

# WOAH Reference Laboratory Reports Activities 2022

## Activities in 2022

This report has been submitted : 27 avril 2023 12:54

### Laboratory Information

<b>Name of disease (or topic) for which you are a designated WOA Reference Laboratory:</b>	Avian influenza
<b>Address of laboratory:</b>	Federal State-Financed Institution "Federal Centre for Animal Health" (FGBI "ARRIAH") Yur'evets Vladimir 600901 RUSSIA
<b>Tel.:</b>	+7 (4922) 26-06-14
<b>E-mail address:</b>	arriah@fsvps.gov.ru; irza@arriah.ru
<b>Website:</b>	www.arriah.ru
<b>Name (including Title) of Head of Laboratory (Responsible Official):</b>	Roman N. Rybin, Director of FGBI "ARRIAH" (National reference WOA reference laboratory for HPAI, LPAI and ND)
<b>Name (including Title and Position) of WOA Reference Expert:</b>	Viktor N. Irza, ARRIAH chief expert, doctor of science (vet)
<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	
		Nationally	Internationally
Indirect diagnostic tests			
ELISA, NP	yes	31887	0
HI, several antigens	yes	7180	5029
Direct diagnostic tests			
Virus isolation, eggs	yes	300	0
Real time RT-PCR	yes	6447	18

Nucleotide sequencing	yes	276	0
IVPI pathotyping	yes	0	0

## 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
Kit for detection of avian influenza virus subtype H9 antibodies in HI test	HI	produced	727 kits	47 kits	4	Asia and Pacific Europe
Kit for detection of avian influenza virus subtype H5 antibodies in HI test	HI	produced	494 kits	97 kits	4	Asia and Pacific Europe
Kit for detection of avian influenza virus subtype H5&H7 antibodies in HI test	HI	produced	97 rkts	0	1	Europe
Kit for detection of avian influenza virus antibodies in one dilution immunoassay test	ELISA	produced	95 kits	0	1	Europe

4. Did your laboratory produce vaccines?

Yes

5. Did your laboratory supply vaccines to WOA?H Members?

Yes

VACCINE NAME	AMOUNT SUPPLIED NATIONALLY	AMOUNT SUPPLIED NATIONALLY (ML, MG)	NAME OF RECIPIENT WOA?H MEMBERS
Avian Influenza H9N2 + Newcastle Disease associated killed oil-based vaccine	contract	contract	BELARUS EGYPT KAZAKHSTAN RUSSIA UZBEKISTAN
Avian Influenza H5N1 + Newcastle Disease associated killed oil-based vaccine	contract	contract	EGYPT ZIMBABWE
Avian Influenza H5N1 killed oil-	contract	contract	KAZAKHSTAN RUSSIA

based vaccine «AviFluVac»

ZIMBABWE

**TOR3: NEW PROCEDURES**

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

Yes

NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
Guidelines for detection RNA of avian influenza virus of subtypes H5 and H7 by multiplex real-time RT-PCR	Guidelines for detection RNA of avian influenza virus of subtypes H5 and H7 by multiplex real time RT-PCR/AD Grechneva, AV Andriyasov, AA Kozlov et al./ FGBI "ARRIAH". - Vladimir: 2022. - 14 p.
Guidelines for genome amplification of avian influenza virus type A for determination of the nucleotide sequence by full-genome sequencing methods	Guidelines for genome amplification of avian influenza virus type A for determination of the nucleotide sequence by full-genome sequencing methods/AA Kozlov, NG Zinyakov, AV Andriyasov et al./ FGBI "ARRIAH". - Vladimir: 2022. - 22 p.
Guidelines for detection RNA of avian influenza virus of neuraminidase subtype N5 by real-time RT-PCR	Guidelines for detection RNA of avian influenza virus of neuraminidase subtype N5 by real-time RT-PCR/AV Andriyasov, EV Ovchinnikova, PD Zhestkov, et al./ FGBI "ARRIAH". - Vladimir: 2022. - 13 p.

7. Did your laboratory validate diagnostic methods according to WOAHP Standards for the designated pathogen or disease?

No

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

Yes

NAME OF THE NEW VACCINE DEVELOPED	DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)
Avian Influenza H5N1 killed oil-based vaccine «AviFluVac»(LPAIV strain H5N1)	<a href="https://galen.vetr.ru/#/registry/pharm/registry?page=1&amp;f_name=АвиФлуВак">https://galen.vetr.ru/#/registry/pharm/registry?page=1&amp;f_name=АвиФлуВак</a>

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
BELARUS	2022-04-07	qPCR	2	0
BELARUS	2022-04-14	qPCR	2	0
BELARUS	2022-04-29	qPCR	14	0
BELARUS	2022-05-24	HI	325	0
BELARUS	2022-06-21	HI	500	0
BELARUS	2022-08-04	HI	975	0

BELARUS	2022-09-23	HI	800	0
BELARUS	2022-10-31	HI	1075	0
BELARUS	2022-11-30	HI	1155	0
BELARUS	2022-12-06	HI	79	0
KAZAKHSTAN	2022-06-09	HI	40	0
KAZAKHSTAN	2022-11-07	HI	80	0

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

No

## TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA 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
CRP D32034 Use of Stable Isotopes to Trace Bird Migrations and Molecular Nuclear Techniques to Investigate the Epidemiology and Ecology of the Highly Pathogenic Avian Influenza (Phase II), IAEA Research Contract No: 22555/RO	2017-2023	Collection of Feather Samples from Migratory Wild Waterfowl PCR-Positive to Avian Influenza Viruses to Identify Bird Species and to Determine Bird Migrations Using Stable Isotope Analysis.	IAEA/FAO Vienna	AUSTRIA CANADA GERMANY IRAN KOREA (REP. OF) NIGERIA ROMANIA UNITED KINGDOM
Updated Programme of joint actions of CIS countries to prevent HPAI and Newcastle Disease	2018- 2025	Avian Influenza and Newcastle Disease Surveillance and Control	Institutions and laboratories subordinated to veterinary authorities of the countries	ARMENIA AZERBAIJAN BELARUS KAZAKHSTAN KYRGYZSTAN MOLDOVA TAJIKISTAN UZBEKISTAN

## 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:

All collected data relevant to international disease control are posted on the site of FSVPs, [www.fsvps.ru](http://www.fsvps.ru). The laboratory provides notifications and reporting to WOA on behalf of WOA Delegate from Russia

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:

Epidemiological data had been sent to FSVPs and disseminated via publications, conferences, seminars and other informational resources

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:

6

1. Osipova OS, Volkova MA, Frolov SV, Andreychuk DB, Chvala IA. Testing of chickens experimentally infected with A/H9N2 avian influenza virus isolates for their immune responses. *Veterinary Science Today*. 2022; 11 (1): 70-76.  
[https:// DOI: 10.29326/2304-196X-2022-11-1-70-76](https://doi.org/10.29326/2304-196X-2022-11-1-70-76)
2. Kulagina MA, Volkova MA, Chvala IA, Osipova OS, Yaroslavl'tseva PS, Andreychuk DB, Chvala IA. Serological monitoring of avian influenza and Newcastle disease in the Russian Federation in 2020. *Veterinary Science Today*. 2022; 11 (2):142-48.  
[https:// DOI: 10.29326/2304-196X-2022-11-2-142-148](https://doi.org/10.29326/2304-196X-2022-11-2-142-148)
3. Frolov SV, Chvala IA, Moroz NV, Kulakov VYu, Sosipatorova VYu, Andreychuk DB. Immunobiological properties of inactivated anti-highly pathogenic avian influenza vaccines based on antigens of A/H5N1 avian influenza virus strains of different virulence. *Veterinary Science Today*. 2022; 11(4):367-74.  
[https:// DOI: 10.29326/2304-196X-2022-11-4-367-374](https://doi.org/10.29326/2304-196X-2022-11-4-367-374)
4. Zinyakov, N.; Andriyasov, A.; Zhestkov, P.; Kozlov, A.; Nikonova, Z. Ovchinnikova, E.; Grekhneva, A.; Shcherbakova, L.; Andreychuk, D.; Sprygin, A.; et al. Analysis of Avian Influenza (H5N5) Viruses Isolated in the Southwestern European Part of the Russian Federation in 2020–2021. *Viruses* 2022, 14, 2725.  
<https://doi.org/10.3390/v14122725>; <https://www.mdpi.com/journal/viruses>
5. Moroz NV, Frolov SV, Shcherbakova LO, Kulakov VU. Immunological characteristics of the experimental inactivated vaccine against influenza A subtype H5. *Veterinary Pathology*. 2022; 3(81): 5-12. DOI: 10.25690/VETPAT.2022.77.54.008
6. Zhestkov PD, Andriyasov AV, Sosipatorova VYu, Zinyakov NG, Yaroslavl'tseva PS, Frolov SV. Biological properties of highly pathogenic avian influenza viruses isolated in the regions of the Russian Federation in 2020. *Proceedings of the Federal Centre for Animal Health*. 2022; 18: 700–714. DOI: 10.29326/9785907612136\_2022\_18\_700.

b) International conferences:

12

1. FAO (EMPRESS Animal health) International webinar, Managing large-scale highly pathogenic avian influenza (HPAI) outbreaks in wild birds», 10 February 2022.
2. OFFLU Pre VCM Meeting, on-line, 14 February 2022.
3. Workshop for the OIE Avian Diseases network in East Asia. OIE Regional Representative for Asia and the Pacific, Tokyo, 21 April 2022 (webinar). V.Irza: Update on AI in the Russian Federation (oral presentation). <https://rr-asia.oie.int/en/events/regional-workshop-for-avian-diseases-in-asia-and-the-pacific/>.
4. IX Kazakhstan International Poultry Forum, Nur Sultan, 21 July 2022. V.Irza: HPAI and ND : Prevention and Control (oral presentation).
5. OFFLU pre VCM August 2022 data discussion (avian and swine), 23 August 2022.
6. International scientific-practical conference dedicated to the 100th anniversary of S.N. Vyshesl'sky Institute of Experimental Veterinary Medicine, Minsk, Belarus, 15-16 September 2022. "Modern Achievements and Topical Problems in Agro-Industrial Complex", Proceedings of the conference:  
Zhestkov PD et al. Comparison of avian influenza H5 subtype strains properties for diagnostic kit manufacturing. -2022 –p. 104-106.  
Osipova OS et al. Serological monitoring of low pathogenic avian influenza virus H9 subtype in Russian Federation. -2022 –p. 46-49.
7. International Forum «Agricultural Belarus», Poultry session, Minsk, 28 September 2022. V.Irza: HPAI Prevention and Control (oral

presentation).

8. 44th meeting of the Intergovernmental Council for Cooperation in the Field of Veterinary Medicine (CIS). Tashkent, 22 October 2022. I.A. Chvala (oral presentations) :

- information on the epizootic situation in the CIS member States

- implementation of a set of joint measures of the CIS member states for the prevention and control of Avian Influenza and Newcastle Disease

9. 17th International Central Asian Exhibition AgroWorld Qazaqstan. Poultry session. Almaty, 2 November 2022. V.Irza: Current HPAI Panzootic. Prevention and Control (oral presentation).

10. Vth Uzbekistan International Poultry Forum, Tashkent, 22 November 2022. M.Volkov: HPAI and ND : Prevention and Control (oral presentation).

11. OFFLU teleconference to discuss AI situation in poultry/wild birds. Participation in discussion (V.Irza), 5 December 2022.

[https://www.offlu.org/wp-content/uploads/2022/12/OFFLU-AI-situation\\_final\\_Dec2022.pdf](https://www.offlu.org/wp-content/uploads/2022/12/OFFLU-AI-situation_final_Dec2022.pdf)

12. IV International Workshop "The impact of climate changing on the spreading of new viral infections during birds seasonal migrations in Northern and Eastern Eurasia", organized by Federal Research Centre FTM, Novosibirsk, 6-7 December 2022 (webinar)

c) National conferences:

50

Off-line, online and hybrid conferences and workshops at the national level including webinar series for specialists of state veterinary services and poultry farms

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

1

1. Forecast for highly pathogenic avian influenza in the Russian Federation for 2022 [Text]: scientific publication / V.N. Irza, M.S. Volkov, A.V. Varkentin, A.K. Karaulov, et al. // Forecasts of infectious animal disease occurrence in the Russian Federation for 2022. - Vladimir, 2022. - 58 p. <http://www.fsvps.ru/fsvps/iac>

## 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 : 4

b) Seminars : 4

c) Hands-on training courses: 4

d) Internships (>1 month)

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	Belarus	4
b	Belarus	4
b	Kazakhstan	4
c	Belarus	4

## TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 17025-2019 ISO 17043-2013	accreditation certificate RA.RU.21AO46 (10.01.2017) <a href="https://pub.fsa.gov.ru/ral/view/1238/accredited-entity">https://pub.fsa.gov.ru/ral/view/1238/accredited-entity</a> accreditation certificate RA.RU.430258 (16.03.2018) <a href="https://pub.fsa.gov.ru/ral/view/32230/accredited-entity">https://pub.fsa.gov.ru/ral/view/32230/accredited-entity</a>	ISO 17025.jpg

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
AI virus isolation in chicken embryos	Federal Service for Accreditation (fgis@fsa.gov.ru)
Detection RNA of AI virus type A by real time RT-PCR	Federal Service for Accreditation (fgis@fsa.gov.ru)
Detection RNA of AI virus subtypes H5/H7/H9 by real time RT-PCR	Federal Service for Accreditation (fgis@fsa.gov.ru)
Detection avian influenza virus antibodies in one dilution immunoassay test (ELISA)	Federal Service for Accreditation (fgis@fsa.gov.ru)
Detection avian influenza virus subtype H5 antibodies in HI test	Federal Service for Accreditation (fgis@fsa.gov.ru)
Detection avian influenza virus subtype H9 antibodies in HI test	Federal Service for Accreditation (fgis@fsa.gov.ru)
Identification of AI and ND viruses in HI test	Federal Service for Accreditation (fgis@fsa.gov.ru)

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

Yes

The laboratory supports a biorisk management system when working with a pathogen corresponding to the BSL-3 biosafety level

## 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?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
Workshop for the OIE Avian Diseases network in East Asia (webinar)	2022-04-21	OIE Regional Representative for Asia and the Pacific, Tokyo, Japan	speaker	V.Irza: Update on AI in the Russian Federation
OFFLU teleconference to discuss AI situation in poultry/wild birds	2022-12-05	WOAH Headquarters, Paris	short communications	V.Irza: Brief Update on HPAI in the Russian Federation

## TOR10: NETWORK WITH WOA REFERENCE LABORATORIES

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

Yes

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

Not applicable (Only WOA Reference Laboratory designated for the disease)

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

No

26. Did your laboratory collaborate with other WOA 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 WOA REFERENCE LABORATORIES
Memorandum of understanding of material transfer (29.12.2018)	Multiple shipments of HPAI and ND viruses isolates from poultry farms at the level of initial and significant epidemiological events for comparative research studies	Instituto Zooprofilattico Sperimentale delle Venezie (IZSVe)
Memorandum of understanding of material transfer (19.09.2016)	Multiple shipments of HPAI and ND viruses isolates from poultry farms at the level of initial and significant epidemiological events for comparative research studies	Animal and Plant Health Agency (APHA)
Memorandum of understanding of material transfer (15.10.2021)	Multiple shipments of HPAI virus isolates from poultry farms at the level of initial and significant epidemiological events for comparative research studies	National institute for Animal Health, National Agriculture and Food Research Organization (NIAH/NARO), Japan
Contributions to OFFLU	Providing genomic sequences of Avian Influenza Viruses H5/H7/H9 every 6 month for OIE/FAO/WHO Network for Avian Influenza	OFFLU Secretariat

## TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOA 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 WOA Member Countries
Validation of diagnostic methodology: -Detection RNA of AI virus; - Detection virus antibodies (ELISA test)	Organizer FGBI ARRIAH, participants - Interregional veterinary laboratories of the Russian Federation	24	Europe

## TOR12: EXPERT CONSULTANTS

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



No

29. Additional comments regarding your report:

Yes

*Due to circumstances beyond our control cooperation with EURL, APHA, NIAH laboratories indicated in ToR 10 has been suspended in 2022 at the initiative of these institutions, although agreements (p. 26) are in effect. For the same reasons, ARRIAH did not participate in inter-laboratory proficiency tests organized by WOAHP Reference Laboratories. In February 2022, 6 HPAIV isolates were sent to NIAH, Japan, as an exchange, but the Japanese side could not send us its isolates. In addition, there was no WOAHP training course on assessing the effectiveness of the veterinary services (PVS) for employees of FSVPS territorial administrations scheduled to be held at FGBl "ARRIAH" in March 2022*