

WOAH Collaborative Centre Reports Activities 2023

Activities in 2023

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Centre Information

Title of WOA Collaborating Centre	LNCR/ACSEDIATE Infectious Reproductive Diseases in Europe
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Name of the writer:	Dr Laurence GUILBERT-JULIEN

TOR1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOA

Category	Title of activity	Scope
Disease control (true)	Emergence of Epizootic Hemorrhagic Disease (EHD) in France	First appearance of EHD virus in France in September 2023 had a major impact for LNCR and for control and prevention of the disease in Ruminants Semen Collection Centres. France has lost its free status, diagnostic methods had to be implemented in the laboratory (see below in Diagnosis part), to be able to perform analysis on breeders and to implement calendar of controls in the centres of reproduction in accordance with WOA recommendations and Animal Health Law Regulation. Impact on semen trade had also to be managed and LNCR was involved in many meetings and discussion with experts of ANSES Reference Laboratory for EHD and with representatives of Ministry of Agriculture to include EHD measures in sanitary certificates for exportation of semen.
		1. Regular control of health statut of breeding stocks in French and Belgian Semen Collection Centers (quarantine and centres), and for embryo donors females for cattle are part of the activity and missions of LNCR. This surveillance concerns regulated and non regulated diseases, with a specific

Epidemiology, surveillance, risk assessment, (true)	1. Monitoring surveillance of infectious diseases in the French Semen Collection Centres for Ruminants and Swine. 2. Epidemiological surveillance for vectorial diseases	focus on all diseases with an impact on reproduction and a risk of transmission by semen or embryos. 2. Routine diagnosis for BTV Virus and Schmallenberg virus by PCR analysis or serological controls are made in LNCR for all ruminants breeders. It allows to get an epidemiological overview of circulation of these virus in France, that was particularly important in 2023 with the emergence of a new BTV8 more virulent than previous variants, and with the emergence of a new BTV 3 in North of Europe.
Training, capacity building (true)	Training programme for the laboratory team throughout 2023	- The Manager of LNCR attended 2 Congress in 2023 : ISWALD Congress (International Symposium of the World Association of Veterinary Laboratory Diagnosticians) from 29/06 to 01/07/2023 in Lyon (France) and 1st ESAR Congress (European Symposium on Animal Reproduction) from 21 to 23/09/2023 in Nantes. - Many training were implemented during 2023 for employees of the lab about : risk management, cybersecurity, internal audit, metrology controls...
Zoonoses (true)	Surveillance of zoonotic diseases on breeding stocks	LNCR performs routine analyses for zoonotic diseases on breeders including serological methods and/or PCR for Brucella, Coxiella burnetii, Leptospira, Mycobacterium tuberculosis. In case of positive results, alert is sent to sanitary authorities and Reference Laboratories are contacted.
Animal welfare (true)	Results of Animal Welfare assessment in Semen Collections Centres and embryo donors stations in France and Belgium.	In 2022, management of Animal Welfare was evaluated in reproduction units in France and Belgium to get an overview of the practices and to deliver some Guidelines and recommendations. The manager of LNCR is also in charge of Animal Welfare for ELIANCE, that is the professional association of all French companies involved in Genetic and reproduction. In 2023, the results of this survey were presented to all companies that have been involved and have also been presented at AIVETS Congress in Netherlands and during local meetings in France.
Diagnosis, biotechnology and laboratory (true)	1. EHD Diagnosis 2. Validation of antibiotics combination in semen extenders 3. Participation to many proficiency tests organised par different laboratories 4. Embryo transfer medium controls	1. After emergence of EHD in France at the end of September 2023, LNCR was officially approved by the French Ministry of Agriculture to perform PCR analysis to detect EHD Virus. The PCR kit used was approved by the NRL of ANSES for EHD with which we worked to implement the method and control the first positive results. Then the lab has implemented serological ELISA test in order to perform EHD controls of breeders in accordance with WOAHA recommendations. Next step will be development and validation of a PCR method for detection of EHD Virus in semen of infected animals. 2. The LNCR realise specific studies to validate that antibiotics combination used in porcine semen extenders are equivalent to the official combination recommended by WOAHA. Tests are made to control efficacy on leptospira serovars. 3. The LNCR was included in 26 proficiency tests in 2023, most of them with ANSES Reference laboratories, but also with private national Vet laboratories and Laboratories from different countries (Sciensano, GD Animal Health, VETQAS APHA SCIENTIFIC, International Leptospirosis Society...) 4. the mission of LNCR is also to control the embryo transfer medium (used to collect and wash embryos) in accordance with AETE Recommendations. This allows the agreement of the French embryo transfer

teams.

TOR3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable area
Updating of Brucella ovis Culture and identification Standard.(French Reference)	National RL of ANSES has decided to update the French Standard NF U47-109 and to share with LNCR about the changes if necessary. Work is in progress.	Laboratory expertise
Proposal of update for French standards on animal health analyses by Seroneutralization methods for the serological diagnosis of animal diseases.	LNCR has worked and proposed updates concerning the following French Standards of virus neutralisation methods for: - NF U47-024 for TGE and Porcine coronavirus. - NF U47-010 for Aujeszky's disease - NF U47-026 for BVD virus - NF U47-025 for Classical Swine Fever - NF U47-030 for IBR All our proposals of updating have been shared with the French commission of standardization, and work is in progress.	Laboratory expertise
Development and validation of a PCR method for detection of EHD Virus in semen of ruminants	Based on experience of LNCR for PCR methods in semen for other viruses like BTV and SBV virus. The method is under development in relationship with the ANSES Reference lab of Maisons-Alfort.	Laboratory expertise

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

No

4. Did your Collaborating Centre maintain a network with other WOA?H Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOA?H CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
ANSES, National Reference Laboratory/WOA?H/FAO Reference Laboratory for Brucellosis and Brucella ovis	Maisons-Alfort France	Europe	Regular discussion about serological methods for diagnostic of Brucella strains, availability of approved kits, discussion about false-positive results. Work in commun about updating of French standard for culture and identification of Brucella ovis.
ANSES National Reference Laboratory/ WOA?H RL for EHD Virus	Maisons-Alfort France	Europe	Stephan ZIENTARA who is manager of this RL is also the Chairman of the Technical and Scientific Comitee of LNCR. We have regular discussion with him and his team since emergence of EHD in France, they provided us positive virus for implementation of PCR analyse...We discussed also about false positive serological resultats for EHD..

ANSES National Reference Laboratory for BVD Virus and IBR virus	Niort (France)	Europe	Discussion about ELISA kit for detection of BVD total antibodies that was no more approved by the RL during 2023 and implementation of a new kit for replacement.
ANSES Lyon Laboratory. UMR for animal mycoplasmosis	Lyon France	Europe	Presentation and exchange about our method of detection by PCR in semen of Mycoplasma bovis, in accordance with the request of New-Zealand for trade of bull semen from France.
National Reference Centre of leptospirosis, Pasteur Institute	Paris France	Europe	Collaboration for weekly purchase of Leptospira strains until end of 2023. Discussion about MAT diagnostic.
ANSES National Reference Laboratory for besnoitiose, Visna-Maedi and Caev virus	Maisons-Alfort France	Europe	Furniture of positive serum for besnoitia or Caev virus, exchange about development or approval of new serological kits by the RL.
Reproduction and Swine Health Department, New Bolton Center.	University of Pennsylvania USA	Americas	Audit of LNCR by M. Gary Althouse, Professor of Reproduction and Swine Health, about our services for validation of extenders for boars semen.
National Veterinary School of NANTES (ONIRIS) Reproduction service.	Nantes France	Europe	Working with Lamia Amira-Briand, teacher at the Vet School and with a vet student preparing a thesis for a retrospective study on the use of antibiotics in collection media during embryo transfer. The thesis was defended at the end of 2023 and the manager of LNCR was part of the jury.
ANSES National reference and WOAHL RL for Q Fever.	Sophia-Antipolis France	Europe	Exchange about the LNCR PCR method for detection for Coxiella burnetii in feces of young non reproductive animals (when milk or placenta or abortus are not available).
LABEO Franck Duncombe	Caen France	Europe	For several months during 2023, LNCR subcontracted the analyses of leptospirosis by MAT for LABEO.

TOR4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAHL Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

No

TOR6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAAH?

Yes

NAME OF EXPERT	KIND OF CONSULTANCY	SUBJECT
Sofia POMBO and Laurence GUILBERT-JULIEN	Expertise for update of a disease Chapter. Invited by Sara Linnane Scientific Officer for International Standards.	Update of Terrestrial Manual Chapter on trichomonosis. Work is in progress.
Laurence GUILBERT-JULIEN	Chairman for an expert group, working with 2 persons from WOAAH (Francisco d'Alessio - Deputy Head of the Standards Department and Su Youn Park -Scientific Officer for International Standards)	Revision of Chapter 4.7 Terrestrial Code of WOAAH. Work began end of 2023, with constitution of a list of experts, including new species in the chapter and following recommendations of the Code Commission. Many meetings and exchanges about this revision, work in in progress.

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

We had opportunity to discuss with an Official veterinarian from Department of Home Affairs and National Economy of Switzerland about the sanitary controls LNCR perform on boars specifically for PRRS and Aujeszky diagnosis. It was in the context of a dossier for boar semen exportation from France to Switzerland and they needed a lot of explanation about the kits we use, the calendar of analyses in boars Semen Collection Centres, and the protocol of confirmation in case of suspicion of "false-positive" serological results.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAAH, to personnel from WOAAH Members?

Yes

a) Technical visit : 0

b) Seminars : 0

c) Hands-on training courses: 0

d) Internships (>1 month) : 5

TYPE OF TECHNICAL TRAINING PROVIDED (A, B, C OR D)	CONTENT	COUNTRY OF ORIGIN OF THE EXPERT(S) PROVIDED WITH TRAINING	NO. PARTICIPANTS FROM THE CORRESPONDING COUNTRY
D	Development of a method for diagnosis of Tuberculosis on cattle by gamma interferon ELISA analyse - Student in Science for Lab analyses	France	1
D	Discover the role of a vet in a lab and study on BVD virus diagnostic - Vet Student from School University Vasco de Gama-Coimbra	Portugal	1
D	Serological and virological analyses for diagnosis of infectious disease in ruminants ; practical approach on BVD - Student in Science for Lab analyses.	France	1
D	Managing a stock of frozen strains in bacteriological unit . Student in Science and biotechnology for Lab analyses	France	1
D	Validation of results with a CASA system for analyses in andrology service - Student in Science for biotechnology.	France	1

TOR8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOA?H

No

TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOA?H that may be useful to Members of WOA?H

a) Articles published in peer-reviewed journals:

0

b) International conferences:

2

1. Presentation of Sanitary control of semen. AHA Animal Health and Genebanks meeting in SintMichielgestels - The Netherlands - 09/10/2023.

2. Presentation of the results for the Animal Welfare Survey in Reproduction Centres - AI VETS Congress - SintMichielgestels - The Netherlands - 10/10/2023.

c) National conferences:

1

ADILVA Congress - Chorges - France 11/10/2023. Co-Presentation of the development of a qPCR method for detection of Mycobacterium paratuberculosis in feces with the provider of the kit.

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

1

Manager of LNCR was included as an expert to collaborate in the developing of AHA on specific measures for AnGR ex situ conservation in the framework of the animal health legislation, leading by the European Reference Centre for Endangered Animal Breeds and the Ex situ Conservation Working Group. The expertise of LNCR was in link with the potential sanitary issue of semen collected from breeders who would not have been controlled before production of semen.

Link : Tejerina Ampudia, Fernando <FTejerina@mapa.es>Chair Ex Situ Conservation Working Group.

European Regional Focal Point for Animal Genetic Resources. ERF

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

The main point of progress was about EHD emergence in France, and implementation of diagnosis methods in the lab (PCR and ELISA). The question of possible presence of the EHD virus in semen of infected animals will be one of our subject of research in collaboration with other scientific units in 2024.

12. Additional comments regarding your report: