

OIE Reference Laboratory Reports Activities

Activities in 2021

This report has been submitted : 2022-01-21 09:42:10

| | |
|--|--|
| Name of disease (or topic) for which you are a designated OIE Reference Laboratory: | 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 06 14 |
| Fax: | +7-4922 26 38 77 |
| E-mail address: | arriah@fsvps.gov.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, LPAL 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 | 32779 | 0 |
| HI, several antigens | Yes | 8052 | 0 |
| Direct diagnostic tests | | Nationally | Internationally |
| Virus isolation, eggs | | 278 | 0 |
| Real time RT-PCR | | 7373 | 7 |
| Nucleotide sequencing | | 220 | 0 |

**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 H5 antibodies in HI test | HI | Produced | 768 kits | 18 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 H9 antibodies in HI test | HI | Produced | 751 kits | 17 kits | 3 | <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 | 1971 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 | BELARUS EGYPT 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 the detection of avian influenza virus RNA subtype N6 by RT-PCR in real time | Guidelines for the detection of avian influenza virus RNA subtype N6 by RT-PCR in real time: approved by FGBl "ARRIAH" 22.01.2021 / Andriyasov A.V., Ovchinnikova E.V., Zhestkov P.D. et al. - Vladimir: [B. I.], 2021. - 11 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 |
|---|--------------|--|--|
| KAZAKHSTAN | August | 7 | 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 TAJIKISTAN 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 site 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: |
|---|
| Epizootiological 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: 6

1. Sobolev I, Sharshov K, Dubovitskiy N, Kurskaya O, Alekseev A, Leonov S, Yushkov Yu., Irza V, Komissarov A, Fadeev A, Danilenko D, Mine J, Tsunekuni R, Uchida Yu, Saito T, Shestopalov A. Highly Pathogenic Avian Influenza A(H5N8) Virus Clade 2.3.4.4b, Western Siberia, Russia, 2020. *Emerg Infect Dis.* 2021; 27:2224- 27. <https://doi.org/10.3201/eid2708.210670>
2. Zinyakov NG, Sosipatorova VYu, Andriyasov AV [et al]. Genetic analysis of genotype G57 H9N2 avian influenza virus isolate A/chicken/Tajikistan/2379/2018 recovered in Central Asia. *Archives of Virology.*2021; v.166:1591-97. <https://doi.org/10.1007/s00705-021-05011-3>
3. Frolov SV, Scherbakova LO, Moroz NV, Irza VN, Kulakov VYu. Comparative testing of vaccines based on viruses of genetic lineages G1 and Y280 for their potency against low pathogenic avian influenza H9N2. *Veterinary Science Today.* 2021; 3: 224-29. <https://doi.org/10.29326/2304-196X-2021-3-38-224-229>
4. Gadzevich DV, Danylchenko SI, Vorotilova NV, Pasunkina MA, Uppe VA, Irza VN, Volkov MS, Zinyakov NG. Epidemiological monitoring of Avian Influenza in the Republic of Crimea in 2019-2020. *Veterinary Science Today.* 2021;4:308-16. <https://doi.org/10.29326/2304-196X-2021-10-4-308-316>
5. Akshalova PB, Zinyakov NG, Andriyasov AV, Zhestkov PD, Nikonova ZB, Kolosov SN, Chvala IA. Genetic analysis of nucleotide sequences of neuraminidase gene of highly pathogenic avian influenza A/H5N8 virus isolates recovered in the Russian Federation in 2020. *Veterinary Science Today.* 2021;(4):301-307. <https://doi.org/10.29326/2304-196X-2021-10-4-301-307>
6. Zinyakov NG, Andriyasov AV, Ovchinnikova YV, Kozlov AA, Zhestkov PD, Andreychuk DB, Chvala IA. Analysis of marker substitutions in A/chicken/Astrakhan/2171-1/2020 H5N8 isolate of avian influenza virus recovered in the Astrakhan Oblast. *Veterinary Science Today.* 2021; (2):132-137. <https://doi.org/10.29326/2304-196X-2021-2-37-132-137>

b) International conferences: 11

1. 27th Annual Meeting of the National Reference Laboratories for Avian Influenza and Newcastle Disease of European Union Member States, Padova, Italy, 6-7 October, 2021 (webinar). V. Irza: 2021 Update on Avian Influenza situation in the Russian Federation; (oral presentation). <https://www.izsvenezie.com/reference-laboratories/avian-influenza-newcastle-disease/workshops/>
2. GFTADs 3rd Regional Expert Network Meeting and Workshop for Avian Diseases in Asia and the Pacific, OIE Regional Representative for Asia and the Pacific, Tokyo, 29-30 September 2021 (webinar). V.Irza: Surveillance and outbreaks data for HPAI and ND in the Russian Federation (oral presentation). <https://rr-asia.oie.int/en/events/regional-workshop-for-avian-diseases-in-asia-and-the-pacific/>
3. X International Veterinary Congress, Moscow, Russia, 20-23 April 2021(webinar). V.Irza: Highly Pathogenic Avian Influenza. Epizootic situation in the world and in the Russian Federation. Prevention and control (oral presentation).
4. 2nd Research Coordination Meeting on the 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 CRP D32034), 16-18 June 2021 (webinar). V. Irza: Update on Avian Influenza in Russian Federation and ARRIAH activities (oral presentation).
5. III 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, 7-8 December 2021 (webinar). V. Irza: Update on Avian Influenza Situation in the Russian Federation (oral presentation). <https://disk.yandex.ru/d/6BDv77Ehag3ZFg>
6. OFFLU Zoom Expert Meeting “OFFLU pre VCM data discussion”, 31 August 2021.
7. OFFLU Zoom Call for AI situation update in poultry and wild birds, 8 November, 2021. https://www.offlu.org/wp-content/uploads/2021/12/OFFLU-call_Nov2021.pdf
8. FAO/IAEA International Symposium on Sustainable Animal Production and Health – Current Status and Way Forward (webinar participation), 28 June – 2 July, 2021.
9. 10-th Anniversary International Scientific Conference "Molecular Diagnostics - 2021", Moscow, 9-11 November 2021 (oral presentations):
 - Cases of detection of highly virulent avian influenza viruses of the H5N5 subtype in Russia in 2020-2021 / Andriyasov AV, Zinyakov NG, Ovchinnikova EV, et al // Proceedings of the Conference "Molecular Diagnostics - 2021", Moscow. -2021.- T2.- p.363;
 - Genetic characteristics of avian influenza viruses of the H9 subtype identified during epizootological monitoring in the FGBI "ARRIAH" in 2018-2019 / Zinyakov NG, Andriyasov AV, Sosipatorova VYu et al // Proceedings of the Conference "Molecular diagnostics - 2021", Moscow. -2021.- T2.- p.325;
 - Detection of avian influenza viruses in the Russian Federation in 2019 by RT-PCR / Andriyasov AV, Ovchinnikova EV, Nikonova ZB, et al // Proceedings of the Conference "Molecular Diagnostics - 2021", Moscow. -2021.- T2.- p.323.
10. International Scientific and Practical Conference dedicated to the 100th Anniversary of the Armavir Biofactory “Scientific bases of production and quality assurance of biological preparations”, 20-21 August 2021. Monitoring

of a low-pathogenic strain of avian influenza subtype H9 / Osipova OS, Volkova MA, Andreychuk DB, Chvala IA (webinar presentation)// Materials of the Conference. - 2021. - p. 69-73.

11. International Scientific and Practical Conference "Livestock of the future 2021", Moscow school of management Skolkovo, 30 November 2021. V.Irza: Avian Influenza in Russia: Prevention and control strategy (oral presentation). <https://msd.conventus.pro/>

c) National conferences: 16

1. Regional workshop for local veterinary services and poultry veterinarians (Siberian region), Omsk, 24-25 March 2021.

2. Regional workshop for local veterinary services and poultry veterinarians, Ufa, Bashkortostan, 24-25 March 2021.

3. Regional workshop for local veterinary services and poultry veterinarians (Urals region), Chelyabinsk, 8 April 2021.

4. Scientific and practical conference for veterinarians of poultry farms of the Russian Federation "Trends of 2021 in poultry farming. Ensuring epizootic well-being at a poultry enterprise. Innovative and effective solutions". Vladimir, ARRIAH, 14-16 April 2021.

5. Regional workshop for local veterinary services and poultry veterinarians "ARRIAH diagnostic capabilities and prevention infectious diseases of poultry", Samarkand, Uzbekistan, 19-20 July 2021.

6. Regional workshop for local veterinary services and poultry veterinarians (webinar), Perm, 14 September 2021.

7. Conference "Viral diseases of poultry", Erevan, Armenia, 25-26 September 2021.

8. Scientific-practical seminar (webinar) for veterinarians of poultry farms of the Russian Federation and CIS countries «Current HPAI and ND situation and control measures» organized by "Rosptitsesoyuz", Moscow, 10 November 2021.

9. Conference "Viral diseases prevention in commercial poultry" (in frames of exhibition UzAgroExpo 2021), Tashkent, Uzbekistan, 26 November 2021.

10. Webinar for poultry veterinarians of Kazakhstan, ARRIAH, Vladimir, 23 December 2021.

11. Annual general meeting (webinar) "Current HPAI and LPAI situation and control measures" organized by "Rosptitsesoyuz", Moscow, 23 December 2021.

12. Webinars for veterinary services and poultry veterinarians of Territories of Russia: Avian Influenza and Newcastle Disease: Surveillance, diagnostics, prevention and control. M. Volkov, A.Varkentin, V.Irza, D.Andreychuk, A. Andriyasov. ARRIAH, Vladimir (5 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 2021 [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 2021. - Vladimir, 2021.- 58 p. <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) |
| 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) |

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 (webinar) | September 2021 | Tokyo | Speaker | Surveillance Activities for Avian Influenza and Newcastle Disease (oral presentation) |

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 | 41 | AI-ND EURL IZSVe, Padova, Italy |
| OFFLU AIV PT 2021 | participant | 11 | Australian Centre for Disease Preparedness (ACDP)CSIRO |

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 and ND 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 Avian 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 | 80 | <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; | 38 Interregional veterinary laboratories of the Russian Federation, 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: