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Self-declaration of freedom from highly pathogenic avian influenza (HPAI) in the Russian Federation

Self-declaration was submitted for four (4) zones to the World Organisation for Animal Health (OIE) on 22 April 2019 by Dr Nikolay Vlasov, Delegate of the Russian Federation to the World Assembly of Delegates of the OIE, Deputy Head of the Federal Service for Veterinary and Phytosanitary Surveillance. This Self-declaration is submitted for publication for the first time.

I. HPAI zoning of the Russian Federation territory

The Russian Federation is a federal state consisting of 9 federal districts which are divided into 85 equal constituent entities called either 'administrative subjects' or simply 'subjects' or 'regions' (22 republics, 9 kraia, 46 oblasts, 3 federal cities namely Moscow, Saint Petersburg, Sevastopol, 1 autonomous oblast and 4 autonomous okrugs), apart from federal cities, each of these entities is further subdivided into raions.

In the Russian Federation, the principle of HPAI prevention/control strategy is the division of the country territory into five zones based on animal health status of HPAI.

1. HPAI-free zone (zones I-III)¹ – administrative Subjects of the Russian Federation where:

- surveillance is carried out in accordance with provisions of Articles 10.4.27. – 10.4.33. of the OIE Code that demonstrates no evidence of clinical AI cases and HPAI virus circulation in poultry in the administrative territory for the past 12 months;

2. HPAI-free zone (zone IV)² administrative Subjects of the Russian Federation where - free status was restored 3 months after all poultry were stamped out in the HPAI-infected establishment (including its disinfection) and surveillance in accordance with Articles 10.4.27. – 10.4.33. of the OIE Code was carried out during that three-month period that demonstrated no evidence of clinical AI cases and HPAI virus circulation in poultry kept in the Subject.

3. AI-infected zone (zone V)³ - administrative Subjects of the Russian Federation where the disease surveillance has identified HPAI cases or HPAI virus circulation in poultry for at least past 3 months.

¹ **Zone I** – 9 Federal Subjects (FS) of **Far Eastern FD**

Zone II – 2 Federal Subjects on south western part of the **Far Eastern FD**, 5 Federal Subjects on the east part of **Siberia FD**

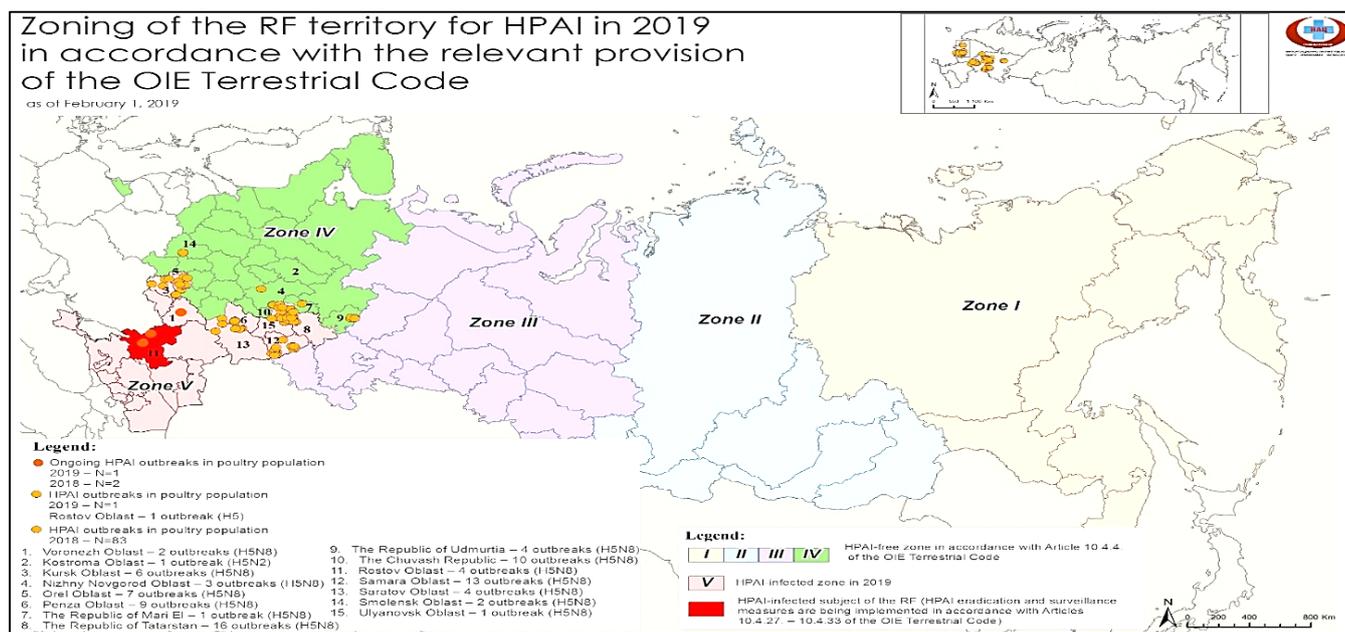
Zone III – 5 Federal Subjects on south western part of **Siberia FD**, 3 Federal Subjects on the southern part of **Volga FD**, **Ural FD**, 2 Federal Subjects on the eastern part of **Northwest FD**

² **Zone IV** --8 Federal Subjects of **Northwest FD**, 6 Federal Subjects on the northern part of **Volga FD**, 12 Federal Subjects of **Central FD**

³ **Infected Zone:** **South FD**, **North Caucasus FD** and the rest of Federal Subjects of **Volga FD**, **Central FD**.

HPAI zoning of the Russian Federation based on the statuses of poultry populations (Figure 1) and the list of the Russian Federation regions included in the 5 zones with various HPAI statuses (Annex 1).

Figure 1. Zoning based on HPAI status of poultry⁴ population, Russia, 2019



Pursuant to the Decree of the Ministry of Agriculture of the Russian Federation of 14 December 2015 No. 635 «Establishment of Veterinary rules of Regionalization of the Russian Federation territory», regionalization for avian influenza A was conducted on all Russian territory (highly and low pathogenic avian influenza) in accordance to the provisions of the chapter 4.3 of the *Terrestrial Animal Health Code (Terrestrial Code)*. This allowed to maintain the free status of the Russian subjects for avian influenza through the disease surveillance. Cartographic data on avian influenza regionalization in the Russian Federation is available on the official website of the Rosselkhoz nadzor of the Russian Federation i.e., Federal Service for Veterinary and Phytosanitary Surveillance) and updated in real time and is a system open to public used for informing export partners in Russian and English <http://www.fsvps.ru/fsvps/regional>, <http://www.fsvps.ru/fsvps/regional? language=en>.

The change of the regions' statuses for avian influenza is legislatively supported by the version of modifications in the Decision of the Rosselkhoz nadzor (on establishing statuses of regions of the Russian Federation for infectious animal diseases and conditions for movement of goods subject to veterinary surveillance (control) by the Rosselkhoz nadzor (hereinafter Rosselkhoz nadzor-regulated goods) (adopted on 20 January 2017).

II. HPAI eradication in Russia

For the first time avian influenza H5N1 was isolated from waterfowl and poultry in the rural areas of the Novosibirsk Oblast in summer 2005. Within the period from 2005 to 2008 and 2016 to 2018 two waves of HPAI spread can be identified in the territory of the Russian Federation.

HPAI in Russia - 2005 to 2008 in the free zones

HPAI outbreaks in West Siberia and South Urals in July-October 2005 were associated with AI H5N1 virus introduction from South East Asia and disease occurrence in waterfowl. Further disease spread pattern apparently depended on two factors:

- migration movements to the south and their crossing during longitudinal migration;

⁴ In accordance with Article 10.4.1. of the OIE Code poultry is defined as “all domesticated birds including backyard poultry used for the production of meat or eggs for consumption, for the production of other commercial products, for restocking supplies of game or for breeding these categories of birds as well as fighting cocks used for any purpose. Birds that are kept in captivity for any reason other than these reasons referred to in the preceding paragraph including those kept for shows, races, exhibitions, competitions or for breeding or selling these categories of birds as well as pet birds are not considered to be poultry”.

- availability of susceptible poultry in areas located along the said migratory pathways and their contacts with wild birds.

In 2008 avian influenza A/chicken/Russia/Primorsky/85/08 virus belonging to Asian genetic line (A/H5N1 (A/Gs/Gd/96 line, Mixed/VNM2 subline) was isolated in infected area located in the Ussuriysky Raion of the Primorsky Krai. The full-length genome sequencing allowed us to identify that the virus belonged to the genotype circulating in the south provinces of China and in Vietnam and previously unknown in Russia. Far East isolate of H5N1 avian influenza virus differed from the Russian isolates recovered in various Russian Federation regions in 2005-2007 that had no significant differences against each other. ([Annex 2](#) and [Annex 4](#) tables 1-3).

No AI cases were reported among poultry in the Russian Federation from April 2008 to August 2014. In 30 September 2014, two HPAI infected settlements (poultry) in the Altai Krai were registered. From 2009 to 2010 three HPAI cases in wild birds were reported: in the Republic of Tyva and in Moscow Oblast.

In 2010, 708 dead waterfowl due to AIV H5N1 were found near the Uvs Nuur lake, Republic of Tyva. Anti-epidemic measures taken by the state veterinary service prevented successfully the spread of the disease from the primary outbreak areas. Tightening of legislation concerning poultry keeping enabled to prevent new AI cases in poultry. Thus, this AIV in the Russian Federation did not cause cases and deaths among poultry. Annual monitoring tests of wild birds revealed HPAI H5N8 in wild birds shot in Yakutia in 2014.

HPAI in Russia - 2016 to 2018 in the free zones

In 2015, HPAI H5N1 was isolated from dead wild birds in six infected areas of four Russian Federation Subjects ([Annex 3, Fig. 1](#)). Moreover, H5N1 was isolated from clinically healthy wild birds during annual monitoring tests for avian influenza in the Novosibirsk Oblast.

The second wave of HPAI spread in the Russian Federation (2016 - 2018) was associated with H5N8 subtype.

In June 2016 17 dead wild birds were found on the shore of the Uvs Nuur lake, Republic of Tyva with HPAI H5N8 isolated from samples of pathological material thereof.

Regarding HPAI in poultry, in November-December 2016 H5N8 HPAI was identified in Krasnodar Krai. ([Annex 3, Figure 2](#)) In 2017 the epidemic gripped several RF Subjects, involving Moscow Oblast and Volga-adjacent regions and most HPAI cases were reported in backyard poultry ([Annex 4, Table 4, Figure 1](#)). Since the beginning of the epidemic, more than 3 million birds have been killed in all Russia Federation.

In December 2017, HPAI H5N2 virus was isolated for the first time in the Russian Federation; During 2016-2017 HPAI outbreaks in poultry had been caused by H5N8 and in 2005-2008 by H5N1.

In 2018, 82 HPAI H5N2 outbreaks were reported in poultry in 2018 in the following regions: Smolensk, Nizhny Novgorod, and Kostroma Oblasts and Udmurtia and Mariy El (zone IV). Out of 2,807,722 susceptible poultry 852, 275 birds were infected, 852,128 died and 1,955,345 were destroyed). Quarantine is strictly applied for all infected establishments where disinfection and cleansing are undertaken before lifting the quarantine period. ([Annex 4, Additional information on the epidemiology of HPAI in Russia](#)). Enhanced monitoring aimed at detecting additional AI cases in both poultry and wild birds was carried out in these subjects. The results of the tests are given in [Annex 5](#).

The most recent outbreak in the Russian Federation was reported on January 16, 2019 in Rostov Oblast on “Ursdon” and “Ursdon 2” poultry farms, keeping 33,388 poultry in total. To control and eradicate HPAI outbreaks 271, 185 people were mobilized, more than 6,200 people took part in epidemic control actions and 466 vehicles were deployed (including power shovels, dump trucks, disinfection vehicles and units). As of March 01, 2019 **three** HPAI outbreaks in the Voronezh and Rostov Oblasts were not resolved yet and are not part in the claim of self-declaration.

The epidemiological investigation results suggest that migratory birds were the likely cause of HPAI occurrence in the Russian Federation in 2017-2019. The epidemiological investigation found non-compliances with poultry management rules in backyards and non-compliances with biosecurity standards in poultry establishments. Possible spread and routes of transmission by wild birds identified by the epidemiological investigation were confirmed by results of genetic examinations of the isolates recovered in the Russian Federation.

III. Surveillance

In the Russian Federation type A avian influenza is included in the List of contagious animal diseases including highly dangerous animal diseases subjected to restrictions (quarantine) (Order of the RF Ministry of Agriculture No. 476 of December 19, 2011). Active and passive monitoring is carried out in accordance with the OIE Code recommendations (Article 10.4.27. - 10.4.33.). The results of passive surveillance for HPAI in 2018 can be found in [Annex 7](#). High-risk regions were established taking into account commercial poultry density, wild bird aggregation areas, migratory routes, epidemic situation, areas where preventive vaccination is practiced and potential risk factors. These regions are included in the schedule of annual federal active surveillance. For example, the territory of the Uvs Lake (Republic of Tuva), located at the junction of the administrative borders of the Russian Federation and Mongolia, where the main migration routes of waterfowl pass (Annex 7, Table 2).

Monitoring studies on Highly pathogenic avian influenza (HPAI) in the Russian Federation are provided only for poultry. The representativeness of the sample during sampling meets the conditions of 5% prevalence and 95% confidence interval. The results of the avian influenza monitoring are given in the Annex 8 and 9.

Surveillance in wild birds is based on the principle of incident diagnostics (passive surveillance). Active surveillance in wild fauna is applied during the period when the territory is affected by the disease in poultry.

Official avian influenza monitoring in poultry and wild birds is carried out in accordance with annual Orders of the Federal Service for Veterinary and Phytosanitary Surveillance through laboratory tests within the Rosselkhoznadzor activities for ensuring compliance with the WTO SPS Agreement requirements upon Russia accession to the WTO (Order No. 1305 of December 28, 2017 for 2018; Order No. 1519 of December 28, 2018 for 2019).

According to the Methodical Guidelines for laboratory avian influenza monitoring in the Russian Federation commercial poultry kept at large and small farms as well as poultry imported to Russia shall be tested. Samples for testing are collected according to the following pattern:

- at least 25 samples per building (section, poultry house) shall be collected on commercial poultry farms. Broilers shall be sampled at their slaughter, at least 25 samples per consignment (section, poultry house);
- samples from backyard poultry (at least 25 samples per settlement) shall be collected if backyard poultry population in the settlement is more than 100 birds.
- in case of import of embryonated/hatching eggs and live poultry to the Russian Federation 30 embryonated/hatching eggs per consignment or 25 cloacal swabs from live poultry shall be collected. During quarantine at least 25 serum samples per consignment shall be collected when the consignment comprises more than 1,000 birds, 10 samples per consignment shall be collected when the consignment comprises 10 to 1,000 birds, samples shall be collected from each bird when the consignment comprises less than 10 birds.

Sampling shall be performed in accordance with the monitoring plan.

Testing frequency shall be as follows:

- at least once a quarter in each poultry house in in-door keeping poultry establishments and at least twice a year in free range keeping poultry establishments
- at least twice a year in settlements where poultry are kept.

Representativeness of tested samples collected in poultry houses shall allow detection of the virus circulation in case of infection of:

- at least 5% of poultry kept in in-door keeping poultry establishments;
- at least 10 % of poultry kept in free-ranged keeping poultry establishments;
- at least 20% of backyard poultry kept in the settlement.

Typing of hemagglutinin and neuraminidase genes shall be performed when the virus RNA is detected in samples. When AI virus-positive sera are detected they shall be typed to determine anti-hemagglutinin subtype-specificity.

Procedure and results of sampling performed within the monitoring programme shall be recorded in sampling certificates. Copy of sampling certificate shall be forwarded to the authorized the Rosselkhoznadzor-subordinate

laboratory within one month after sampling. When H4, H5, H6, H7 and H9 AI virus RNA as well as antibodies to the said viruses are detected it shall be sent immediately.

Monitoring tests of poultry

Commercial poultry, breeding poultry, backyard poultry and poultry kept in zoos as well as synanthropic birds living in the poultry farm territory and poultry imported to the Russian Federation as well as poultry intended for sale within the country, hatching poultry eggs imported to the Russian Federation shall be tested. As part of the federal HPAI surveillance over 86 000 samples and over 81 000 samples were tested in 2017 and 2018, respectively. The results of this HPAI monitoring in poultry population in 2018 which substantiate the compliance of the relevant free zones with Article 10.4.4. of the OIE code can be found in [Annex 8](#) and Annex 9.

Monitoring tests of wild birds

Monitoring is performed in wild birds taking into account avian influenza seasonality in the Russian Federation: spring, summer, autumn (i.e. spring migration, nesting period after hatching, autumn migration) in cooperation with zoologists and specialists of hunting control authorities of the RF Subjects. ` birds are tested 3 times a year (in spring, summer, autumn) in AI-free regions and once a quarter in AI-infected regions.

Sampling, diagnosis

Test methods recommended in the Methodical Guidelines for laboratory monitoring of avian influenza in the Russian Federation are as follows: HI; virus isolation; PCR; CFT; ELISA.

The enzyme-linked immunosorbent assay (indirect ELISA for detection of antibodies against type A influenza) – sera are tested to detect antibodies against the avian influenza virus in chickens from poultry establishments, farms, settlements and chickens imported from foreign countries. The enzyme-linked immunosorbent assay (competitive ELISA) is used for the detection of antibodies against avian influenza H5 subtype in sera of different bird species.

Haemagglutination inhibition test (HI) is used for testing ELISA positive birds (chicken, geese, ducks, turkeys, pigeons, wild birds, etc.). However, the haemagglutination inhibition test is also used as a standalone diagnostic method.

Polymerase chain reaction (PCR) – tests are conducted in the following cases: sudden deaths of birds or clinical signs characteristic of the influenza, positive results of serological tests in ELISA and HI in birds, to determine the type of hemagglutinin and neuraminidase of the isolated strains (FGBI ARRIAH, FGBI VGNKI), testing of poultry meat, semi-finished products, by-products, eggs, chicken embryos and testing of compound feed and meat and bone meal.

It is recommended to carry out serological and virological tests according to the regulations in force and guidelines to diagnostic kits. HI tests are carried out with obligatory control of serum samples for spontaneous agglutination. The serum must be treated against thermolabile and if necessary against thermostable inhibitors.

IV. Prevention, anti-epidemic prevention measures

The HPAI prevention and control measures as well as the contingency plan for the occurrence of notifiable HPAI viruses are legally stipulated by the Veterinary Rules on Combating Avian Influenza established by Decree No. 90 of 27 March 2006 «Establishment of rules for combating avian influenza». Backyards where preventive vaccination against avian influenza is carried out are officially registered by raion stations for animal diseases. After the vaccination has taken place an act on prevention vaccination is drawn up with the indication of place, date of vaccination, number and species of poultry, vaccination doses, name of the preparation, batch, shelf life, residues of the preparation and method for its disposal. In 21-28 days post-vaccination immunity is assessed. Vaccination is deemed effective if antibody titer is 80% and more vaccinated poultry is not less than 4,0 log₂.

Restriction measures for movement of poultry products are introduced in establishments with a lower biocontainment level in high-risk areas where vaccination was carried out with due consideration of the regionalization of the Russian Federation. The measures are fixed in (Annex No.13 of the Rosselkhoznadzor Decision of 20 January 2017 <http://www.fsvps.ru/fsvps/regional? language=en>).

In Russia poultry kept in backyards is bred for private consumption, consequently, movement of poultry and poultry products outside the boundaries of the vaccination area does not take place. If circulation of avian influenza virus

is registered (diagnosis confirmation by laboratory methods), a state veterinary inspector for the assigned service area submits to the State bodies of the Russian Federation, to the Russian Federation subjects and to local authorities propositions for determination of boundaries of the epidemic outbreak area as followed:

- Infected point: affected settlement(s) or its part (s), poultry organization and farm with premises, adjacent territories and water basins and other objects on the territory of which a disease outbreak area is established
- Protection zone: settlements, farms, pastures and other territories immediately adjacent to the infected area or having close commercial ties with that area
- Surveillance zone: territories surrounding the protection zone where relevant measures for avian influenza monitoring are carried out, taking into account commercial relations, ecological and geographical conditions, epidemiological factors and particular characteristics of poultry industry in a certain area.

The radius of the protection zone is not less than 5 km from the boundaries of the infected point. The radius of the surveillance zone is not less than 10 km from the boundaries of the infected point.

V. Control measures used for disease-free status maintenance

The Federal Service for Veterinary and Phytosanitary Surveillance of the Russian Federation took strong control measures to maintain epidemiological well-being for infectious animal diseases.

Disease notification and early reporting system

According to the Decree of the Ministry of Agriculture of the Russian Federation No.189 of 2 April 2008 «Regulation on reporting information to State information system in the agricultural field», if quarantine and highly dangerous animal diseases are detected the following information is provided:

- Immediate report on detection of quarantine and highly dangerous animal diseases according to the results of laboratory tests (Form 4-vet-B), time period for reporting information – 12 hours since the diagnosis has been established or the information has been obtained, frequency of reporting – immediately.
Form 4-vet-B is submitted by veterinary laboratories accredited in the national accreditation system for avian influenza analyses in 12 hours after a positive result has been obtained. A report copy on obtained results is sent to the Head of the executive body of the Russian Federation subject and to the State veterinary service of the Russian Federation subject where a disease has been registered and which sent biological and (or) pathological material for testing.
- Immediate report on the disease emergence and development of the epizootic situation (Form 1-vet-B), time period for reporting information – immediately, frequency of reporting – each week.
Form 1-vet-B is submitted by executive bodies of Russian Federation subjects (governing bodies for the agroindustrial complex of Russian Federation subjects) to the Ministry of Agriculture of the Russian Federation (FGUP «Veterinary Centre»). Information on the epidemiological situation development (Form 1-vet-B) is reported by means of further supplementary reports until quarantine/restrictions lifting. A final report is submitted if an outbreak or outbreaks have been eradicated (quarantine and restrictions are lifted, all measures implemented).

