1** aliquot

**T. evansi strains**

- **PCR** to provide 14 rodent adapted T. evansi strains
  - 1 x 1 ml
- **1** aliquot

**Dromedary sera from Algeria**

- **ELISA** to provide 300 sera from seropositive and seronegative dromedary camels
  - 300 x 0.1 ml
- **1** aliquot

### 4. Did your laboratory produce vaccines?

No

### 5. Did your laboratory supply vaccines to WOAH Members?

No

### TOR3: NEW PROCEDURES

**NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED**

<table>
<thead>
<tr>
<th>Trypanozoon-RT-qPCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplexed RT-qPCR that targets the Trypanosoma brucei repeat (TRBR) sequence in combination with 18S rRNA detection, (publication in preparation)</td>
</tr>
</tbody>
</table>

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

No

### TOR4: DIAGNOSTIC TESTING FACILITIES

**NAME OF WOAH MEMBER COUNTRY SEEKING ASSISTANCE**

- **BELGIUM**
- **CANADA**
- **CANADA**
- **GERMANY**
- **ISRAEL**
- **ISRAEL**
- **ITALY**
- **THE NETHERLANDS**
- **THE NETHERLANDS**
- **NEW ZEALAND**

- **DATE**
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31
  - 2023-12-31

- **WHICH DIAGNOSTIC TEST USED**
  - CATT / T.evansi
  - CATT / T.evansi
  - Giemsa
  - CATT / T.evansi
  - CATT / T.evansi
  - Giemsa
  - CATT / T.evansi
  - CATT / T.evansi
  - Immune Trypanolysis
  - CATT / T.evansi

- **NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT**
  - 76
  - 4
  - 4
  - 31
  - 2
  - 3
  - 8
  - 0
  - 0
  - 2

- **NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES**
  - 0
  - 0
  - 0
  - 0
  - 0
  - 0
  - 0
  - 66
  - 1
  - 0

WOAH Reference Laboratory Reports Activities 2023
11. Did your laboratory provide expert advice in technical consultancies on the request of a WOAH Member?
Yes

<table>
<thead>
<tr>
<th>NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY</th>
<th>PURPOSE</th>
<th>HOW THE ADVICE WAS PROVIDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGYPT</td>
<td>Request for Trypanosoma evansi DNA</td>
<td>email</td>
</tr>
<tr>
<td>THE NETHERLANDS</td>
<td>Inquiry about the testing of horses in ELISA / RoTat 1.2 and ELISA / water soluble antigen</td>
<td>email, zoom</td>
</tr>
<tr>
<td>THE NETHERLANDS</td>
<td>Inquiry about the CATT rotator</td>
<td>email</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>Inquiry about the scoring system in CATT / T.evansi</td>
<td>email</td>
</tr>
<tr>
<td>SPAIN</td>
<td>Inquiry about a research project on verification of surra elimination</td>
<td>email</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>Request for Trypanosoma evansi strains</td>
<td>email, zoom</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>Request for dromedary sera for validation of ELISA test</td>
<td>email</td>
</tr>
</tbody>
</table>

**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

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

**Research need : 1**

**Please type the Research need:** Surra, a disease affecting animals and caused by the parasite Trypanosoma evansi, poses significant challenges to livestock health and the broader agricultural economy. The current diagnostic landscape for surra is fragmented, primarily revolving around the Card Agglutination Trypanosomiasis Test (CATT/T. evansi) and immune trypanolysis targeting the RoTat 1.2 variant antigen. Both methods have their limitations in terms of specificity, sensitivity, and practicality in field conditions. A standardized Enzyme-Linked Immunosorbent Assay (ELISA) format could significantly enhance surra detection by offering a more consistent, reliable, and easily deployable diagnostic tool. This would facilitate early detection, improve disease surveillance accuracy, and enable more effective management and control strategies. A commercialised ELISA / T. evansi could bridge the gaps between existing tests and allow research laboratories an additional method for serological diagnosis which would generate standardised results between different labs. However, further development of such a commercialised kit would require substantial funding.

