# OIE Reference Laboratory Reports Activities

## *Activities in 2018*

## This report has been submitted : 2019-01-16 15:38:41

| | |
|---|---|
| **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):** | Dmitry A. Lozovoy, Director of FGBI "ARRIAH" |
| **Name (including Title and Position) of OIE Reference Expert:** | Viktor N. Irza, chief expert |
| **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 | |
|---|---|---|---|
| Indirect diagnostic tests | | Nationally | Internationally |
| ELISA, NP | Yes | 26075 | 0 |
| HI, several antigens | Yes | 5320 | 0 |
| Direct diagnostic tests | | Nationally | Internationally |
| Virus isolation, eggs | Yes | 296 | 1 |
| Real time RT-PCR | Yes | 4468 | 9 |
| Nucleotide sequencing | Yes | 86 | 6 |

### *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 | 151 kits | 2 kits | 2 | ☐Africa<br>☐Americas<br>☒Asia and Pacific<br>☐Europe<br>☐Middle East |
| Kit for detection of avian influenza virus antibodies in one dilution immunoassay test | ELISA | produced | 1870 kits | 1 kit | 2 | ☐Africa<br>☐Americas<br>☒Asia and Pacific<br>☐Europe<br>☐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 | 0 | 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 detection of H9 avian influenza virus RNA by real-time RT-PCR | Guidelines for detection of H9 avian influenza virus RNA by real-time RT-PCR:A. V. Andriyasov, E. V. Shagurina, D.A. Altunin, V. Yu Sosipatorova, O.S. Osipova, D. B. Andreychuk; FGBI "ARRIAH". - Vladimir: 2018. - 12 p. |
| Guidelines for detection of avian influenza virus antigen in avian tissues by immunohistochemistry in paraffin-embedded tissue sections | Guidelines for detection of avian influenza virus antigen in avian tissues by immunohistochemistry in paraffin-embedded tissue sections:V. Yu Sosipatorova, M.A. Volkova, D.A. Altunin, Il.A. Chvala, N.S. Mudrak, D.B. Andreychuk; FGBI "ARRIAH". - Vladimir: 2018. - 22 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 | May | 5 | 5 |
| TAJIKISTAN | September | 1 | 1 |

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<br>CANADA<br>GERMANY<br>IRAN<br>KOREA (REP. OF)<br>NIGERIA<br>ROMANIA<br>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<br>AZERBAIJAN<br>BELARUS<br>KAZAKHSTAN<br>KYRGYZSTAN<br>MOLDOVA<br>TAJIKISTAN<br>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

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

Yes

**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: 4
1. Genetic features of highly pathogenic avian influenza viruses A(H5N8), isolated from the European part of the Russian Federation / O.L. Voronina, N.N. Ryzhova, E.I. Aksenova, M.S. Kunda, N.E. Sharapova, I.T. Fedyakina, I.A. Chvala, S.V. Borisevich, D.Yu. Logunov, A.L. Gintsburg // Infection, Genetics and Evolution 63 (2018) p.144–150

2. Control of birds vaccination efficiency against avian influenza A/H5 using the technology of dried blood spots / Il.A. Chvala, V.A. Mischenko, D.A. Lozovoy, N.Yu. Saushkin, Zh.V. Samsonova, S.E. Kondakov, A.P. Osipov, D.V. Kuznetsov, O.Yu. Chernyh // Veterinariya. - 2018. - № 2. - p. 24-27.

3. Results of experimental infection of turkeys with influenza virus a/duck/Altai/469/14 H5N1 / V. Yu. Sosipatorova, D.A. Altunin, Il.A. Chvala, N.S. Mudrak, D.B. Andreychuk // Veterinary science today. - 2018. - № 3 (26). - p. 47-51.

4. History of highly pathogenic avian influenza eradication in Russian Federation in 2016-2017 / M.Volkov, V.Irza, V.Varkentin // Veterinary science today. - 2018. - № 1. - P. 3-10.

b) International conferences: 10
1. Biological properties of the H5N1 avian influenza virus isolated in the delta of the Volga River in 2015/ N.G. Zinyakov, A.V. Andriyasov, Il.A. Chvala (poster presentation) // 10th Intern. Symp. on Avian Influenza in Poultry and Wild Birds. – Brighton, UK, 2018. – P. 194.

2. Experimental infection of chickens, ducks and turkeys with influenza virus A/duck/Altai/469/14 H5N1 / Il.A. Chvala, V.Yu. Sosipatorova, Ir.A. Chvala, D.A. Altunin (poster presentation) // 10th International Symposium on Avian Influenza in Poultry and Wild Birds. – Brighton, UK, 2018. – P. 166.
3. Outbreaks of avian influenza in Russian Federation in 2016-2017/ Il.A. Chvala (speaker), N.G. Zinyakov, A.V. Andriyasov, E. V. Shagurina // 10th Intern. Symp. on Avian Influenza in Poultry and Wild Birds. – Brighton, UK, 2018. – P. 29.

4. Outbreak of highly pathogenic avian influenza A/H5N1 clade 2.3.2.1 in the Altai region, Russia / I.A. Chvala, A.V. Andriyasov, N.G. Zinyakov, D.A. Altunin, N.S. Mudrak, V.Yu. Sosipatorova (poster presentation) // 10th International Symposium on Avian Influenza in Poultry and Wild Birds. – Brighton, UK, 2018. – P. 101.

5. Joint 24th Annual Meetings of the National Laboratories for Avian Influenza and Newcastle Disease of European Union Member States. - Windsor, UK, 2018. (A. Andriyasov -Participant).

6. Il. Chvala. Outbreaks of Avian Influenza in Russian Federation in 2016-2018/ Regional Workshop for Transboundary Animal Diseases (TADs) Control (Ulaanbaatar, Mongolia, 22-23 August 2018), http://www.rr-asia.oie.int/regional-representations-activities/read/article/regional-workshop-on-transboundary-animal-disease-control/

7. V. Irza. Avian Influenza surveillance of wild birds in Russian Federation /1-st International Research Coordination Meeting on the Avian Influenza viruses of wild birds in South Korea, Russia and Mongolia, Konkuk University,Seoul, Korea, 6 April 2018.
8. V. Irza. Update on Avian Influenza in Russian Federation /1-st 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 (IAEA CRP D32034, Phase II), Novosibirsk, Russia, 31 August 2018.
9. V. Irza. Epizootic situation on highly dangerous diseases of poultry/5-th International conference “Development of poultry industry”. Exibition “Cereals-Mixed feed –Veterinary 2018”, Moscow, 30.01.2018.
10. V. Irza. Highly Pathogenic Avian Influenza in Russian Federation. Lessons learnt and Prognosis/ VIII International Veterinary Congress, Moscow, 24 April 2018.

11. V. Irza. Global HPAI situation/ International conference-workshop “Actual questions of diagnostics and prevention infectious diseases of commercial poultry”, Vladimir, 15-16 February 2018.

12. Il. Chvala. Avian Influenza and Newcastle Disease/International Conference-workshop “Actual questions of diagnostics and prevention infectious diseases of commercial poultry”, Vladimir, 15-16 February 2018.

13. V.Irza. Avian Influenza and other viral diseases of poultry/ Conference-workshop, Tadjik Academy of Agricultural Science., Dushanbe, 9 April 2018.

14. V.Irza. Highly Pathogenic Avian Influenza eradication in commercial poultry in Russian Federation / International Conference-workshop organized by Breeding company “Sverdlovskiy”, Sochi, 17 October 2018.

c) National conferences: 3
1. V. Irza. Current HPAI situation/ Regional workshop “Diagnostics and prevention infectious diseases (HPAI and ASF)”, Penza, 13-14.03.2018

2.V. Irza. Current HPAI situation and prognosis/ Regional workshop for local veterinary services and poultry veterinarians. Saint Petersburg, 8.06.2018.

3. V. Irza. Current HPAI situation and preventive measures in commercial poultry/Regional workshop for local veterinary services and poultry veterinarians, Chelyabinsk, 12.07. 2018.

d) Other:
(Provide website address or link to appropriate information) 8
1. Preparation of polyclonal antibodies to ribonucleoprotein of avian influenza virus and their application in immunohistochemistry / V. Yu. Sosipatorova, M.A. Volkova, Il.A. Chvala, N.S. Mudrak // Science and innovation in

agriculture of the XXI century: materials vseros. scientific practice. Conf. young scientists, dedicated. 145 anniversary of the Academy / Kazan gavm. - Kazan, 2018. - P. 179-181

2. Forecast for highly pathogenic avian influenza in the Russian Federation for 2018 [Text]: scientific publication / Il.A. Chvala, A. K. Karaulov, V. M. Gulenkin, V. N. Irza // Forecasts of infectious animal disease occurrence in the Russian Federation for 2018. - Vladimir, 2018.-P. 209-242. http://www.fsvps.ru/fsvps/iac

3. Atlas of HPAI outbreaks in Russian Federation / V. Gulenkin, A. Varkentin, M.Volkov, A. Karaulov, O.Petrova, E.Erastova, F.Korennoy, V.Irza, D. Lozovoy. – Vladimir, FGBI ARRIAH, 2018. - 618 p.

4. V.Irza, M.Volkov, V.Varkentin /Highly pathogenic avian influenza eradication in Russian Federation in 2017// XIX International WSPA Conference “Global trends in poultry development”. Proceedings- Sergiev Posad, 2018.- P.613-616.

5. Study on ptotectivity of inactivated H9 avian influenza vaccine against HPAIV of H5 subtype/ A. Varkentin, M.Volkov, D. Dolgov, V.Irza // Proceedings of the Federal Centre for Animal Health. - M., 2018. V.16: 60 years of the FGBI “ARRIAH”.-P. 335-345.
6. Highly pathogenic avian influenza- a permanent threat / M.Volkov, V.Irza, A. Varkentin // Agrarnik -2018, №8(88). – P. 39-42.

7. Highly dangerous diseases – threats to commercial poultry / M.Volkov, Il. Chvala, D. Lozovoy, V.Irza //Agrarnik – 2018, №3 (83) – P. 26-31.

8. Patent RF № RU 2647566 C1, 06.06.2018 / Il. Chvala, S. Frolov, M. Volkov [et al]. Virus strain A/goose/Kalmykia/813/16 H5N8.

## *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: 2
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 |
|---|---|---|
| b | Tajikistan | 2 |
| 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 certified according to an International Standard?

Yes

| Quality management system adopted | Certificate scan (PDF, JPG, PNG format) |
|---|---|
| ISO 17025-2009 | аттестат_ЛДЦ.pdf |
| ISO 17043-2013 | |

16. Is your laboratory accredited by an international accreditation body?

No

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?

Yes

| National/ International | Title of event | Co-organiser | Date (mm/yy) | Location | No. Participants |
|---|---|---|---|---|---|
| International | Meeting devoted to the FGBI “ARRIAH” role in the global veterinary science with participation of the OIE General Directorate: Director General Monique Eloit and Advisor to the Director General Romano Marabelli | OIE | October11, 2018 | Vladimir, Russia | 100 |
| International | International Scientific and Practical Conference on Prospects of Russian Veterinary Science devoted to the 60th anniversary of the FGBI “ARRIAH” | | October 26, 2018 | Vladimir, Russia | 130 |

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 |
|---|---|---|---|---|
| Plenary meeting on Current disease situation in wild animals : analysis of events and trends held within the 86th OIE General Session | May 2018 | Paris, France | short communications | ... |
| Regional Workshop for Transboundary Animal Diseases (TADs) Control | August 2018 | Ulaanbaatar, Mongolia | speaker | Outbreaks of Avian Influenza in Russian Federation in 2016 - 2018 |

## *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 | >10 | CSIRO Australian Animal Health Laboratory |

[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. | Institutto 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) |
| 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 |

## *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 | 73 | ☒Africa<br>☒Americas<br>☒Asia and Pacific<br>☒Europe<br>☒Middle East |
| Validation of diagnostic methodology; organizer FGBI ARRIAH; Participants: Russian regional labs | 6 Interregional veterinary laboratories of the Russian Federation | ☐Africa<br>☐Americas<br>☐Asia and Pacific<br>☐Europe<br>☐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: