WOAH Reference Laboratory Reports Activities 2023
Activities in 2023
This report has been submitted: 27 mai 2024 09:56

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory: Highly and low pathogenic avian influenza

Address of laboratory: Urievets

Tel.: +7-4922 26 18 67

E-mail address: irza@arriah.ru

Website: www.arriah.ru

Name (including Title) of Head of Laboratory (Responsible Official): Roman N. Rybin, Director of FGBI "ARRIAH" (National reference OIE laboratory for HPAI, LPAI and ND)

Name (including Title and Position) of WOAH Reference Expert: Viktor N. Irza, ARRIAH chief expert, doctor of science (vet)

Which of the following defines your laboratory? Check all that apply: 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

<table>
<thead>
<tr>
<th>Diagnostic Test</th>
<th>Indicated in WOAH Manual (Yes/No)</th>
<th>Total number of test performed last year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nationally</td>
<td>Internationally</td>
</tr>
<tr>
<td>Indirect diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELISA, NP</td>
<td>Yes</td>
<td>36190</td>
</tr>
<tr>
<td>HI, several antigens</td>
<td>Yes</td>
<td>5542</td>
</tr>
<tr>
<td>Direct diagnostic tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virus isolation, eggs</td>
<td>Produced</td>
<td>226</td>
</tr>
<tr>
<td>Real time RT-PCR</td>
<td>Produced</td>
<td>6860</td>
</tr>
<tr>
<td>Nucleotide sequencing</td>
<td>Produced</td>
<td>345</td>
</tr>
</tbody>
</table>

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 (non-WOAH-approved) and/or other diagnostic reagents to WOAH Members?

Yes

<table>
<thead>
<tr>
<th>TYPE OF REAGENT AVAILABLE</th>
<th>RELATED DIAGNOSTIC TEST</th>
<th>PRODUCED/ PROVIDE</th>
<th>AMOUNT SUPPLIED NATIONALLY (ML, MG)</th>
<th>AMOUNT SUPPLIED INTERNATIONALLY (ML, MG)</th>
<th>NO. OF RECIPIENT WOAH MEMBER COUNTRIES</th>
<th>COUNTRY OF RECIPIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit for detection of avian influenza virus subtype H9 antibodies in HI test</td>
<td>HI</td>
<td>Produced</td>
<td>994 kits</td>
<td>59</td>
<td>3</td>
<td>BELARUS, KAZAKHSTAN, RUSSIA</td>
</tr>
</tbody>
</table>
Kit for detection of avian influenza virus subtype H5 antibodies in HI test

<table>
<thead>
<tr>
<th>Test</th>
<th>Produced</th>
<th>Amount</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI</td>
<td>1000 kits</td>
<td>BELARUS, KAZAKHSTAN, RUSSIA,</td>
<td></td>
</tr>
</tbody>
</table>

Kit for detection of avian influenza virus subtype H5&H7 antibodies in HI test

<table>
<thead>
<tr>
<th>Test</th>
<th>Produced</th>
<th>Amount</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>HI</td>
<td>364 kits</td>
<td>BELARUS, RUSSIA,</td>
<td></td>
</tr>
</tbody>
</table>

Kit for detection of avian influenza virus antibodies in one dilution immunoassay test

<table>
<thead>
<tr>
<th>Test</th>
<th>Produced</th>
<th>Amount</th>
<th>Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
<td>60 kits</td>
<td>BELARUS, RUSSIA,</td>
<td></td>
</tr>
</tbody>
</table>

4. Did your laboratory produce vaccines?
Yes

5. Did your laboratory supply vaccines to WOAH Members?
Yes

<table>
<thead>
<tr>
<th>Vaccine Name</th>
<th>AMOUNT SUPPLIED NATIONALLY</th>
<th>AMOUNT SUPPLIED NATIONALLY (ML, MG)</th>
<th>NAME OF RECIPIENT WOAH MEMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avian Influenza H9N2 + Newcastle Disease associated killed oil-based vaccine</td>
<td>Contract</td>
<td></td>
<td>BELARUS KAZAKHSTAN RUSSIA UZBEKISTAN</td>
</tr>
<tr>
<td>Avian Influenza H5N1 + Newcastle Disease associated killed oil-based vaccine</td>
<td>Contract</td>
<td></td>
<td>EGYPT</td>
</tr>
<tr>
<td>Avian Influenza H5N1 killed oil-based vaccine «AviFluVac»</td>
<td>Contract</td>
<td></td>
<td>BELARUS KAZAKHSTAN RUSSIA UZBEKISTAN</td>
</tr>
</tbody>
</table>

TOR3: NEW PROCEDURES

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

<table>
<thead>
<tr>
<th>NAME OF THE NEW TEST OR DIAGNOSTIC METHOD DEVELOPED</th>
<th>DESCRIPTION AND REFERENCES (PUBLICATION, WEBSITE, ETC.)</th>
</tr>
</thead>
</table>

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?
No

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?
No

TOR4: DIAGNOSTIC TESTING FACILITIES

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

<table>
<thead>
<tr>
<th>NAME OF WOAH MEMBER COUNTRY SEEKING ASSISTANCE</th>
<th>DATE</th>
<th>WHICH DIAGNOSTIC TEST USED</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT</th>
<th>NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELARUS</td>
<td>2023-07-25</td>
<td>qPCR</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>KAZAKHSTAN</td>
<td>2023-09-12</td>
<td>qPCR</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>BELARUS</td>
<td>2023-02-21</td>
<td>ELISA, HI</td>
<td>1200</td>
<td>0</td>
</tr>
<tr>
<td>BELARUS</td>
<td>2023-05-25</td>
<td>ELISA, HI</td>
<td>1200</td>
<td>0</td>
</tr>
<tr>
<td>BELARUS</td>
<td>2023-06-20</td>
<td>ELISA, HI</td>
<td>310</td>
<td>0</td>
</tr>
<tr>
<td>BELARUS</td>
<td>2023-07-25</td>
<td>ELISA, HI</td>
<td>1080</td>
<td>0</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Title of the study</th>
<th>Duration</th>
<th>PURPOSE OF THE STUDY</th>
<th>PARTNERS (INSTITUTIONS)</th>
<th>WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>2017-2023</td>
<td>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</td>
<td>IAEA/FAO Vienna</td>
<td>AUSTRIA CANADA GERMANY IRAN KOREA (REP. OF) NIGERIA ROMANIA UNITED KINGDOM</td>
</tr>
<tr>
<td>Updated Programme of joint actions of CIS countries to prevent HPAI and Newcastle Disease</td>
<td>2018- 2025</td>
<td>Avian Influenza and Newcastle Disease Surveillance and Control</td>
<td>Institutions and laboratories subordinated to veterinary authorities of the countries</td>
<td>ARMENIA AZERBAIJAN BELARUS KAZAKHSTAN KYRGYZSTAN MOLDOVA TAJIKISTAN UZBEKISTAN</td>
</tr>
</tbody>
</table>

13. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?
No

**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. The laboratory provides notifications and reporting to WOAH on behalf of WOAH 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:

3

1. Highly Pathogenic Avian Influenza A(H5N1) Virus-Induced Mass Death of Wild Birds, Caspian Sea, Russia, 2022./I.Sobolev, A. Gadzhiev, K. Sharshov, ...+V.Irza, A.M. Shestopalov. October 2023. Emerging Infectious Diseases 29(12), P 2528-32; DOI: 10.3201/eid2912.230330
2. Update on Highly Pathogenic Avian Influenza in the Russian Federation/V.Irza, M.Volkov, A.Varkentin, A. Andriyasov "The Impact of Climate Change on Biological
b) International conferences:

1. OFFLU Pre VCM Meeting, on-line, January 30, 2023;
2. International scientific and practical conference of graduate students and young scientists "Young scientists in the science and practice of agriculture", Vitebsk, April 27-28, 2023;
3. "Ask the Expert" FAO International webinar on Avian Influenza for laboratories in Central Asia and Caucasus regions, ARRIAH, May 17, 2023;
4. 3rd International Scientific and Practical Conference, Exhibition “Belagro 23”, Minsk, June 6, 2023;
6. X Kazakhstan International Poultry Forum, Astana, June 27, 2023. V.lrza: HPAI and ND: Prevention and Control (oral presentation);
8. OFFLU pre VCM Meeting, on-line, 11 September 2023;
10. 45th meeting of the Intergovernmental Council for Cooperation in the Field of Veterinary Medicine (CIS). Tashkent, 8-9 November 2023. 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;
11. 6th Russian-Chinese Symposium on Infectious Diseases, Smorodintsev Research Institute of Influenza, Saint Petersburg, November 7-8, 2023. V. Irza: Update on HPAI in the Russian Federation (oral presentation);
12. XII International Scientific and Practical Conference "Molecular Diagnostics", Moscow, November 14-16, 2023;
13. VI Uzbekistan International Poultry Forum, Tashkent, November 21, 2023. V. Irza: Current HPAI PanaZoic. Prevention and Control (oral presentation);
14. 3rd 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 2), FAO/IAEA CRP Project D32034, 4-5 December, 2023. V.Irza: ARRIAH activities report (webinar);
16. International Scientific and Practical Conference Dedicated to the 65th Anniversary of the All-Russian Research Institute for Animal Health. Vladimir, December 6-8, 2023;

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

- Yes
- No

a) Technical visit: 4
b) Seminars: 4
c) Hands-on training courses: 4
d) Internships (>1 month) 0

<table>
<thead>
<tr>
<th>Type of technical training provided (a, b, c or d)</th>
<th>Country of origin of the expert(s) provided with training</th>
<th>No. participants from the corresponding country</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>BELARUS</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>BELARUS</td>
<td>4</td>
</tr>
</tbody>
</table>

WOAH Reference Laboratory Reports Activities 2023
TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?
   Yes
   ISO 17025-2019 ISO 17043-2013
   Certificate scan (PDF, JPG, PNG format)
   accreditation certificate RA.RU.21AO46 (10.01.2017)
   accreditation certificate RA.RU.430258 (16.03.2018)
   atestat_LDCC.pdf

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 immun assay 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 WOAH?
   No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?
   Yes
<table>
<thead>
<tr>
<th>Title of event</th>
<th>Date (mm/yy)</th>
<th>Location</th>
<th>Role (speaker, presenting poster, short communications)</th>
<th>Title of the work presented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop for the OIE Avian Diseases network in East Asia (webinar)</td>
<td>2023-06-08</td>
<td>WOAH Regional Representative for Asia and the Pacific, Tokyo, Japan</td>
<td>speaker</td>
<td>Virza: Update on AI in the Russian Federation</td>
</tr>
</tbody>
</table>

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. Do you network (collaborate or share information) with other WOAH Reference Laboratories designated for the same pathogen?
   No

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?
   No

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
<table>
<thead>
<tr>
<th>TITLE OF THE PROJECT OR CONTRACT</th>
<th>SCOPE</th>
<th>NAME(S) OF RELEVANT WOAH REFERENCE LABORATORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple shipments of HPAI and ND viruses isolates</td>
<td></td>
<td>WOAH Reference Laboratory Reports Activities 2023</td>
</tr>
</tbody>
</table>
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 WOAH Reference Laboratories for the same pathogen?
Yes

<table>
<thead>
<tr>
<th>Purpose for inter-laboratory test comparisons</th>
<th>Role of your reference laboratory (organizer/participant)</th>
<th>No. participating laboratories</th>
<th>Name of the Test</th>
<th>WOAH Member Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation of diagnostic methodology</td>
<td>organizer FGBI ARRIAH. participants - interregional veterinary laboratories of the Russian Federation</td>
<td>24</td>
<td>Detection RNA of AI virus</td>
<td>RUSSIA,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Detection virus antibodies (ELISA test)</td>
<td></td>
</tr>
</tbody>
</table>

TOR12: EXPERT CONSULTANTS

28. Did your laboratory place expert consultants at the disposal of WOAH?
No

29. Additional comments regarding your report:
Yes
Collaboration with EURL, APHA, NIAH laboratories indicated in ToR 10 still remained suspended in 2023. ARRIAH could not participate in the inter-laboratory proficiency tests organized by WOAH Reference Laboratories.