**Relevance for WOAH** Disease Control,
**Relevance for the Codes or Manual** Manual,
**Field** Epidemiology and Surveillance, Diagnostics,
**Animal Category** Terrestrial,
**Disease:**
Surra (Trypanosoma evansi)

Kind of disease (Zoonosis, Transboundary diseases) Transboundary diseases,

Additional keywords if needed: One keyword per entry

ELISA

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer: Chapter 3.1.21. – Surra in all species (Trypanosoma evansi infection)

Notes:

Answer:

**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:

Seroprevalence and parasitological prevalence of surra in the samples received for diagnostic testing.

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

No

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:

*in preparation for 2024*

b) International conferences:

c) National conferences:

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

1

*Internal dissemination of results*

**TOR7: SCIENTIFIC AND TECHNICAL TRAINING**

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

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 2

d) Internships (> 1 month) 0

<table>
<thead>
<tr>
<th>Type of technical training provided (a, b, c or d)</th>
<th>Country of origin of the expert(s) provided with training</th>
<th>No. participants from the corresponding country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**TOR8: QUALITY ASSURANCE**

18. Does your laboratory have a Quality Management System?
Yes

<table>
<thead>
<tr>
<th>Quality management system adopted</th>
<th>Certificate scan (PDF, JPG, PNG format)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN ISO/IEC 17025:2017</td>
<td>PDF</td>
</tr>
</tbody>
</table>

19. Is your quality management system accredited?
Yes

<table>
<thead>
<tr>
<th>Test for which your laboratory is accredited</th>
<th>Accreditation body</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATT / T.evansi</td>
<td>BELAC</td>
</tr>
<tr>
<td>Giemsa for microscopy</td>
<td>BELAC</td>
</tr>
</tbody>
</table>

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

Cultivation of T. evansi in rodents is described in the biosafety procedure: ITG BWPD-01

**TOR9: SCIENTIFIC MEETINGS**

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?
No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?
No

**TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES**

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

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

<table>
<thead>
<tr>
<th>NETWORK/DISEASE</th>
<th>ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)</th>
<th>NO. PARTICIPANTS</th>
<th>PARTICIPATING WOAH REF. LABS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WOAH Non-Tsetse Transmitted Animal Trypanosomoses Network</td>
<td>To create awareness on NTTAT as high impact neglected veterinary diseases To develop tools that enhance countries’ capacity for surveillance of the NTTAT in view of improved disease reporting To foster collaborative research on identified topics To respond to needs for scientific evidence as expressed by endemic countries and/or organisations engaged in NTTAT control To fill gaps in knowledge on disease epidemiology, pathogenesis, drug efficacy, vaccines, modes of transmission, reservoir hosts and vector control.</td>
<td>4</td>
<td>RL for Dourine Dr. Laurent Hebert ANSES, France E-mail: <a href="mailto:laurent.hebert@anses.fr">laurent.hebert@anses.fr</a> RL for Surra Prof. Noboru Inoue National Research Center for Protozoan Diseases, Obihiro University of Agriculture and Veterinary Medicine E-mail: <a href="mailto:ircpmi@obihiro.ac.jp">ircpmi@obihiro.ac.jp</a> Dr. Keisuke Suganuma E-mail:<a href="mailto:k.suganuma@obihiro.ac.jp">k.suganuma@obihiro.ac.jp</a> RL for trypanosomoses (tsetse-transmitted) Dr. Marc DESQUESNES CIRAD-IRD, FRANCE E-mail: <a href="mailto:marc.desquesnes@cirad.fr">marc.desquesnes@cirad.fr</a></td>
</tr>
</tbody>
</table>
TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen?
No

TOR12: EXPERT CONSULTANTS

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

<table>
<thead>
<tr>
<th>KIND OF CONSULTANCY</th>
<th>Location</th>
<th>SUBJECT (FACULTATIVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad hoc Group</td>
<td>Paris</td>
<td>surra and dourine</td>
</tr>
</tbody>
</table>

29. Additional comments regarding your report:
No