

# WOAH Reference Laboratory Reports Activities 2022

## Activities in 2022

This report has been submitted : 26 avril 2023 11:03

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOA Reference Laboratory:</b>	Newcastle disease
<b>Address of laboratory:</b>	WOAH Reference Laboratory for Avian Influenza and Newcastle disease, Istituto Zooprofilattico Sperimentale delle Venezie (IZSve) Viale dell'Università 10 – 35020 Legnaro (PD) - Italy
<b>Tel.:</b>	+39-049 808 4381
<b>E-mail address:</b>	imonne@izsvenezie.it
<b>Website:</b>	www.izsvenezie.it
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Calogero Terregino, Director of the Research and Development Department/acting Director of the Specialized Virology and Experimental Research Unit (IZSve)
<b>Name (including Title and Position) of WOA Reference Expert:</b>	Isabella Monne, DVM PhD, Head of the Viral genomics and transcriptomics Laboratory, Division of Research and Innovation
<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 WOA Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Haemoagglutination inhibition (HI)	yes	318	32
Direct diagnostic tests		Nationally	Internationally
Isolation	yes	38	6
RRT/RT-PCR	yes	408	136

Sequencing (clivage site)	yes	37	5
ICPI - Intracerebral Pathogenicity Index	yes	15	1
WGS - Whole Genome Sequencing	yes	0	9

## 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
Control positive antigens	HI serological test	1646/261 ml	47 ml	214 ml	37	Africa America Asia and Pacific Europe MiddleEast
Control positive sera	HI/AGID serological test	0/159 ml	20 ml	139 ml	34	Africa America Asia and Pacific Europe MiddleEast
Control negative serum	HI serological test	1262/667 ml	366 ml	301 ml	27	Africa Europe

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?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
Detection and pathotyping of Avian Orthoavulavirus type 1 (AOAV-1) by one-step RT-PCR and Sanger sequencing of the fusion protein	<a href="https://www.izsvenezie.com/documents/reference-laboratories/avian-influenza/diagnostic-protocols/sop-vir-1002.pdf">https://www.izsvenezie.com/documents/reference-laboratories/avian-influenza/diagnostic-protocols/sop-vir-1002.pdf</a>

cleavage site (Kant et al., 1997) (SOP  
VIR 1002)

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAHP Standards for the designated pathogen or disease?

No

## TOR4: DIAGNOSTIC TESTING FACILITIES

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

Yes

NAME OF WOAHP MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
BULGARIA	2022-02-04	PCR Real Time PCR Sequencing	0	1
GUINEA	2022-04-12	Real Time PCR	0	2
KOSOVO	2022-04-14	PCR Real Time PCR	0	10
MALI	2022-06-29	Real Time PCR	0	1
MOLDOVA	2022-01-21	Real Time PCR	0	1
NIGERIA	2022-04-12	Real Time PCR	0	12
NORWAY	2022-05-26	Real Time PCR	0	3
NORWAY	2022-09-15	Real Time PCR	0	2
SENEGAL	2022-03-18	Real Time PCR	0	2
SLOVENIA	2022-02-07	Real Time PCR	0	2
SPAIN	2022-08-24	Isolation HI Real Time PCR	0	18
SWITZERLAND	2022-04-12	PCR Real Time PCR Sequencing	0	5

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

Yes

NAME OF THE WOAHP MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
NORWAY	Clarification about positive NDV case definition under the new AHL; provided information on AOAV-1 molecular pathotyping methods (August 2022)	Remote assistance (email)

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

				WOAHP MEMBER
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Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
LIDISKI Project: Improving the livelihoods of smallholder livestock farmers in Nigeria	2020-2024	Improving surveillance and control of Peste des petits ruminants (PPR) and Newcastle Disease (ND), the two main diseases affecting the livestock of smallholder farmers in North of Nigeria.	Centre de coopération Internationale en Recherche Agronomique pour le Développement – CIRAD (France), IZSVE (Italy), Ikore (Nigeria), National Veterinary Institute (Nigeria), National Agricultural Extension and Research Liaison Services -NAERLS (Nigeria), The Federal Ministry of Agriculture and Rural Development – FMARD (Nigeria), International Livestock Research Institute – ILRI (Kenya), WOA – World Organisation for Animal Health	FRANCE KENYA NIGERIA
Memorandum of Understanding	2022-2027	Collaborative studies and implementation of projects on animal health, zoonotic diseases and food safety.	The National Research Center for Tropical and Transboundary Diseases - Libya	LIBYA
H2020 PROJECT European Virus Archive - EVAg. <a href="https://www.european-virus-archive.com/">https://www.european-virus-archive.com/</a>	2020-2023	A non-profit global network sharing expertise in virology and aimed to preserve, produce and distribute viruses and derived products.	CSIRO (Australia); ANSES, CIRAD and the Institute Pasteur (France); the Friedrich-Loeffler-Institute (Germany); Erasmus MC (The Netherlands).	AUSTRALIA FRANCE GERMANY THE NETHERLANDS

## 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:

1. Collection and analysis of the information generated by surveillance in domestic and wild birds in Italy;
2. Collection and analysis of the information generated by surveillance in rural poultry in Nigeria;
3. Collection and analysis of the information generated by genetic surveillance in poultry in EU.

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:

National Information Systems: regular reporting of epidemiological data to the Ministry of Health and the European Commission.

Reporting results of molecular, epidemiological and diagnostic analyses to EU NRLs by email and/or through Mattermost, a flexible, open source platform that enables secure team collaboration and enhances an active collaboration between veterinary/public health laboratories and scientists from the EU. This allows rapid dissemination of Newcastle disease updates when needed.. Information are also shared through the IZSve website:

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/>

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:

0  
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b) International conferences:

1  
*Shittu, I., Mazzetto, E., Nwosuh, C., Napolitan, A., Fortin, A., Varotto, M., Fusaro, A., Bakam, J., Muhammad, M., Bonfante, F., Monne, I., Bortolami, A. (2022) Detection of Genotype XIV.2 Newcastle Disease Viruses in Nigeria, Antigenic Characterization and Optimization of Vaccination Strategies. 12th International Congress For Veterinary Virology, Ghent, Belgium, ESVV 2022 87. 20-23 September 2022*

c) National conferences:

0

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

18  
*EURL team at IZSve (n° 7 presentations)*  
*Presentations from the 28th Annual Meeting of the National Reference Laboratories for Avian Influenza and Newcastle Disease of European Union Member States (September 2022)*  
<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/workshops/>  
  
*Updates on avian influenza addressed to the diagnostic laboratories of the national surveillance network (6 presentations) organised by IZSve in December 2022*  
  
<https://www.izsvenezie.it/documenti/formazione/corsi-convegni/2022/2022-12-16-aggiornamenti-CRN-influenza-aviaria/programma.pdf>

Links from IZSve's website (n°4):

WOAH & FAO activities

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/woah-fao-activities/>

Avian influenza and Newcastle disease in Europe update

<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/europe-update/>

[https://food.ec.europa.eu/animals/animal-diseases/diseases-and-control-measures/avian-influenza\\_it#emergency\\_and\\_control\\_measures](https://food.ec.europa.eu/animals/animal-diseases/diseases-and-control-measures/avian-influenza_it#emergency_and_control_measures)

European Union Reference Laboratory (EURL) for Avian Influenza and Newcastle Disease

<http://www.izsvenezie.com/reference-laboratories/avian-influenza-and-newcastle-disease/>

EVA-GLOBAL Biobank

<https://www.izsvenezie.com/izsve-veterinary-biobank-and-the-oie-collaborating-centre-for-veterinary-biological-biobank/>

<https://www.european-virus-archive.com/>

Other links (1)

Lidiski project - Improving the livelihoods of smallholder livestock farmers in Nigeria

<http://www.lidiski.org/>

[https://www.youtube.com/watch?v=Gp1aa03u4nY&feature=emb\\_logo](https://www.youtube.com/watch?v=Gp1aa03u4nY&feature=emb_logo)

In addition, content about the activities of the project has been shared through social media:

Twitter

[https://twitter.com/LIDISKI1?t=h\\_xoEQWWU2xSxnMkfoF89w&s=09](https://twitter.com/LIDISKI1?t=h_xoEQWWU2xSxnMkfoF89w&s=09)

Instagram

[https://instagram.com/lidiski\\_project?igshid=YmMyMTA2M2Y=](https://instagram.com/lidiski_project?igshid=YmMyMTA2M2Y=)

Facebook

<https://m.facebook.com/109473960659018/>

Youtube

<https://youtube.com/@lidiskicommunications3078>

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

a) Technical visit : 0

b) Seminars : 100

c) Hands-on training courses: 2

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
b	28 EU countries and 8 non EU countries (detailed information available at IZSve)	100
c	Nigeria	1

c

Albania

1

## TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
UNI CEI EN ISO/IEC 17025:2018	ACCREDIA certificate as Testing Laboratory	1_ACCREDIA Certificato di accreditamento Laboratori di prova.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of antibodies to Newcastle disease virus (NDV) by haemagglutination inhibition test	ACCREDIA – Italian Accreditation System
Isolation and characterization of Newcastle disease viruses using SPF embryonated chicken eggs and haemagglutination inhibition test	ACCREDIA – Italian Accreditation System
Detection of APMV-1 virus (Avian Paramyxovirus Type 1) by RT-PCR	ACCREDIA – Italian Accreditation System
APMV-1 virus (Avian Paramyxovirus Type 1) sequence analysis	ACCREDIA – Italian Accreditation System
Detection of APMV-1 virus (Avian Paramyxovirus Type 1) by RT-PCR	ACCREDIA – Italian Accreditation System
Detection of APMV-1 virus (Avian Paramyxovirus Type 1) by real time RT-PCR	ACCREDIA – Italian Accreditation System
Proficiency testing provider	ACCREDIA – Italian Accreditation System

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

## TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOA?

No

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

No

## TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

No

24. Are you a member of a network of WOA Reference Laboratories designated for the same pathogen?

No

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

Yes

PURPOSE OF THE PROFICIENCY TESTS: 1	ROLE OF YOUR REFERENCE LABORATORY (ORGANISER/ PARTICIPANT)	NO. PARTICIPANTS	PARTICIPATING WOAHP REF. LABS/ ORGANISING WOAHP REF. LAB.
European Proficiency Test on Avian Influenza and Newcastle Disease	Organiser	40 (26 from EU and 14 from non EU countries)	• Friedrich Loeffler Institute Federal Research Institute for Animal Health Institute of Diagnostic Virology (Germany); • Animal and Plant Health Agency Weybridge (UK) (detailed Information available at IZSVE)
Proficiency test for Newcastle Disease : • Molecular detection of Avian Orthoavulavirus-1 • Hemagglutination-inhibition (HI) test	Participant	List available from the organizer FLI Friedrich-Loeffler-Institut (Germany)	List available from the organizer FLI Friedrich-Loeffler-Institut (Germany)

26. Did your laboratory collaborate with other WOAHP Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest?

No

## TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHP Reference Laboratories for the same pathogen?

Yes

Purpose for inter-laboratory test comparisons <sup>1</sup>	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Region(s) of participating WOAHP Member Countries
National Proficiency Test for Avian Influenza and Newcastle Disease	Organiser	20	Europe
Proficiency test Test for Avian Influenza and Newcastle Disease (in the frame of LoA FAO PO No. 3496598)	Organiser	25	Africa
Proficiency test for identification of the five main poultry diseases. Serological test to identify Newcastle disease viruses	Participant (details about participants are available from the organiser CEVA Animal Health (France) in collaboration with GD Animal Health (The Netherlands))		Europe

## TOR12: EXPERT CONSULTANTS

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

No



29. Additional comments regarding your report:

No