

OIE Reference Laboratory Reports Activities

Activities in 2020

This report has been submitted : 2021-01-20 10:53:33

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	Highly and low pathogenic avian influenza
Address of laboratory:	Federal State-Financed Institution "Federal Centre for Animal Health" (FGBI "ARRIAH") Yur'evets Vladimir 600901 RUSSIA
Tel.:	+7-4922 26 18 67
Fax:	+7-4922 26 17 55
E-mail address:	mail@arriah.ru
Website:	www.arriah.ru
Name (including Title) of Head of Laboratory (Responsible Official):	Peter I. Kosyrev, Director of FGBI "ARRIAH" (National reference OIE laboratory for HPAI, LPAI and ND)
Name (including Title and Position) of OIE Reference Expert:	Viktor N. Irza, ARRIAH chief expert, doctor of science (vet)
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	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
ELISA, NP	Yes	32227	20
HI, several antigens	Yes	8640	0
Direct diagnostic tests		Nationally	Internationally
Virus isolation, eggs	Yes	200	
real time RT-PCR	Yes	6600	4
nucleotide sequencing	Yes	285	

**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
Kit for detection of avian influenza virus subtype H9 antibodies in HI test	HI	produced	394 kits	9 kits	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Kit for detection of avian influenza virus subtype H5 antibodies in HI test	HI	produced	474 kits	9 kits	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
Kit for detection of avian influenza virus antibodies in one dilution immunoassay test	ELISA	produced	2403 kits	0	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> 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
Avian Influenza H9N2 + Newcastle Disease associated killed oil-based vaccine	contract	contract	KAZAKHSTAN RUSSIA

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?

Yes

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

Name of the new test or diagnostic method or vaccine developed	Description and References (Publication, website, etc.)
Guidelines for determining the primary structure of the N gene of avian influenza virus isolates of subtype N2 by RT-PCR and nucleotide sequencing	Guidelines for determining the primary structure of the N gene of avian influenza virus isolates of subtype N2 by RT-PCR and nucleotide sequencing / P.B. Akshalova, L.O. Scherbakova, A. V. Andriyasov, et al.// FGBl "ARRIAH". - Vladimir: 2020. - 15 p.
Guidelines for determining the primary structure of the N gene of avian influenza virus isolates of subtype N8 by RT-PCR and nucleotide sequencing	Guidelines for determining the primary structure of the N gene of avian influenza virus isolates of subtype N8 by RT-PCR and nucleotide sequencing / P.B. Akshalova, L.O. Scherbakova, A. V. Andriyasov, et al.// FGBl "ARRIAH". - Vladimir: 2020. - 16 p.

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
TAJIKISTAN	December	20	0
UZBEKISTAN	November	4	0

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

No

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
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 TAJKISTAN UZBEKISTAN

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:
All collected data relevant to international disease control are posted on the website of FSVPS, www.fsvps.ru . The laboratory provides notifications and reporting to OIE on behalf of OIE Delegate from Russia.

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:
Epizootological data had been sent to FSVPS and disseminated via publications, conferences, seminars and other informational resources

**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: 7

1. Emergence and spread of novel H5N8, H5N5 and H5N1 clade 2.3.4.4 highly pathogenic avian influenza in 2020 / Lewis N.S., A.C. Banyard, E. Whittard, T. Karibayev, T. AL Kafagi, I. Chvala, A. Byrne, M. Saduakassova, J. King , T. Harder , Ch. Grund , S. Essen , S. M. Reid , A. Brouwer , N.G. Zinyakov , A. Tegzhanov , V. Irza , A. Pohlmann , M. Beer , R. AM Fouchier , A. Sultanov, I.H. Brown. // Emerging Microbes & Infections, DOI: 10.1080/22221751.2021.1872355
2. Results of scientific expedition to natural biotopes of the Republic of Tyva in 2019 with the purpose of infectious disease monitoring in wild bird populations/ M. S. Volkov, V. N. Irza, A. V. Varkentin, S. V. Rogolyov, A. V. Andriyasov // Veterinary today. - 2020. - N. 2 (33) - P. 83-88.
3. Serological monitoring of avian influenza and Newcastle disease in the Russian Federation in 2019 / M. A. Volkova, Ir. A. Chvala, O. S. Osipova, M. A. Kulagina, D. B. Andreychuk, I. A. Chvala // Veterinary today. - 2020. - N. 2 (33) - P. 76-82.
4. Development of real-time RT PCR for N2 subtype avian influenza RNA virus detection / Akshalova P.B., Andriyasov A.V, Sherbakova L.I., Kolosov S.N., Zinyakov N.G., Chvala I.A., Andreychuk D.B.// Veterinary today. - 2020. - N. 3 (34) - P. 186-192.
5. Situation on highly dangerous viral diseases in poultry industry of the Russian Federation/ Irza V.N., Volkov M.S., Varkentin A.V. // Poultry and poultry products. - 2020. - N. 2 - P. 50-52.
6. Case study of low pathogenic avian influenza H9N2 on commercial egg layers farm / Varkentin A.V., Irza V.N, Volkov M.S., L.A. Demchenko // Poultry and poultry products. - 2020. - N. 3 - P. 10-13.
7. Aggravation of epizootic situation on highly pathogenic avian influenza in the Russian Federation in 2020 / Irza V.N., Volkov M.S., Varkentin A.V. // Poultry and poultry products. - 2020. - N. 6 - P. 16-20.

b) International conferences: 4

1. 26th Annual Meeting of the National Reference Laboratories for Avian Influenza and Newcastle Disease of European Union Member States, Padova, Italy, September 23-24, 2020 (webinar). V. Irza: 2020 Update on Avian Influenza situation in the Russian Federation; (oral presentation)
<https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/workshops/>
2. International scientific and practical conference of the Russian Federation and CIS countries poultry veterinarians "Current issues of diagnostics and prevention of infectious diseases of birds in industrial poultry farming", organized by ARRIAH, Suzdal, RF, February 13-14, 2020. V. Irza: Viral diseases epizootic situation in poultry. Analysis and prognosis; A. Varkentin: Low Pathogenic Avian Influenza, prevention and control; A. Andreychuk: Molecular diagnosis of infections important for commercial poultry (oral presentations).
3. II 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, 21- 22 December 2020 (webinar). V. Irza: Update on Avian Influenza situation in the Russian Federation (oral presentation).
4. Osipova O. S., Sosipatorova V. Yu., Zinyakov N. G., Akshalova P. B., Andreychuk D. B., Chvala I. A. Isolation and study of avian influenza virus isolates of the H9N2 subtype on the territory of the Russian Federation 2018-2020 // Proceedings of international conference "KazNIVI-2020", Almaty, Kazakhstan, 2020, p. 76-82.

c) National conferences: 11

1. O. S. Osipova, M. A. Volkova, II.And.Chvala, P. B. Akshalova, D. B. Andreychuk, I. A. Chvala The use of the kit for detection antibodies to avian influenza subtype H9 virus by HI test for the monitoring of low pathogenic avian influenza / Scientific bases of production and quality assurance of biological products for the agricultural sector// Materials of international scientific-practical conference dedicated to the 100th anniversary of the birth of I. V. Zvyagin (October 2020), Shchylkovo.- VNITIBP. - 2020. - pp. 66-70.
2. Akshalova P. B., Chvala I. A. Development of a method for identification of avian influenza virus subtype N2 using classical RT-PCR / All-Russian Scientific and Practical Internet conference with international participation "Molecular Diagnostics and Biosafety-2020 "(Moscow, October 6-8, 2020) // Proceedings of the conference " Molecular Diagnostics and Biosafety-2020 "(Moscow, October 6-8, 2020) - M.: FBUN Central Research Institute of Epidemiology of Rospotrebnadzor, 2020. - P. 45

3. V. Irza. Current HPAI and ND situation and control measures (oral presentation). Scientific-practical seminar (webinar) organized by "Rosptitsesoyuz", Moscow, 15.09.2020.
4. V. Irza. Current HPAI and LPAI situation and control measures (oral presentation). Regional workshop for local veterinary services and poultry veterinarians (webinar), Perm, 27.10. 2020.
5. V. Irza. On the inexpediency of vaccination poultry against HPAI (oral presentation). Scientific-practical seminar (webinar) organized by "Rosptitsesoyuz", Moscow, 22.10.2020.
6. V. Irza. Current HPAI and LPAI situation in commercial poultry and control measures (oral presentation). Scientific-practical seminar (webinar) organized by "Rosptitsesoyuz", Moscow, 20.11.2020.
7. V. Irza. Current HPAI and LPAI situation and control measures (oral presentation). Annual general meeting (webinar) organized by "Rosptitsesoyuz", Moscow, 24.12..2020.
8. M. Volkov, A.Varkentin, V.Irza, D.Andreychuk, A. Andriyasov. Avian Influenza and Newcastle Disease: Surveillance, diagnostics, prevention and control. Webinars for veterinary services and poultry veterinarians of Territories of Russia. ARRIAH, Vladimir, every quarter of the year 2020 (4 in total).

d) Other:

(Provide website address or link to appropriate information) 1

1. Forecast for highly pathogenic avian influenza in the Russian Federation for 2020 [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 2020. - Vladimir, 2019.-P. 223-272. <http://www.fsvps.ru/fsvps/iac>

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

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
d	Kazakhstan	1

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)
ISO 17025-2019	аттестат_ЛДЦ.pdf
ISO 17043-2013	Область итог.pdf

16. 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)
Identification of AI and ND viruses in HI test	Federal Service for Accreditation (fgis@fsa.gov.ru)

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
GFTADs Regional Expert Meeting and workshop for Diseases of poultry in Asia and the Pacific OIE Regional Representative for Asia and the Pacific (webinar)	1-2 December	Tokyo	short communications	no

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?

Yes

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?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/ participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Validation of diagnostic methods	participant	36	AI-ND EURL IZSVe, Padova, Italy

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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?

Yes

Title of the project or contract	Scope	Name(s) of relevant OIE 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 (13.12.2016)	Multiple shipments of HPAI viruses 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
GISAID initiative	International sharing of influenza virus sequences	GISAID epiflu

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?

Yes

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

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Validation of diagnostic methodology; participant; organizer GD Deventer	77	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input checked="" type="checkbox"/> Middle East
Validation of diagnostic methodology; organizer FGBI ARRIAH;	28 Interregional veterinary laboratories of the Russian Federation, Kazakhstan, Kyrgyzstan	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

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?

No

25. Additional comments regarding your report: