World Organisation for Animal Health

Abdelsatar Arafa - - EGYPT

WOAH Reference Laboratory Reports Activities 2025

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Avian influenza
***Address of laboratory:**	Reference Laboratory for Veterinary Quality Control on Poultry Production RLQP, Animal Health Research Institute AHRI, Agriculture research Centre ARC, Ministry of Agriculture and Land Reclamation 7 Nadi el Seidst.Dokki Giza EGYPT
***Tel:**	+202-33 37.09.58
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Website:	www.ahri.gov.eg
***Name (including Title) of Head of Laboratory (Responsible Official):**	Samah Eid, Director of AHRI, ARC, Egypt
***Name (including Title and Position) of WOAH Reference Expert:**	Abdelsatar Arafa, Cheif Researcher of Poultry diseases, WOAH avian influenza Expert, RLQP, AHRI, ARC, Egypt
***Which of the following defines your laboratory? Check all that apply:**	Governmental 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

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Haemoagglutination inhibition (H5)	Yes	24667	0
Haemoagglutination inhibition (H9)	Yes	3513	0
Direct diagnostic tests		Nationally	Internationally
real-time RT-PCR	Yes	8832	0
Virus isolation	Yes	28	0
Sequencing of HA gene	Yes	34	0
Sequencing of NA gene	Yes	0	0
WGS - Whole Genome Sequencing	Yes	0	0

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

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Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
H9N2 antigen	real-time RT-PCR	RLQP-AHRI-Egypt	96 ml	0	1	EGYPT,
H5N1 Virus	virus isolation	RLQP-AHRI-Egypt	1 ml	0	1	EGYPT,
H9N2 virus	virus isolation	RLQP-AHRI-Egypt	5 ml	0	1	EGYPT,
H5N1 antigen	real-time RT-PCR	RLQP-AHRI-Egypt	80 ml	0	1	EGYPT,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

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?

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

TOR4: DIAGNOSTIC TESTING FACILITIES

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

No

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

No

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

Title of the study	Duration	Purpose of the study	Partners (Institutions)	WOAH Member Countries involved other than your country
Genomic surveillance and evolution of co-circulating avian influenza H5N1 and H5N8 viruses in Egypt, 2022-2024	2 years	To provide genetic characterizatiof HPAI H5N1 and H5N8 isolated from Egypt.	Uppsala University, Sweden;	SWEDEN
Isolation, characterization and phylogenetic analyses of avian influenza A (H9N2) viruses isolated from poultry between 2019 and 2023 in Egypt.	5 years	To provide genetic characterizatiof H9N2 isolated from Egypt.	Uppsala University, Sweden;	SWEDEN
Enhanced protection through genotype-matched bivalent H9N2-Newcastle disease virus vaccination: Comparative efficacy against contemporary field strains in specific-pathogen-free chickens	2 years	To evaluate the efficacy of a novel bivalent inactivated vaccine (Aviline FLU H9 ND-K) containing genetically matched H9N2 (Saudi Arabian strain, G1 lineage B) and NDV (LaSota genotype II and genotype VII.1.1) strains against contemporary field isolates.	Klybeck life Since Company, Kingdom of Saudi Arabia.	SAUDI ARABIA

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

Yes

Research need : 1

Research need : 1

Please type the Research need: Sample size for different surveillance types

Relevance for WOAH Disease Control, Standard Setting,

Relevance for the Code or Manual Manual,

Field Epidemiology and Surveillance,

Animal Category Terrestrial,

Disease:

Avian influenza

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

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 3.3.4. AVIAN INFLUENZA (INCLUDING INFECTION WITH HIGH PATHOGENICITY AVIAN INFLUENZA VIRUSES

Notes:

Answer: Estimate the sample size for different surveillance types and free zones of avian influenza viruses.

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:
National surveillance data were collected to evaluate the spread and control of the disease.

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:
The Egyptian Ministry of Agriculture has a national surveillance program to detect avian influenza viruses in domestic birds and commercial poultry farms. The Reference Laboratory conducts research with the National and international research institutes and Universities to study avian influenza virus in poultry. Frequent Epidemiological reports provided to the General Organization of Veterinary Services GOVS, Ministry of Agriculture, Ministry of Health and FAO. OFFLU VCM network: for identification of animal and avian influenza viruses with zoonotic potential, to select human vaccines against zoonotic or pandemic influenza viruses from animal sources. RLQP provided HA and NA sequences from viruses of the H5 subtypes and H9 subtype. Meetings and seminars related to avian influenza discussing the epizootiogical information and disease recording, characteristics of circulating viruses and laboratory methods; and research programs that maintain information exchange with the WOAH RL for AI, the FAO, and the WHO.

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:

2

Eid S, Hagag NM, Mosaad Z, Bakry NR, Elhusseiny MH, Mady WH, Erfan A, Amer F, Mahana O, Yehia N, Elsayed MM, Said D, Abdelbaset A, Yonis AE, Reda RM, Saif MA, Abdelmawgoud AI, El-Aried TA, Said M, Selim A, Farghaly E, Arafa A, Shahein M, Naguib MM. Genomic surveillance and evolution of co-circulating avian influenza H5N1 and H5N8 viruses in Egypt, 2022-2024. Emerg Microbes Infect. 2025 Dec;14(1):2562046. doi: 10.1080/22221751.2025.2562046.

Mosaad Z, Hagag NM, Elsayed MM, Mady WH, Zanaty AM, El-Badiea ZA, Amer F, Said M, Selim A, Farghally E, Eid S, Adel A, Naguib MM, El Zowalaty ME, Shahein MA. Isolation, characterization and phylogenetic analyses of avian influenza A (H9N2) viruses isolated from poultry between 2019 and 2023 in Egypt. BMC Vet Res. 2025 Jul 11;21(1):455. doi: 10.1186/s12917-025-04514-4.

b) International conferences:

1
Technology Workshop on Animal Disease Prevention and Control. Sanya, China, 3-5 November 2025

c) National conferences:

1
NINTH INTERNATIONAL CONFERENCE
ONE HEALTH APPROACH TO
EMERGING VIRAL THREATS
October 21-23, 2025
Hilton Cornish, Alexandria, Egypt

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

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025	RLQP-ISO17025-CERTIFICATE	RLQP-ISO17025-CERTIFICATE.jpeg
ISO 17043	Schedule of Accreditation For Proficiency Testing Provider According To ISO/IEC 17043	F3WI8PT_Schedule of accreditation for AHRI-PTP.doc

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Detection of subtype-specific antibodies to Avian influenza virus by haemagglutination inhibition test	Egyptian Accreditation Council EGAC
Isolation and characterization of Avian influenza viruses using SPF embryonated chicken eggs and haemagglutination inhibition test	Egyptian Accreditation Council EGAC
Detection of AI virus (M, H5,H9) by Real Time PCR	Egyptian Accreditation Council EGAC
Sequencing of nucleotides of avian influenza virus (AIV)	Egyptian Accreditation Council EGAC

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

Yes

RLQP performs risk assessments to identify the biosafety and biosecurity measures needed to safely implement work with avian influenza RLQP biological risk management system includes the Biosafety manual, including policies, procedures (procedure No.22 for Biosafety), and operational components needed for identifying, determining the extent of, managing, and communicating disease and economic risks associated with a specific biological agent in the context of how that agent is handled, manipulated, and maintained in the laboratory. This typically requires advanced BSL-2 with enhancements. Use of specialized ventilation for directional airflow, HEPA filtration of exhaust air, and primary containment such as Class II or III Biosafety Cabinets, as well as Personal Protective Equipment (PPE).

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?

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
OFFLU Guidelines for High Pathogenicity Avian Influenza Virus Risk Mitigation in Cattle	2025-09-30	Roma, virtual	Attendant	
Webinar to update on the global situation of High Pathogenicity Avian Influenza (HPAI)	2025-12-17	Virtual	Speaker	AIV updates from Egypt
OFFLU pre VCM teleconference to present September 2025 WHO VCM meeting data submission (avian and swine influenza)	2025-09-14	Virtual	Attendant	
OFFLU pre VCM teleconference to present February 2025 WHO VCM meeting data submission (avian and swine influenza)	2025-02-05	Virtual	Attendant	

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

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS
OFFLU/avian influenza	Participant	45	ALL avian influenza Experts and Ref Labs

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOAH Ref. Labs/ organising WOAH Ref Lab
OFFLU/avian influenza	Participant	34	Organized by APHA Ref. Lab. UK, 2024
OFFLU/PT Program Influenza A virus PCR	Participant	11	Organized by CSIRO, Australia, 2024
OFFLU/PT Program Influenza A virus PCR	Participant	12	Organized by CSIRO, Australia, 2025

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant WOAH Reference Laboratories
Memorandum of Understanding for Cooperation in the Field of Preventive Veterinary Medicine with Harbin Veterinary Research Institute	Avian influenza viruses, other avian and animal viruses	Harbin Veterinary Research Institute of the Chinese Academy of Agricultural Sciences of the People's Republic of China

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 during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons1	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAH Member Countries
ISO 17043			RT-PCR for avian	

ISO 17043 preparation	Organizer	8	RT-PCR for avian influenza	EGYPT,

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

Yes

Some difficulties in procedures hinder the activity of receiving samples and trainees from the international WOAH members.