WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted: 6 juin 2024 11:30

Laboratory Information

| Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: | RABBIT MYXOMATOSIS |
| Address of laboratory: | VIA ANTONIO BIANCHI 7/9 |
| Tel: | +39-030 22.90.298 |
| E-mail address: | antonio.lavazza@izsler.it |

Name (including Title) of Head of Laboratory (Responsible Official): DR. GIORGIO VARISCO (DVM General Director)

Name (including Title and Position) of WOAH Reference Expert: DR. ANTONIO LAVAZZA ((DVM, MSc, Director Animal health and Welfare Department))

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

<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>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c-ELISA</td>
<td>Yes</td>
<td>Nationally 539</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCR</td>
<td>Yes</td>
<td>Nationally</td>
</tr>
<tr>
<td>EM</td>
<td>Yes</td>
<td>Nationally 12</td>
</tr>
<tr>
<td>NGS sequencing</td>
<td>Yes</td>
<td>Nationally 2</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 (non-WOAH-approved) and/or other diagnostic reagents to WOAH Members?

   No

4. Did your laboratory produce vaccines?

   No

5. Did your laboratory supply vaccines to WOAH 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 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

10. Did your laboratory carry out diagnostic testing for other WOAH Members?  
Yes

<table>
<thead>
<tr>
<th>NAME OF WOAH MEMBER COUNTRY SEEKING ASSISTANCE</th>
<th>DATE</th>
<th>WHICH DIAGNOSTIC TEST USED</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANAMA</td>
<td>2023-03-08</td>
<td>PCR and Sanger sequencing</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>FRANCE</td>
<td>2023-02-09</td>
<td>Serological tests on vaccinated animals</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

11. Did your laboratory provide expert advice in technical consultancies on the request of an 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>POLAND</td>
<td>Interlaboratory tests</td>
<td>email messages</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?  
Yes

<table>
<thead>
<tr>
<th>Title of the study</th>
<th>Duration</th>
<th>PURPOSE OF THE STUDY</th>
<th>PARTNERS (INSTITUTIONS)</th>
<th>WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement of preventive actions to emerging LAGoviruses in the MEDiterranean basin: development and optimisation of methodologies for pathogen detection and control (LAGMED)</td>
<td>3 years (extended)</td>
<td>i) To monitor RHD epidemiology in the Mediterranean basin and perform a genomic characterization of circulating strains, ii) To test and apply biosecurity measures to prevent outbreaks and better contain the disease in the field and in rabbit-production systems, particularly in countries located south to the Mediterranean basin. iii) To advise and train stakeholders and partners in Africa on disease diagnosis and prophylaxis, and technical management.</td>
<td>1.CIBIO/InBIO-UP Portugal 2.INIA Spain 3.Universidad de Córdoba Spain 4.ANSES France 5.ONCFS France 6.INRA-ENVT France 7.ENMV de Sidi Thabet Tunisia 8.ENSV d’Alger Algeria</td>
<td>ALGERIA FRANCE ITALY PORTUGAL SPAIN TUNISIA</td>
</tr>
<tr>
<td>Study of the health status of wild and domestic lagomorphs in the Iberian Peninsula from a One Health approach (Iber-)</td>
<td>Project Proposal</td>
<td>i) To assess the distribution and evolution of lagoviruses and MYXV in wild lagomorphs in the Iberian Peninsula. ii) To determine the role of wild and domestic lagomorphs in the epidemiology of zoonotic pathogens in the Iberian Peninsula. iii) To characterize the microbiome composition in relation to transmissible pathogens and to evaluate the</td>
<td>University of Sevilla</td>
<td>SPAIN</td>
</tr>
</tbody>
</table>
Antonio Lavazza · Myxomatosis · ITALY

| LagoHealth) | presence of ARG in wild and domestic lagomorphs in the Iberian Peninsula iv) To design integrated monitoring strategies for transmissible diseases of animal and public health importance in wild lagomorphs at the Iberian level. |

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

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:**

The outbreaks of myxomatosis worldwide are not very frequent. Indeed, the disease is still observed in those countries where European rabbit (Oryctolagus cuniculus) farming is developed and where wild and domestic rabbits are commonly present.

In farmed animals, cases of myxomatosis evolving in the amyxomatous respiratory form are more frequently observed.

In addition, in the Iberian peninsula the occurrence of the disease in Iberian hares is still reported.

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:**

Other than what is reported to WAHIS based on data contained in the official reports, few data are available from member countries, and when available, they are often published in international journals.

Myxomatosis is an "old" disease, and it is generally endemic in some countries, both in wild and domestic animals. Nowadays, myxomatosis has an relative economic impact in endemic areas (e.g., South Europe) being the infection is quite well controlled by vaccination.

Other than the occurrence of a new Myxomatosis strain affecting Iberian hares (Lepus granatensis) in the Iberian Peninsula since 2018, in the last ten years, the disease has been reported in Finland (2020), in the UK (2016, 2018, 2020), Australia (2015), Mexico (2015) Brazil (2013) and The Netherlands (2011).

However, based on WAHIS data, the disease is present in many countries in Europe and in the Americas (Argentina, Belgium, Brazil, Costa Rica; Czech Republic, France; Germany, Ireland, Italy, Malta; Portugal, Slovakia, Spain, Sweden, UK and USA).

The occurrence of myxomatosis in Italian hares (Lepus corsicanus) in South Italy was reported in 2020-2021.

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


b) International conferences:

0

c) National conferences:

1

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

0

**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: 1
b) Seminars: 0
c) Hands-on training courses: 0
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>A</td>
<td>SPAIN</td>
<td>3</td>
</tr>
</tbody>
</table>

**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>UNI CEI ENISO/IEC 17025</td>
<td>pdf</td>
</tr>
<tr>
<td></td>
<td>certificato-148-L-rev.6.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>PCR/RT-PCR</td>
<td>ILAC MRA - ACCREDIA</td>
</tr>
<tr>
<td>Serological Competitive MAb ELISA (c-ELISA)</td>
<td>ILAC MRA - ACCREDIA</td>
</tr>
<tr>
<td>Histopathology/Immunohistochemistry</td>
<td>ILAC MRA - ACCREDIA</td>
</tr>
<tr>
<td>EM negative staining methods</td>
<td>ILAC MRA - ACCREDIA</td>
</tr>
</tbody>
</table>

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

The laboratory works according to the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4, and the WHO Laboratory Biosafety Manual. A risk analysis approach was adopted to manage the biological risks of specific agents aimed at biosecurity in veterinary laboratories and animal facilities. As a result of this process, the assignment of Myxoma virus to the risk group (BLS2) relevant to the country was defined, and the consequent steps were taken to work in laboratory facilities defined by containment levels appropriate to the types of risks identified.

**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?
Not applicable (only WOAH Reference Laboratory designated for the disease)

24. Do you network (collaborate or share information) with other WOAH Reference Laboratories designated for the same pathogen?
Not applicable (Only WOAH Reference Laboratory designated for the disease)
25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?
Not applicable (Only WOAH Reference Laboratory designated for the disease)

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?
Not applicable (Only WOAH Reference Laboratory designated for the disease)

**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?
Yes

<table>
<thead>
<tr>
<th>Purpose for inter-laboratory test comparisons</th>
<th>Role of your reference laboratory (organizer/participant)</th>
<th>No. participating laboratories</th>
<th>Name of the Test</th>
<th>WOAH Member Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>To assess performances of PCR methods of viral detection in animal tissues</td>
<td>Participant</td>
<td>1</td>
<td>Inter-laboratory comparison tests on detection of myxoma virus DNA in animal tissues</td>
<td>POLAND</td>
</tr>
</tbody>
</table>

**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>Review of OIE Standards</td>
<td>On site</td>
<td>Last review of the chapter of the Manual was completed in 2020 and published on 2021.</td>
</tr>
</tbody>
</table>

29. Additional comments regarding your report:
Yes

Myxomatosis is a well-known disease that is still present, often endemic, in almost all countries where lagomorphs (especially European rabbits) are present in the wild and/or as farmed and domestic animals. However, its occurrence is very rarely reported also because its notification is not compulsory in most countries. In particular, in Europe, the approved legislation (reg EU 429/201) does not provide for and does not include any rabbit diseases among those subject to notification and management by member states’ laws. This obviously makes it difficult to know the real spread of the disease and consequently to have the possibility of studying it more in depth.

The available epidemiological data are scarce, also because the clinical aspects and distribution patterns have been almost the same since its original appearance, making the diagnosis often based only on clinical signs. Thus, the request for testing samples and scientific advice is equally uncommon. The real interest in Europe for this disease just increased in 2018 and afterward due to the occurrence of a mutated strain typically affecting Iberian hares. Thus, in the last years, we received some requests for supporting diagnosis and furnishing reagents from Iberian countries.