OIE Reference Laboratory Reports Activities

Activities in 2019

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Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Rabbit haemorrhagic disease
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Giorgio Varisco, Acting General Director
Name (including Title and Position) of OIE Reference Expert:	Lorenzo Capucci, Biologist Head of Proteomic Unit
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
RHDV Competition ELISA	yes	523	10
RHDV2 Competition ELISA	yes	805	796
EBHSV Competition ELISA	yes	598	0
RHDV IgA Isotype ELISA	yes	443	0
RHDV IgG Isotype ELISA	yes	245	611
RHDV IgM Isotype ELISA	yes	442	0
Direct diagnostic tests		Nationally	Internationally
RHDV Sandwich ELISA	yes	305	8
EBHSV Sandwich ELISA	yes	151	18
RT-PCR RHDV/RHDV2	yes	1	2
RT-PCR EBHSV	yes	79	0
Genome sequencing	no	87	0
RT-PCR lagovirus	yes	41	2

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
RHDV serological kit	c-ELISA	produced	n. 3	n. 7	4	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East
EBHSV serological kit	c-ELISA	produced	n. 8	n. 12	2	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East
RHDV/EBHSV virological kit	MAbs sandwich ELISA	produced	n. 15	n. 10	3	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East
RHDV2 serological kit	c-ELISA	produced	n. 3	n. 26	7	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East
RHDV/RHDV Differential kit	MAbs sandwich ELISA	produced	0	n. 5	3	☐Africa ☒Americas ☐Asia and Pacific ☒Europe ☐Middle East

Monoclonal antibodies	Immunohisto-chemistry and ELISA	produced	0	5 ml	3	☐Africa ☐Americas ☐Asia and Pacific ☒Europe ☐Middle East

4. Did your laboratory produce vaccines?

Yes

5. Did your laboratory supply vaccines to OIE Member Countries?

Yes

Vaccine name	Amount supplied nationally (ml, mg) (including for own use)	Amount supplied to other countries (ml, mg)	Name of recipient OIE Member Countries
RHDV2 inactivated autogenous vaccine	210500	0	AFGHANISTAN
EBHS inactivated autogenous vaccine	6400	100	GERMANY

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?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
SPAIN	january & june	816	0
FRANCE	march & august	85	0
NORWAY	january	18	0
THE NETHERLANDS	june	45	0
GERMANY	July	22	0
SWEDEN	january & july	10	0

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
JAPAN	Overall information on RHD, its contorl and rules for internationa tradings of products	Conference during visit on site
CANADA	To give information on the epidemiology and diagnosis of RHD	Email
QATAR	Testing of per rabbits for international movement	Email
SOUTH AFRICA	Testing of per rabbits for international movement	Email
IRELAND	Diagnosis and control of RHDV2 in free-living hares	Email
FRANCE	Diagnosis and control of RHDV2 in farmed rabbits	Email
POLAND	Diagnosis of lagoviruses	Visit and training in our laboratorry
SPAIN	Interpretation of serological results in vaccinated rabbits	Letters, emails and one day meeting
IRELAND	Testing of per rabbits for international movement	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
ANIHWA-ECALEP Emergence of highly pathogenic CAliciviruses in LEporidae through species jumps involving reservoir host introduction	3.5 years	The project aims at studying the emergence and reemergence of pathogenic lagoviruses, notably by exploring the hypothesis of a species jump involving introduction of a reservoir host species	ANSES(France) ONCFS (France) INRA/ENVT(France) INSERM (France) SVA (Sweden) IZSLER (Italy) CIBIO (Portugal)	SWEDEN
Improvement of preventive actions to emerging LAGoviruses in the MEDiterranean basin: development and optimisation of methodologies for pathogen detection and control (LAGMED).	3 years	The main objective is to increase interdisciplinary scientific and technical knowledge on the epidemiological characteristics of RHD and its aetiological agent, the rabbit haemorrhagic disease virus (RHDV) and to assess the relevant impact of this disease, particularly on the fragile equilibrium of the Mediterranean ecosystem	CIBIO/InBIO-UP Porto (Portugal) ENSV (Algerie);INIABarcelona(Spain)Universidad de Córdoba (Spain);ANSES Ploufrahan(France). Office Nationale de la Chasse et de la Faune Sauvage (ONCSF)Nantes (France); INRA (France)ENMV de Sidi Thabet (Tunisia); IZSLER, Brescia (Italy)	PORTUGAL

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:
We analyse the genomic and antigenic characteristics of the different lagorvirus strains identified mainly in European countries but also in some other parts of the world

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:
Data gathered are organised and elaborated in communications at meetings and conferences and for the preparation of scientifc papers. Indeed, the partecipation in international projects helps in the acquisitiona and exchange of data and information

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: 3
1.D'ANGELO A., CERRI J., CAVADINI P., LAVAZZA A., CAPUCCI L., FERRETTI M. The Eastern cottontail (Sylvilagus floridanus) in Tuscany (Central Italy): weak evidence for its role as a host of EBHSV and RHDV. Hystrix Ital J Mamm. – Vol. 30 no 1 (2019) 8-11.
2.STRIVE T, PIPER M, HUANG N, MOURANT R, KOVALISKI J, CAPUCCI L, COX TE, SMITH I. Retrospective serological analysis reveals presence of the emerging lagovirus RHDV2 in Australia in wild rabbits at least five months prior to its first detection. Transbound Emerg Dis. 2019 Oct 30. doi: 10.1111/tbed.13403. [Epub ahead of print]
3. COOKE BD, DUNCAN RP, MCDONALD I, LIU J, CAPUCCI L, MUTZE GJ, STRIVE T Prior exposure to non-pathogenic calicivirus RCV-A1 reduces both infection rate and mortality from rabbit haemorrhagic disease in a population of wild rabbits in Australia. Transbound Emerg Dis. – Vol. 65 no 2 (2018) . – p e470-e477

b) International conferences: 0

c) National conferences: 2
1.CAVADINI° P, CAMPISI° G, VISMARA° A, LAVAZZA° A, CAPUCCI° L Study of genetic evolution of RHDV2 from 2011 to today and detailed mapping of key antigenic determinants. 3rd National Congress of the Italian Society for Virology "One Virology One Health" September 10-12, 2019, Padua
2.LE NORMAND B., CHATELLIER S., VASTEL P., REBOURS G., CAPUCCI L. Dosage des anticorps anti-RHDV2 chez les lapines et leurs lapereaux en lien avec la vaccination. 18èmes Journées de la Recherche Cunicole. 27-28 maggio 2019 Nantes (France).

d) Other:
(Provide website address or link to appropriate information) 0

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?

Yes

a) Technical visits: 1
b) Seminars: 1
c) Hands-on training courses: 0
d) Internships (>1 month): 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
a	POLAND	2
b	FRANCE	2

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)
UNI CEI ENISO/IEC 17025	CERTIFICATO DI ACCREDITAMENTOnew.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
PCR	ILAC MRA, ACCREDIA
Serological Competitive RHDV-ELISA	ILAC MRA, ACCREDIA
Serological Competitive RHDV2-ELISA	ILAC MRA, ACCREDIA
Virological sandwich MAbs RHDV/EBHSV-ELISA	ILAC MRA, ACCREDIA
Immunohistochemistry	ILAC MRA, ACCREDIA
Electron Microscopy negative staining methods	ILAC MRA, ACCREDIA

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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
87°OIE GENERAL SESSION	May 2019	Paris (France)	Member of the Italian delegation	-

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

Not applicable (Only OIE Reference Lab. designated for disease)

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?

No

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*

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?

Yes

Kind of consultancy	Location	Subject (facultative)
Review of OIE Standards	-	We have revised and updated the chapter on rabbit haemorrhagic disease for the ninth edition of the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals.

25. Additional comments regarding your report:

During 2019 the laboratory has futher extended nationally and internationally the application of specific serological and virological test (cELISA and isotype_ELISAs and RT-PCR) towards the RHDV2.
Even more information on its spread, and antigenic, genomic characteristics were acquired thanks to the scientific collaboration and reserch projects with reserachers from various member Countries.
A technical support based mainly on diagnostic activity was given was given to different OIE member countries.