Apart from the above-mentioned forms of immediate reporting the country introduced an early reporting system. All diagnostic laboratories of the Russian Federation are connected to the state information automated system in the veterinary field - VETIS. The subsystem VESTA is intended for collection, transmission and analysis of the information on laboratory testing of samples during carrying out of analysis in the field of diagnostics, food safety, food and feed quality, quality and safety of veterinary drugs, etc. Thus, the data, protocols of sampling, protocols and results of laboratory testing are downloaded to the system for purposes of control, collection, transmission, information analysis and subsequent reporting.

If an avian influenza case is registered and the diagnosis is confirmed by laboratory testing with a subsequent submission of positive testing results, the encoded information is immediately sent to the Chief State Inspector of the Russian Federation, executive bodies of the Russian Federation subjects and concerned state veterinary services. The Rosselkhoznadzor of the Russian Federation immediately changes the status of the region for infected by means of state information system in the veterinary field VETIS in the CERBERUS system which results in

introduction of stricter conditions and restrictions (ban) on movement of consignments regulated by the Rosselkhoznadzor and originating from the infected region.

Control of movement/ban on movement of animals and animal products during exports, imports and movement between 5 zones of the Russian Federation.

The control of movement/ban on movement of animals and animal products is ensured by the State Information System in the Veterinary Field of the Russian Federation VETIS, subsystem ARGUS, MERCURY, CERBERUS ([Annex 6](#)). Veterinary rules for organizing the issuance of electronic veterinary accompanying documents (eVADs) in the territory of the Russian Federation were adopted pursuant to Order No 589 of the Ministry of Agriculture of the Russian Federation of December 27, 2016. These veterinary rules were developed to ensure veterinary and sanitary safety of Rosselkhoznadzor-regulated products and animals subject to veterinary control (surveillance), to confirm the freedom of animals from contagious animal diseases in production sites of Rosselkhoznadzor-regulated goods, as well as to ensure identification and traceability of Rosselkhoznadzor-regulated goods during their production and movement.

Since 2018, the electronic certification of all consignments regulated by the Rosselkhoznadzor (animals and animal products) has been performed by issuing electronic veterinary accompanying documents (eVADs) through the «Argus» and «Mercury» subsystems. More detail on the issuance of eVADs can be found in [Annex 6](#).

The «Argus» information system is intended for electronic certification of consignments regulated by the Rosselkhoznadzor and for the issuance of authorizations for exports and imports of Rosselkhoznadzor-regulated goods. Rosselkhoznadzor-regulated consignments are imported into the Customs Union territory in accordance with the requirements of Decision No. 607 of the Customs Union Commission of April 07, 2011 "On the Forms of Universal Veterinary Certificates Issued for Rosselkhoznadzor-regulated Goods Imported into the Customs Union Territory from Non-member States" while the movement of these products between Member States of the Customs Union is carried out in accordance with the requirements of Decision No. 317 of the Customs Union Commission of June 18, 2010 "On the Implementation of Veterinary and Sanitary Measures in the Customs Union".

The «Mercury» information system is intended for electronic certification of consignments regulated by the Rosselkhoznadzor, tracing their transactions and movement routes in the territory of the Russian Federation (between RF subjects) with obligatory compliance of animal consignments with the requirements of the Decision of the Rosselkhoznadzor on the Establishment of Statuses of Regions of the Russian Federation for Infectious Animal Diseases and Conditions for Movement of Goods Subject to Veterinary Surveillance (Control) by the Rosselkhoznadzor (approved on January 20, 2017) as well as in the Customs Union territory with obligatory compliance of animal consignments with the requirements of Decision No. 317 of the Customs Union Commission of June 18, 2010 "On the Implementation of Veterinary and Sanitary Measures in the Customs Union", recommendations of the OIE Code, Decision of the Rosselkhoznadzor (approved on January 20, 2017) and the Codex Alimentarius.

Thus, when eVADs for poultry and poultry products transported between zones (subjects within zones) with different animal health statuses are issued through the «Mercury» information system, the conditions for the transportation of a particular Rosselkhoznadzor-regulated product are selected automatically from the ones listed in the Rosselkhoznadzor Decision on Establishment of Statuses of the Regions of the Russian Federation with Regard to Contagious Animal Diseases and Conditions of Movement of Rosselkhoznadzor-regulated Goods (approved on January 20, 2017) taking into account the place of origin of poultry/poultry products (either originating from within the Russian Federation or imported).

The requirements for the transportation of poultry/poultry products as well as for diagnostic tests laid out by Decision No. 317 of the Customs Union Commission of June 18, 2010, Decision No. 607 of the Customs Union Commission of April 07, 2011 as well as the Decision of the Rosselkhoznadzor on the Establishment of Statuses of Regions of the Russian Federation for Infectious Animal Diseases and Conditions for Movement of Goods Subject to Veterinary Surveillance (Control) by the Rosselkhoznadzor (approved on January 20, 2017) (approved on January 20, 2017) are in full compliance with the requirements of Article 10.4 of the OIE Code and the Codex Alimentarius.

Avian Influenza surveillance enforcement. Chief veterinary officers of the Subjects of the Russian Federation of previously infected regions carry out monitoring with regard to avian influenza. The sampling procedure and monitoring results shall be documented in reports, the report copies shall be sent to the Rosselkhoznadzor official

laboratory not later than in 1 month after sampling or immediately if RNA of AI viruses subtypes H4, H5, H6, H7 and H9 or antibodies to these virus subtypes are detected.

Vaccination is practiced only in areas at high introduction risk. Vaccination against HPAI is carried out in areas at high risk of introduction of the disease. The avian influenza vaccination program is limited, targeted and depends on risk category (migration seasons, previously infected areas, territories around large poultry farms where there are large water reservoirs with resting and nesting areas for wild migratory birds). The distribution and use of vaccines is controlled by the Veterinary Department of the Ministry of Agriculture of the Russian Federation based on risk analysis of avian influenza introduction into the territory of the Russian Federation and avian influenza epidemic situation in the countries of the Asian enclave. Only poultry kept in backyard farms are subject to immunization against AI; poultry population in commercial farms (indoor poultry farms (poultry establishments)) is not vaccinated. Vaccination against AI in backyard farms, is carried out are under official control. For more information on the vaccines used and their compliance with the OIE *Terrestrial Manual* please refer to [Annex 9](#).

VI. Conclusion

Taking into account the epidemic situation with regard to avian influenza in the Russian Federation, the information provided in WAHIS as well as the avian influenza monitoring and based on the avian influenza regionalization in the Russian Federation, the OIE Delegate of Russia declares the compliance with the requirements for freedom from HPAI infection in poultry of zones I, II, III, and recovery of freedom in zone IV as of 22 of April 2019, in compliance with Chapter 1.6. and 4.3, and Articles 10.4.2. and 10.4.4 of the OIE *Terrestrial Code*.

HPAI zoning of the Russian Federation
List of the regions of the Russian Federation included in five zones with different highly pathogenic animal health statuses
as of March 01, 2019

Federal District	No.	Avian influenza free zone (HPAI free RF Subjects)	No.	Avian influenza infected zone	(HPAI infected RF Subjects)
Zone I					
Far Eastern FD	1.	Republic of Sakha (Yakutia)			
	2.	Amur Oblast			
	3.	Primorsky Krai			
	4.	Jewish Autonomous Oblast			
	5.	Khabarovsk Krai			
	6.	Sakhalin Oblast			
	7.	Magadan Oblast			
	8.	Chukotka Autonomous Okrug			
	9.	Kamchatka Krai			
Zone II					
Far Eastern FD	1.	Zabaikalsky Krai			
	2.	Republic of Buryatia			
Siberia FD	3.	Irkutsk Oblast			
	4.	Republic of Tyva			
	5.	Krasnoyarsk Krai			
	6.	Republic of Khakassia			
	7.	Kemerovo Oblast			
Zone III					
Siberia FD	1.	Republic of Altay			
	2.	Altai Krai			
	3.	Novosibirsk Oblast			
	4.	Omsk Oblast			
	5.	Tomsk Oblast			
Volga FD	6.	Orenburg Oblast			
	7.	Republic of Bashkortostan			
	8.	Perm Krai			
Ural FD	9.	Tyumen Oblast			
	10.	Chelyabinsk Oblast			
	11.	Kurgan Oblast			
	12.	Sverdlovsk Oblast			
	13.	Yamalo-Nenets Autonomous Okrug			
	14.	Khanty-Mansiysk Autonomous Okrug			

Northwest FD	15.	Nenetsk Autonomous Okrug			
	16.	Republic of Komi			
Zone IV					
Northwest FD	1.	Republic of Karelia			
	2.	Murmansk Oblast			
	3.	Novgorod Oblast			
	4.	Pskov Oblast			
	5.	Leningrad Oblast			
	6.	Kaliningrad Oblast			
	7.	Arkhangelsk Oblast			
	8.	Vologda Oblast			
Volga FD	9.	Nizhny Novgorod Oblast			
	10.	Republic of Mariy El			
	11.	Udmurt Republic			
	12.	Kirov Oblast			
	13.	Bryansk Oblast			
	14.	Republic of Mordovia			
Central FD	15.	Kaluga Oblast			
	16.	Moscow Oblast			
	17.	Vladimir Oblast			
	18.	Kostroma Oblast			
	19.	Yaroslavl Oblast			
	20.	Ivanovo Oblast			
	21.	Smolensk Oblast			
	22.	Tver Oblast			
	23.	Lipetsk Oblast			
	24.	Tambov Oblast			
	25.	Tula Oblast			
	26.	Ryazan Oblast			
Zone V					
Volga FD			1.	Republic of Chuvashia	
			2.	Saratov Oblast	
			3.	Samara Oblast	
			4.	Ulyanovsk Oblast	
			5.	Penza Oblast	
			6.	Republic of Tatarstan	
Central FD			7.	Voronezh Oblast	
			8.	Kursk Oblast	
			9.	Oryol Oblast	
			10.	Belgorod Oblast	

South FD			11.	Volgograd Oblast	24. Rostov Oblast (2 settlements, 2019)
			12.	Astrakhan Oblast	
			13.	Republic of Kalmykia	
			14.	Republic of Crimea	
			15.	Krasnodar Krai	
			16.	Republic of Adygeya	
North Caucasus FD			17.	Stavropol Krai	
			18.	Republic of Kabardino-Balkaria	
			19.	Karachay-Cherkess Republic	
			20.	Republic of Ingushetia	
			21.	Republic of North Ossetia	
			22.	Republic of Chechnya	
			23.	Republic of Dagestan	

Results and interpretation of phylogenetic analysis of nucleotide sequences of the H5 gene segment from HPAI isolates recovered in the Russian Federation in 2006-2019

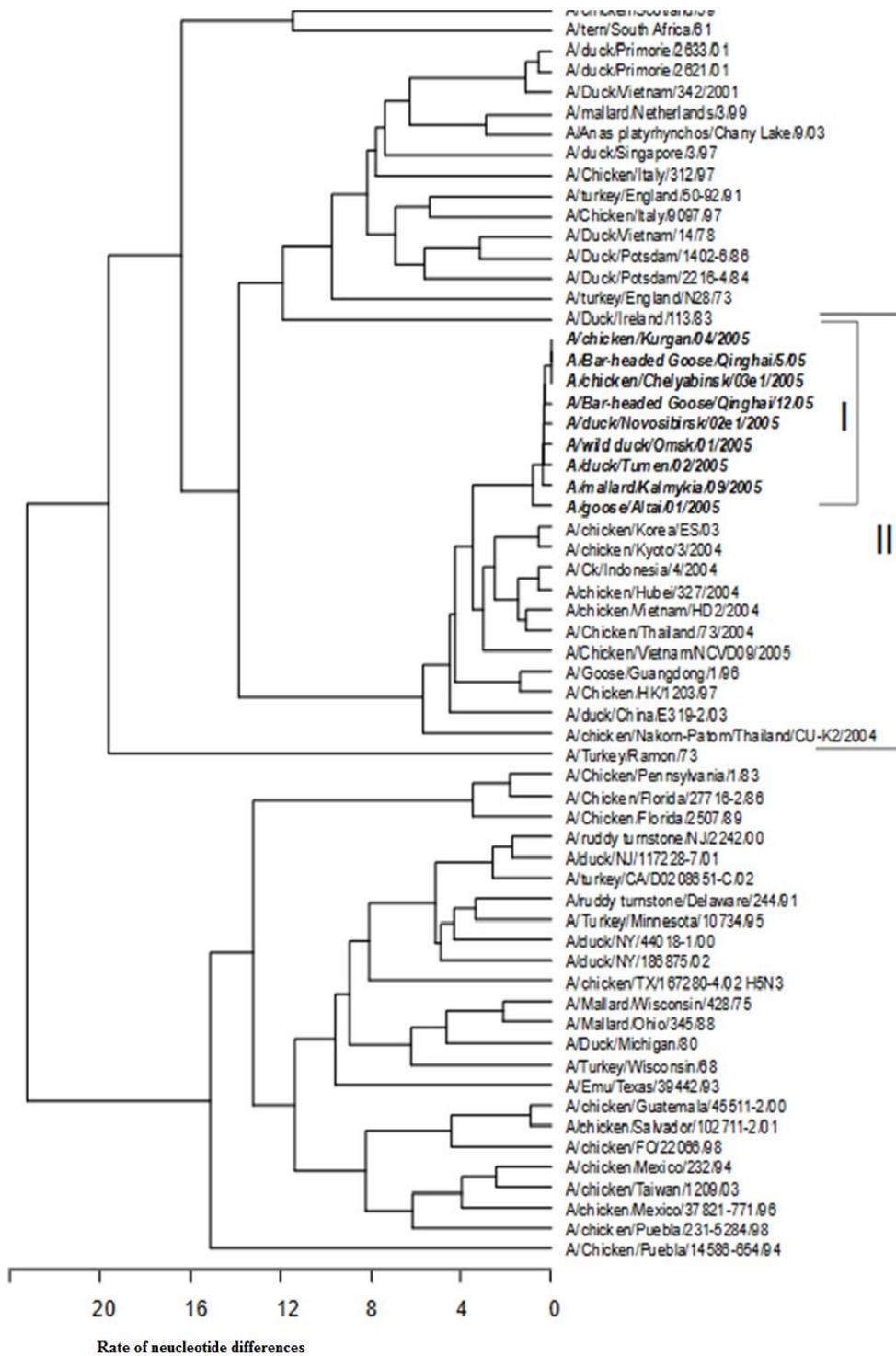


Figure 1. Results and interpretation of phylogenetic analysis of nucleotide sequences of Gene H5 segment (731-1113 bp) from HPAI isolates. The following groups were isolated: I – Russian isolates Qinghai; II – isolates of genetic lineage A/Guangdong/1/96

Molecular-biological characterization of avian influenza virus isolates collected in the west of Siberian and Urals Federal Districts and the Republic of Kalmykia in 2005. A.V. Andriyasov, T.B. Manin, I.P. Pchyolkina, L.O. Scherbakova, N.S. Mudrak, N.N. Lugovskaya, M.A. Tsivanyuk, S.N. Kolosov, V.V. Drygin, N.A. Vlasov. Figure 1 shows that haemagglutinin of all recovered isolates belongs to subtype H5 and neuraminidase to subtype N1 of the HPAI isolate lineage A/Goose/Guangdong/1/96 (H5N1), recovered in South Eastern Asia (including Indonesia) and China beginning from 1996 up to the present time (Fig. 2). The closest analogues of the Russian isolates are isolates recovered in May 2005 during the outbreak in the wild waterfowl (geese, gulls) [Lake Qinghai in the Qinghai Province (North –East of Tibet)]. Consensus sequences of Qinghai isolates and Russian isolates coincide. Some isolates (both Chinese and Russian) can have 1-2 amino acid and 2-3 nucleotide substitutions, and as for the Russian isolates their specific substitutions might correlate with the geographic sites where the virus was isolated.

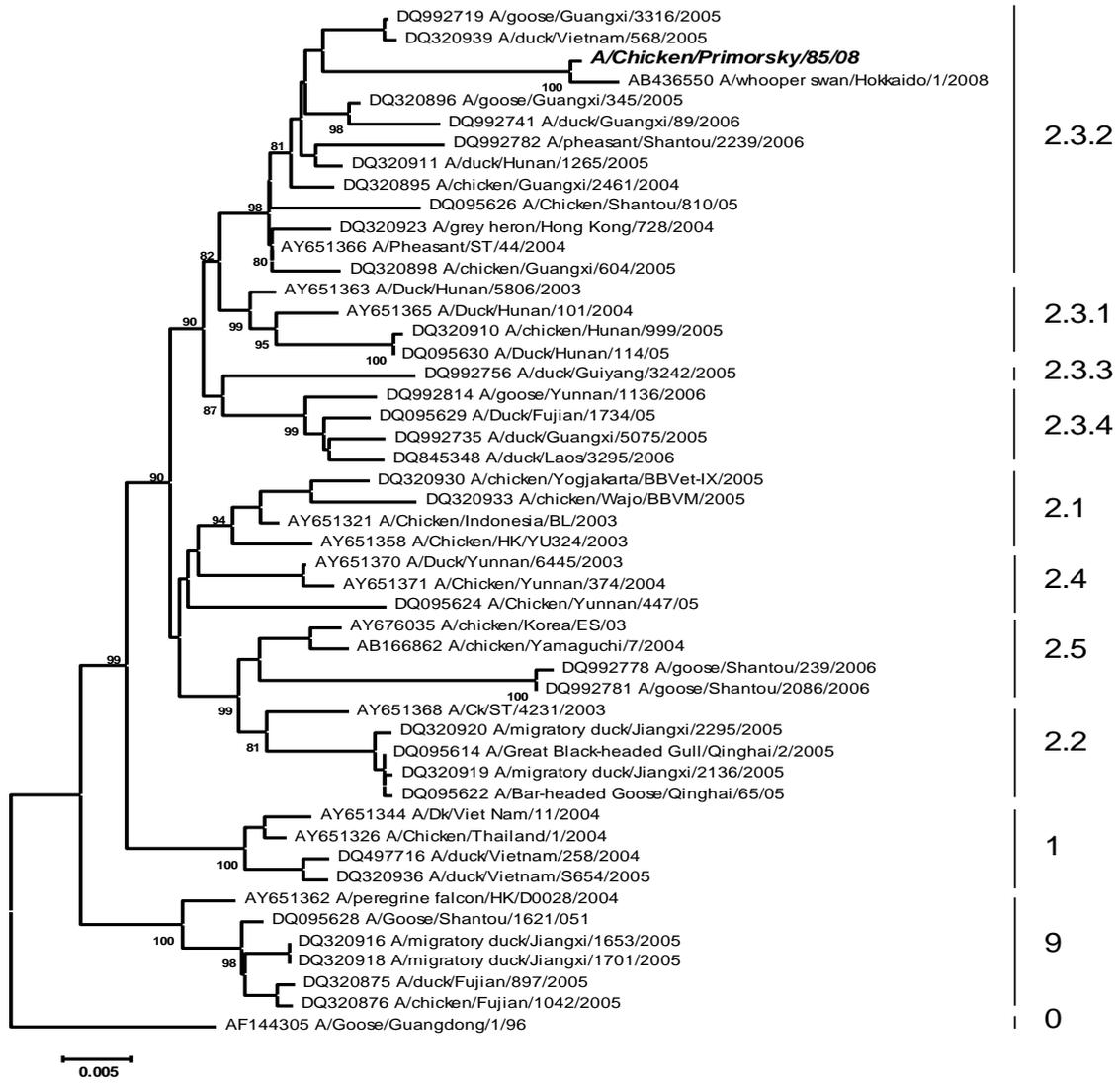


Figure 2. Phylogenetic tree, constructed using NJ method, basing on sequences of Gene H5 segment (77-1072 b.p.) from several H5N1 HP AI isolates of A/Gs/Gd/96 genetic lineage

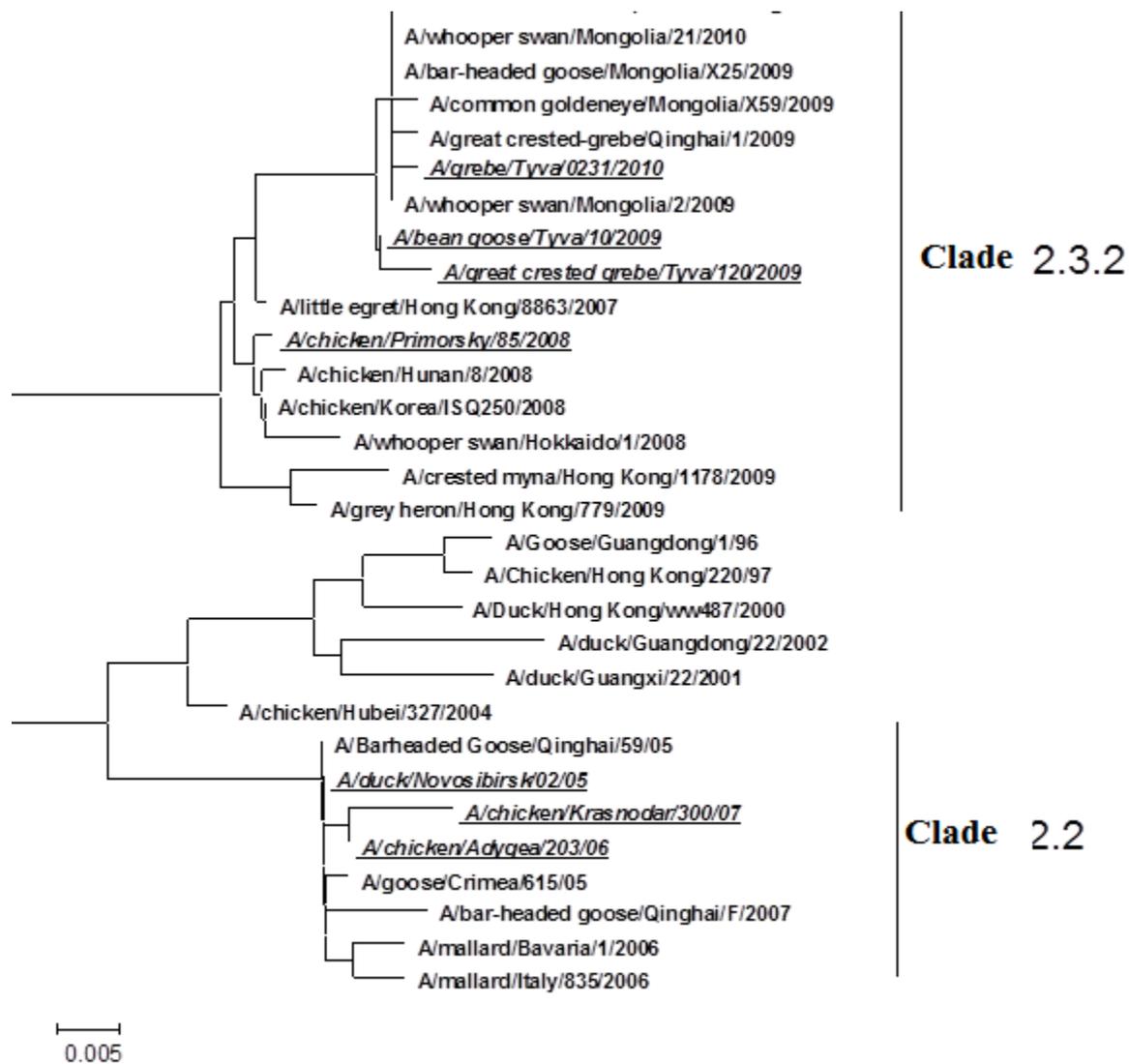


Figure 3. Results of phylogenetic analysis of nucleotide sequences of Gene H segment (674-1187b.p.) from A/H5N1 HPAI strains of A/Gs/Gd/96 genetic lineage. Strains recovered in Russia are underlined.

The phylogenetic analysis showed that haemagglutinin of the recovered isolate belongs to subtype H5 of the A/goose/Guangdong/1/96 H5N1 lineage firstly recovered in the South –East Asia in 1996. Within this genetic lineage haemagglutinin of the A/chicken/Primorsky/85/08 H5N1 isolate was found to be closely related to the strains of clade 2.3.2, which have been recovered in several provinces of China and Vietnam since 2003 (Figures 2, 3).

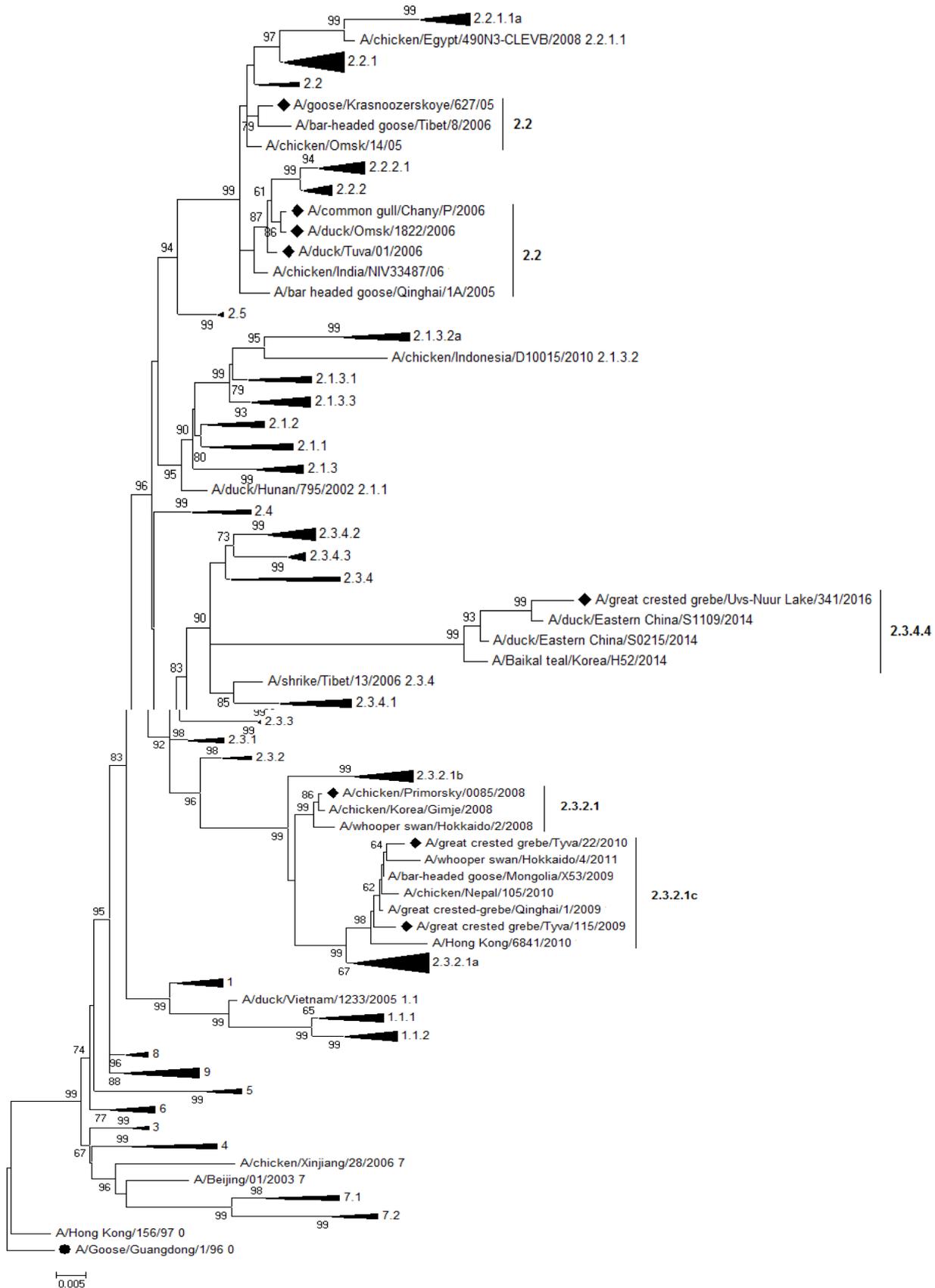


Fig. 5. HA gene phylogenetic tree. The analysis was performed using MEGA 5.2 software and Neighbor-Joining method within the Maximum Composite Likelihood evolutionary model with 1000 replications (bootstrapping).

The original Russian strains are indicated by diamonds. The sequences and phylogenetic analysis of one of them— *A/great crested grebe/Uvs- Nuur Lake/34/2016* – showed that it belongs to HPAI / H5N8 of the Eurasian-American genetic group (2.3.4.4) (Fig. 5). (Results of long-term (2006-2016) avian influenza surveillance in wild birds of Uvs Nuur Lake *Alexander M. Shestopalov**, *Kirill A. Sharshov*, *Andrey V. Varkentin*, *Yuriy G. Yushkov*, *Sergey V. Leonov*, *Irina V. Galkina*, *Tatiana G. Archimaeva*, *Victor N. Irza*, *Mikhail Yu. Shchelkanov*, *Alimurad A. Gadzhiev*, *Madina Z. Magomedova*)

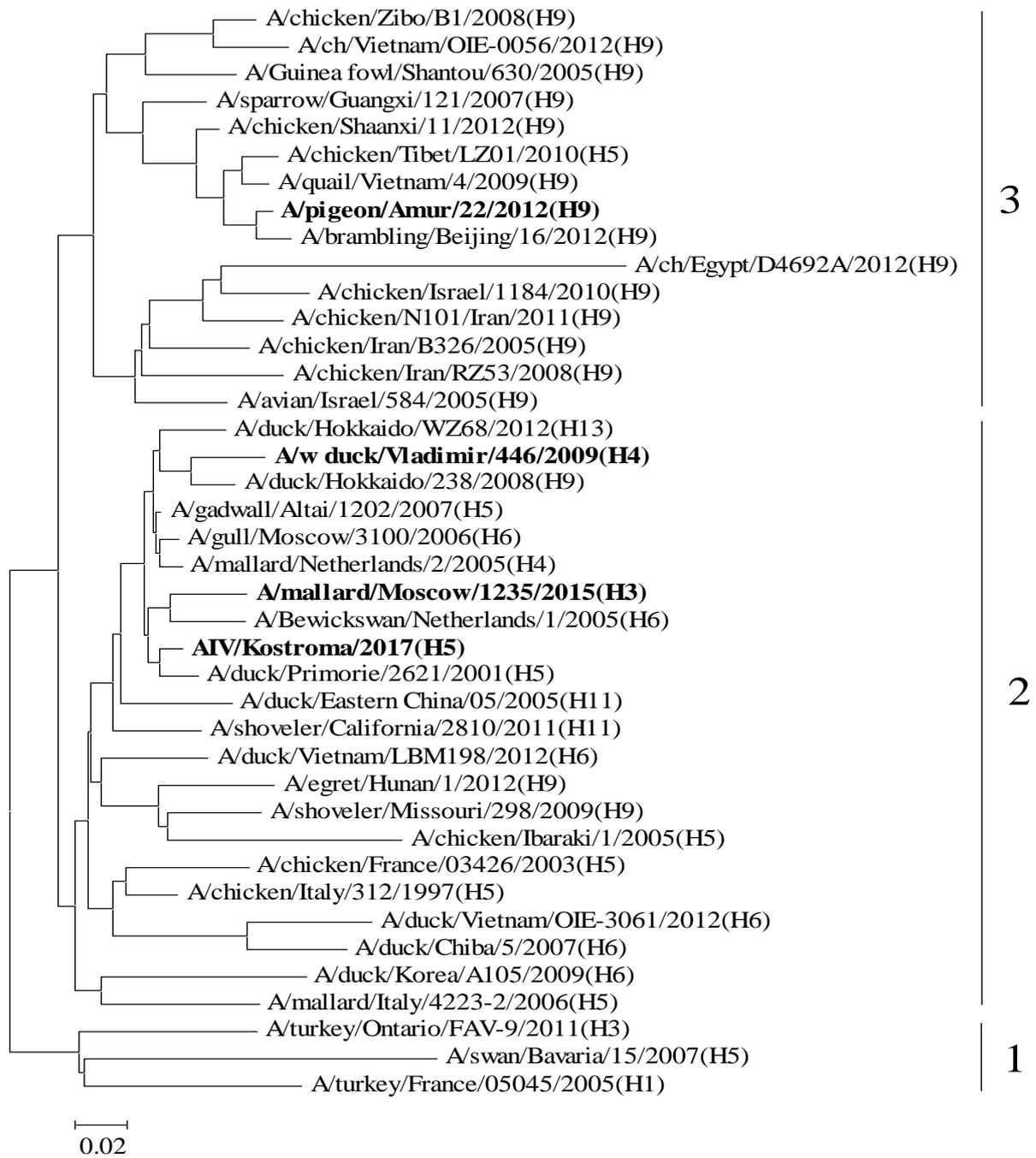


Fig. 6. Phylogenetic tree constructed using the sequences of the N gene segment from N2 AIV isolates and strains

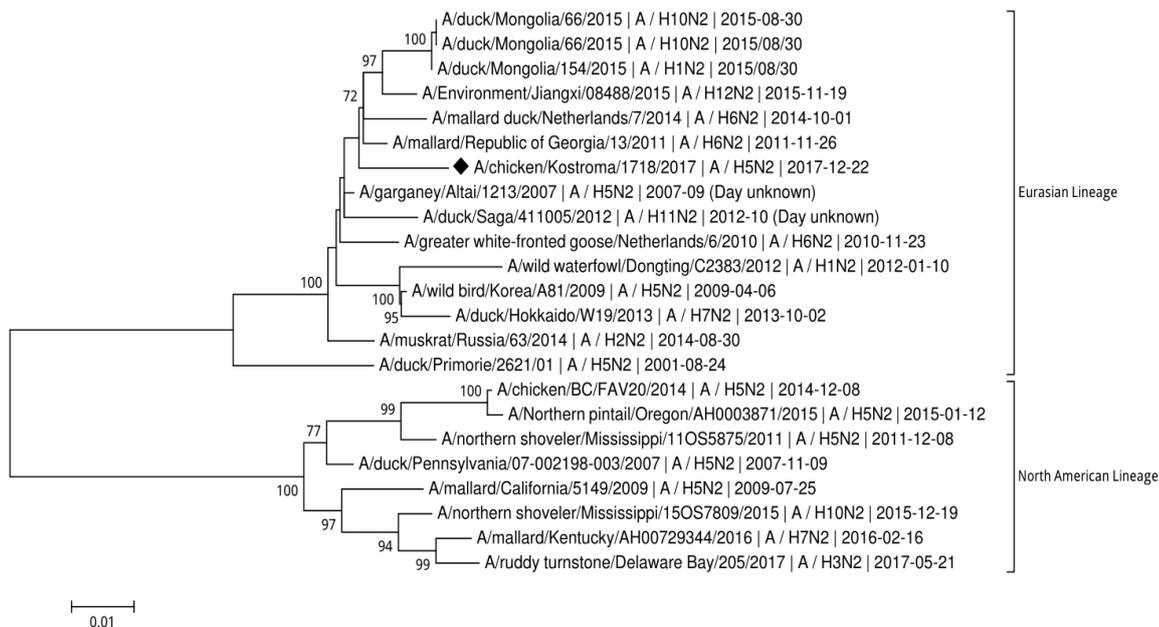


Figure 7. Phylogenetic links of NA genes of A(H5N2) viruses. Newly recovered isolates in Russia are indicated by diamonds

Phylogenetic analysis of NA gene of the studied H5Nx viruses showed that the NA segment belongs to the Eurasian AIV lineage (Fig. 6 и 7), and NA originates from the low pathogenic avian influenza strains of the Eurasian HxN2 viruses. Isolation and characterization of H5Nx highly pathogenic avian influenza viruses of clade 2.3.4.4 in Russia

[V.Marchenko](#) [N.Goncharova](#) [I.Susloparov](#) [N.Kolosova](#) [A.Gudymo](#) [S.Svyatchenko](#) [A.Danilenko](#) [A.Durymanov](#) [E.Gavrilova](#) [R.Maksyutov](#) [A.Ryzhikov](#)

Figure 1. HPAI infected regions (wild birds), Russia, 2015.

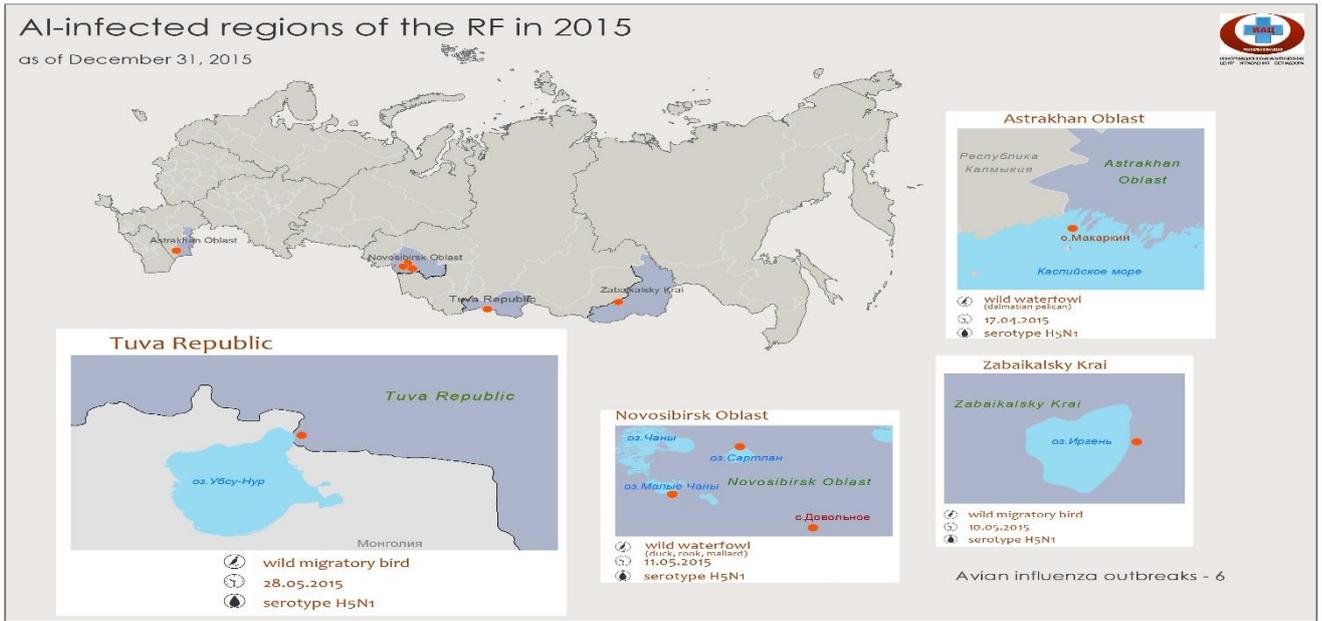
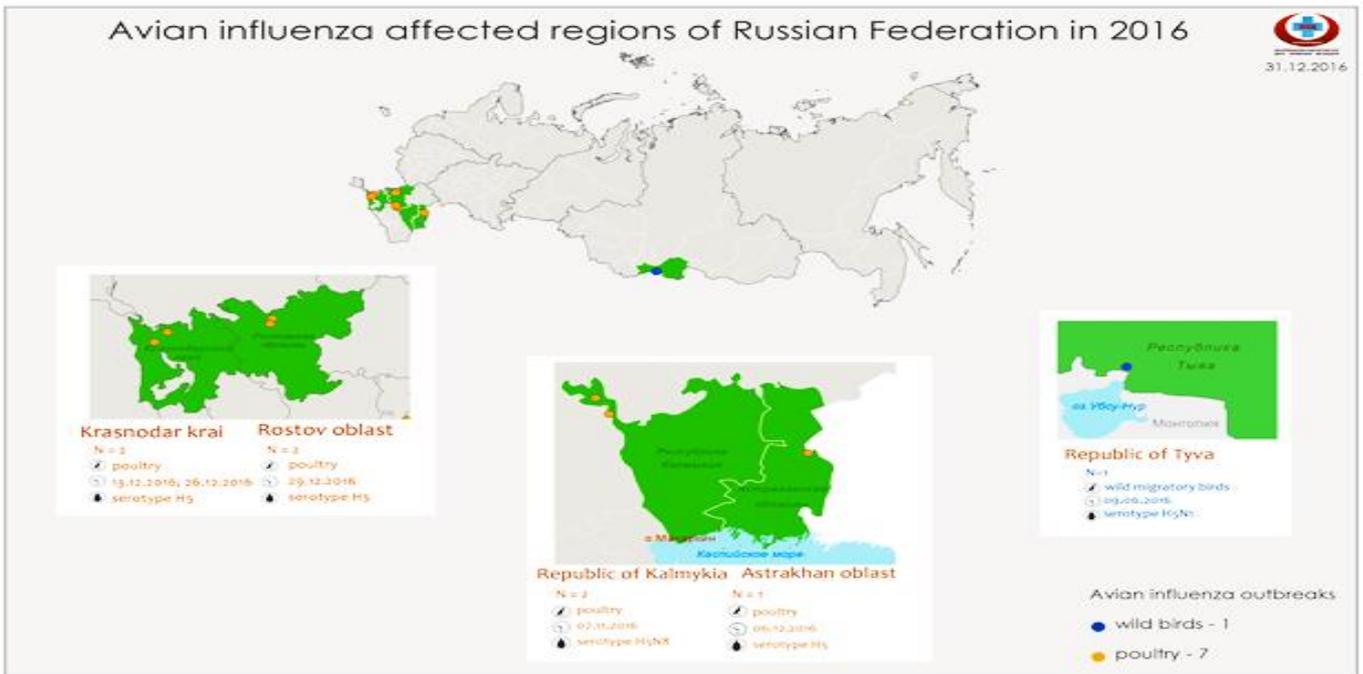


Figure 2. HPAI infected regions in November-December, Russia, 2016



Epidemiology of HPAI in Russia 2005 - 2019

In 2014 two H5N1 HPAI was detected in backyard poultry kept in two settlements in the Altai Krai. Epidemiological investigation found that wild birds hunted in lakes located near the settlement of Dolgovo and settlement of Ilyinsky and taken to the hunters' backyards were the source of HPAI virus. It was supposed that the factors of H5N1 AI agent dissemination were as follows: game bird evisceration in back yards with subsequent contamination the environment with their blood and feces, feeding animals with non-treated innards, economic links with neighboring backyards and delayed reporting to the Veterinary Service. The virus was predominantly transmitted by alimentary route. Anti-epidemic measures taken when AI was suspected and after the diagnosis was confirmed were found to be effective as no new cases of bird deaths have been reported since October 2014.

No H5N8 AIV - associated disease or deaths were reported in birds in the Russian Federation but the virus was found in wild birds shot off in Yakutia during annual monitoring tests. In May 2016 experts of the FGBI "ARRAIH" examined the Russian part of the lake of Uvs Nuur located in the Republic of Tyva bordering to Mongolia within the official epidemic monitoring since H5N1 HPAI-associated deaths of migratory birds of different species were reported at the lake in 2006, 2009, 2010 and 2015. In June 2016, 17 dead birds of the following species were found on the lakeshore: *Larus ridibundus* (black-headed gull); *Aedea cinerea* (grey heron); *Sterno hirundo* (common tern); *Podiceps cristatus* (great crested grebe); *Phalacrocorax carbo* (common cormorant), Anatidae (ducks).

H5N8 HPAI virus was isolated from the pathological material samples taken from the said birds. Comparative analysis of nucleotide sequences of hemagglutinin gene fragment showed that the tested isolate belonged to Asian genetic line of HPAI A/Guangdong/1/96 line, clade 2.3.4.4. The detected isolate was the most closely related to type A H5N2, H5N6, H5N8 AI viruses isolated in the South-East Asian countries in 2013-2014 based on the sequence analysis.

As H5N8 AI case was registered in wild birds, the Russian Federation status for international trade remained unaffected since no country can guarantee absence of AI virus circulation in migratory birds (OIE Code). The Russian Federation submitted the final report on the above-mentioned case to the OIE on September 23, 2016.

In 2017 H5N8 outbreaks in wild birds were reported in Krasnodar Krai, Voronezh and Kaliningrad Oblasts. In 2017-2018, H5N8 outbreaks occurred in poultry in Moscow, Voronezh, Kostroma, Kursk, Nizhny Novgorod, Orel, Penza, Rostov, Samara, Saratov, Smolensk, Ulyanovsk Oblasts as well as in the Republics of Chechnya, Mariy-El, Tatarstan, Udmurtia and Chuvashia. The AI outbreaks reported in Kostroma Oblast were caused by H5N2 AI virus. Most of them occurred in backyard poultry. Indoor-keeping poultry establishments located in the Penza, Rostov, Voronezh, and Kostroma Oblasts were affected by the AI epidemic (Annex 5, Table 2). Enhanced monitoring aimed at detecting additional AI cases in both poultry and wild birds was carried out in these subjects. The results of the tests are given in [Annex 5 table 2](#). The said test results showed that the AI spread had been contained within the primary outbreak areas. In 2018, no AI cases were reported in wild birds.

Table 1. AIV infected regions in the Russia, 2005

Federal District	Republic, Krai, Oblast	Birds	Number of settlements
Siberian (Zone II)	Altay	Poultry	17
	Novosibirsk		64
	Omsk		9
Ural (Zone III)	Kurgan	Poultry	9
	Tymen		8
	Chelyabinsk		7
Central (Zone IV)	Tula	Poultry	1
	Tambov		2

Table 2. AIV infected regions in the Russia, 2006

Federal District	Republic, Krai, Oblast	Birds	Number of settlements
Siberian	Novosibirsk (Zone III)	Poultry	3
	Omsk (Zone III)		6
	Altay (Zone III)		2
	Tomsk (Zone III)		2
	Tyva (Zone II)	Wild	1

Table 3. AIV infected regions in the Russia, 2007

Federal District	Republic, Krai, Oblast	Birds	Number of settlements
Central (Zone IV)	Kaluga (Zone IV)	Poultry	1
	Moscow (Zone IV)		9
	Moscow city (Zone IV)		1

Table 4. Chronology of outbreaks of highly pathogenic H5N8 avian influenza in poultry, Zone IV, Russia, 2017

Date of outbreak	RF Subject	Number of destroyed birds	Farm category
28.02.2017	Moscow Oblast	218,521	Poultry farm (breeding flock)
03.03.2017	Moscow Oblast	28	Backyard farm
03.03.2017	Moscow Oblast	23	Backyard farm
03.03.2017	Moscow Oblast	38	Backyard farm
04.03.2017	Moscow Oblast	227,136	Poultry farm (broilers)
04.03.2017	Moscow Oblast	62	Backyard farm
06.03.2017	Moscow Oblast	94	Backyard farm
10.03.2017	Moscow Oblast	11	Backyard farm
12.04.2017	Moscow Oblast	40	Backyard farm
11.05.2017	Republic of Mari El	40	Backyard farm
12.05.2017	Nizhny Novgorod Oblast	1,856	Backyard farm
17.05.2017	Republic of Mari El	30	Backyard farm
18.05.2017	Republic of Udmurtia	144	Backyard farm
03.08.2017	Moscow Oblast	64	Backyard farm
17.12.2017	Kostroma Oblast	- > 500,000	Poultry farm (laying hens)

Figure 1. HPAI infected regions, Russia, 2017.

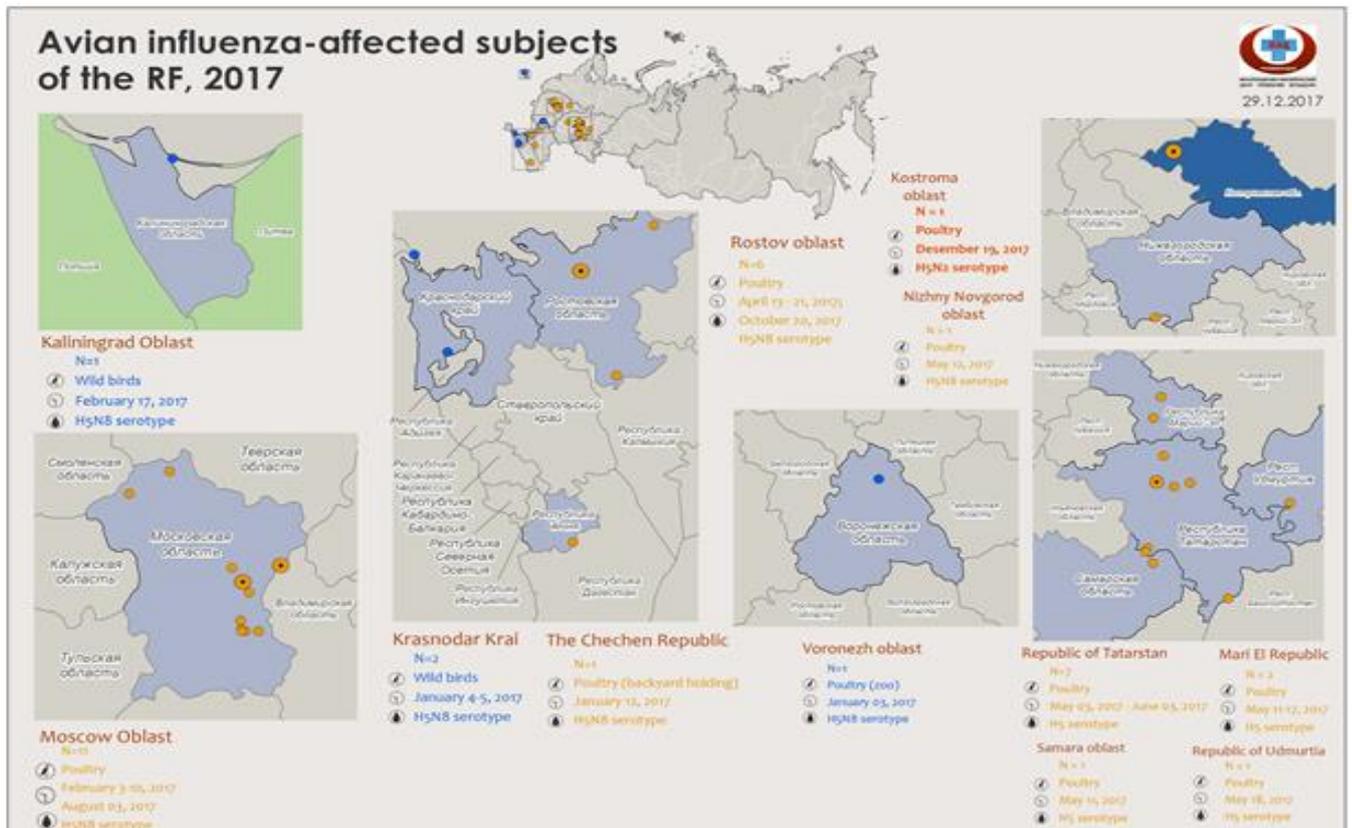


Table 1. Highly pathogenic avian influenza, Zone IV, Russia, 2018

No.	RF Subject	Region/Poultry farm	OIE immediate notification		Quarantine		Number of susceptible birds	Diseased birds	Died	Destroyed
			No	date	Imposed on:	Lifted on:				
1.	Smolensk Oblast	Elninsky Raion	3	04.07.2018	05.07.2018	28.08.2018	151	47	47	104
	Total:							151	47	47
2.	Nizhny Novgorod Oblast	Krasnooktyabrsky Raion	4	11.07.2018	11.07.2018	05.09.2018	82	9	9	73
		Krasnooktyabrsky Raion	5	18.07.2018						
		Pavlovsky Raion	8	08.08.2018	07.08.2018	07.09.2018	90	11	2	88
	Total:							172	20	11
3.	Kostroma Oblast	Kostromskoy Raion	Immediate	16.08.2018	11.08.2018	12.11.2018	498,485	416,439	416,439	82,046
	Total:							498,485	416,439	416,439
4.	Republic of Mari El	Medvedevsky Raion	8	08.08.2018	02.08.2018	12.09.2018	163	23	23	140
	Total:							163	23	23
5.	Republic of Udmurtia	Igrinsky Raion	8	08.08.2018	01.08.2018	27.08.2018	180	26	26	154
		Debesky Raion	8	08.08.2018	03.08.2018	27.08.2018	66	26	19	47
Total:							246	52	45	201

Figure 1. HPAI infected areas, Russia, 2018.

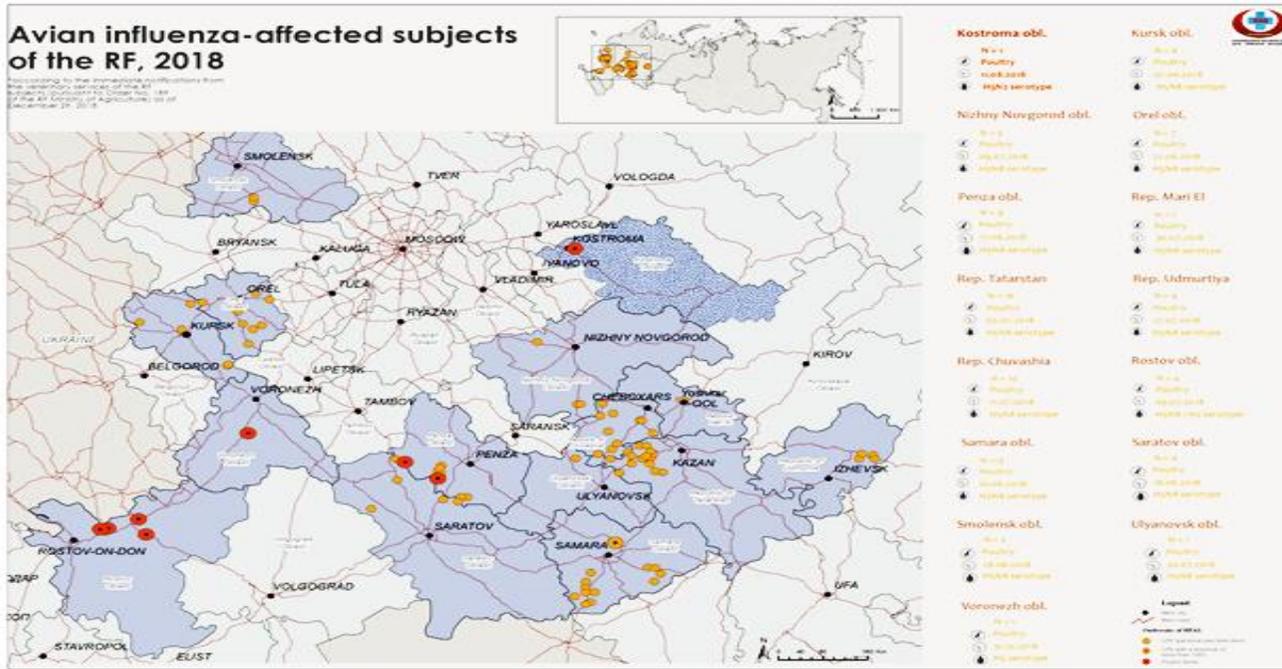


Table 2. Avian influenza monitoring and vaccination in the zones established around outbreak/outbreaks, ZONE IV (poultry, wild birds), Russia, 2018

RF Subject	Zone	Type of the farm	Address of the farm/Raion	Period of sampling mm/yyyy	Test method	Number of samples	Test results (+/-)	Vaccination		
1. Republic of Mari El	Protection zone	Indoor keeping poultry farm	Not available	08/2018		-	-	-		
		Free-range poultry farm backyard, small scale farm, other	1. Medvedevsky Raion		HI test	43	-	-		
					ELISA	263	-	-		
	Surveillance zone	Indoor keeping poultry farm	1. Medvedevsky Raion ZAO "Mariyskoye"		PCR	2	-	-		
					HI test	1,735	-	-		
					ELISA	1,735	-	-		
		Free-range poultry farm backyard, small scale farm, other	1. Medvedevsky Raion		PCR	77	-	-		
					HI test	150	-	-		
					ELISA	464	-	-		
Wild birds	4 birds	PCR	4	-	-					
2. Kostroma Oblast	Protection zone	Indoor keeping poultry farm	Not available	09-10/2018	-	-	-	-		
		Free-range poultry farm backyard, small scale farm, other	Kostromskoy Raion		PCR	65	-	3,148		
		Wild birds			PCR	6	-	-		
	Surveillance zone	Indoor keeping poultry farm	Not available		-	-	-	-		
					Free-range poultry farm backyard, small scale farm, other	Kostromskoy Raion	HI test, PCR	114 /10	-	-
						Kostroma	HI test, PCR	25 /5	-	-
						Krasnoselsky Raion	HI test, PCR	46 /66	-	-
			IN TOTAL		HI test, PCR	185 /81	-	-		
	Wild birds		PCR		2	-	-			
	3. Nizhny Novgorod Oblast	Protection zone	Indoor keeping poultry farm		-	07-08/2018	-	-	-	-
Free-range poultry farm backyard, small scale farm, other			1. Krasnooktyabrsky Raion	ELISA	50		-	-		
			2. Pavlovsky Raion	HI test	50		-	-		
Wild birds				-	-		-	-		
Surveillance zone		Indoor keeping poultry farm	1. Pavlovsky Raion	ELISA	525		-	-		
				Free-range poultry farm backyard, small scale farm, other	1. Krasnooktyabrsky Raion		ELISA	50	-	-
			1. Pavlovsky Raion	HI test	69		-	-		
		Wild birds		PCR	20		-	-		
				PCR	25		-	-		
4. Udmurt Republic	Protection zone	Indoor keeping poultry farm		08/2018			-	-		

		Free-range poultry farm backyard, small scale farm, other	1. Debessky Raion 2. Igrinsky Raion		PCR	7	-			
		Wild birds			PCR	6	-			
		Wild birds			PCR	19	-			
	Surveillance zone	Indoor keeping poultry farm						-		
		Free-range poultry farm backyard, small scale farm, other	1. Debessky Raion 2. Igrinsky Raion			PCR	3	-		
		Wild birds				PCR	3	-		
		Wild birds				PCR	6	-		
	5. Smolensk Oblast	Protection zone	Indoor keeping poultry farm		-	07-08/2018			-	
			Free-range poultry farm backyard, small scale farm, other		-				-	
Wild birds			-				-			
Surveillance zone		Indoor keeping poultry farm	-				-			
		Free-range poultry farm backyard, small scale farm, other	Yelninsky Raion		HI test		56	-	Not performed	
		Wild birds	Yelninsky Raion		HI test		1	-		
6. Saratov Oblast	Protection zone	Indoor keeping poultry farm	-	07-08/2018			-			
		Free-range poultry farm backyard, small scale farm, other	1. Backyard, Petrovsky Raion			HI test	45	-	-	
			2. Backyard, Kalininsky Raion			PCR	1,509	-	-	
			3. Backyard, Rtischevsky Raion			PCR	124	-	-	
	Wild birds						-			
	Surveillance zone	Indoor keeping poultry farm	-					-		
		Free-range poultry farm backyard, small scale farm, other	1. Backyard, Petrovsky Raion			PCR	75	-	-	
			2. Backyard, Kalininsky Raion			PCR	918	-	-	
			3. Backyard, Rtischevsky Raion			PCR	99	-	-	

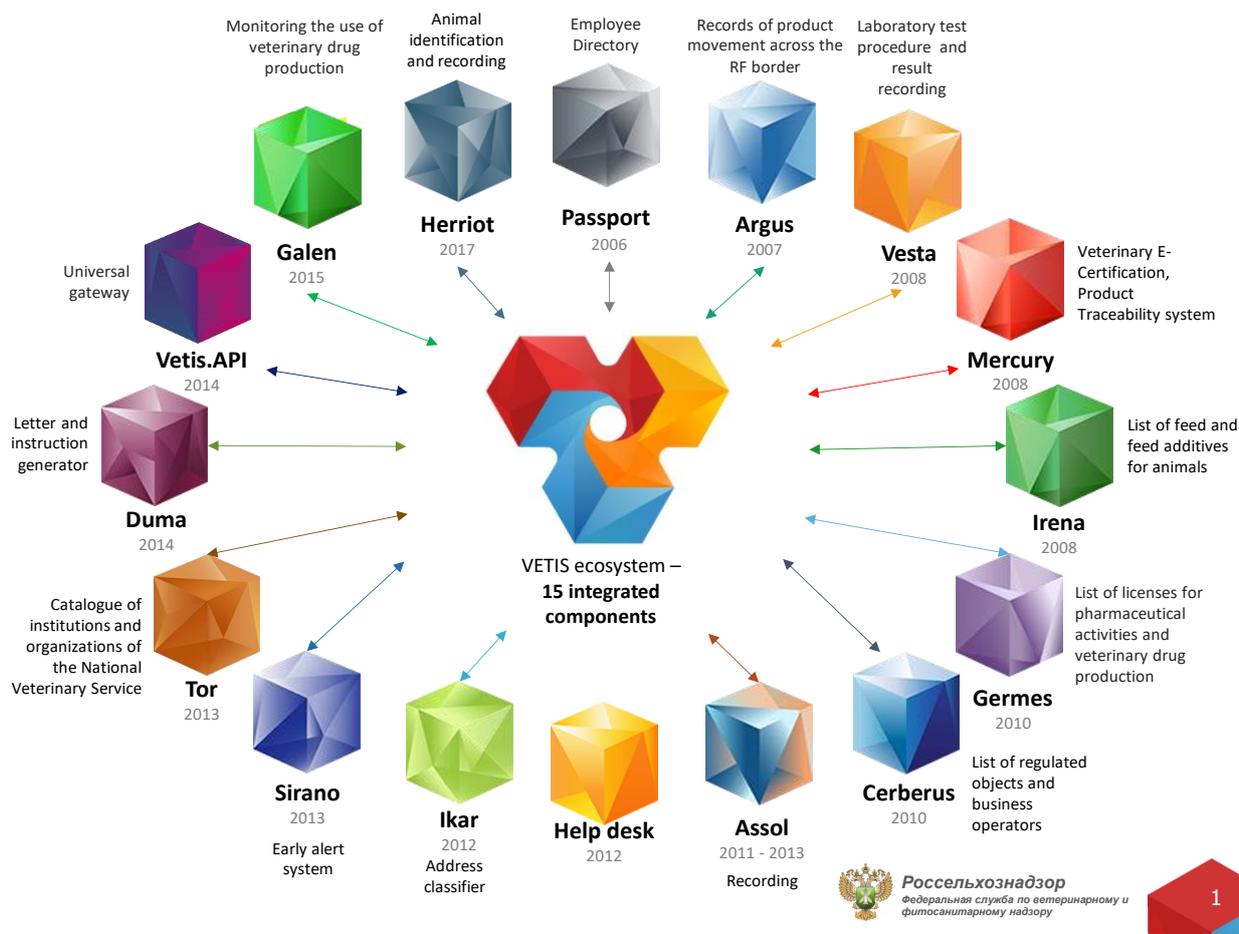


Fig. 1. Diagram of the state information system in the veterinary field of the Russian Federation VETIS, for more detail go to: <http://www.fsvps.ru/fsvps/regional>.

Issuance of VAD is carried out during

- production of a Rosselkhoznadzor-regulated product batch;
- movement (transportation) of Rosselkhoznadzor-regulated goods;
- transfer of ownership of Rosselkhoznadzor-regulated goods (except for the transfer (distribution) of Rosselkhoznadzor-regulated goods to the buyer for personal or other consumption not related to business activity).

Issuance of VAD for Rosselkhoznadzor-regulated goods is carried out by officials of the competent authority authorized by the Government of the Russian Federation through the federal State Veterinary Information System.

Issuance of VAD through the federal State Veterinary Information System is carried out electronically, including:

- information on the epidemic situation at the site of origin/shipment of Rosselkhoznadzor-regulated goods;
- the results of animal health inspection of this product or raw material from which it is made if such inspection is required for this regulated commodity or raw material for its production by the legislation of the Russian Federation;
- laboratory tests carried out in laboratories (testing centers) included in the system of bodies and institutions of the State Veterinary Service of the Russian Federation, or other laboratories (testing centers) accredited within the national accreditation system, if these tests are required by the legislation of the Russian Federation;
- health inspection results (veterinary examination if this regulated product is a live animal);
- identification information (the animal individual zootechnical number if Rosselkhoznadzor-regulated goods constitute live animals, or labelling information for products of animal origin subject to collection, transportation, processing, storage and distribution);
- examination results of the vehicle used for movement of Rosselkhoznadzor-regulated goods;
- animal health certificates certifying disease freedom in the territory and a poultry farm, issued by an official of the authority or institution included in the system of the State Veterinary Service of the Russian Federation;
- other control measures stipulated by the legislation of the Russian Federation.

Fig. 2. Dynamics of eVAD issuance in the Russian Federation in 2018. The number of eVADs issued through the Mercury system by month is stated along the horizontal axis.

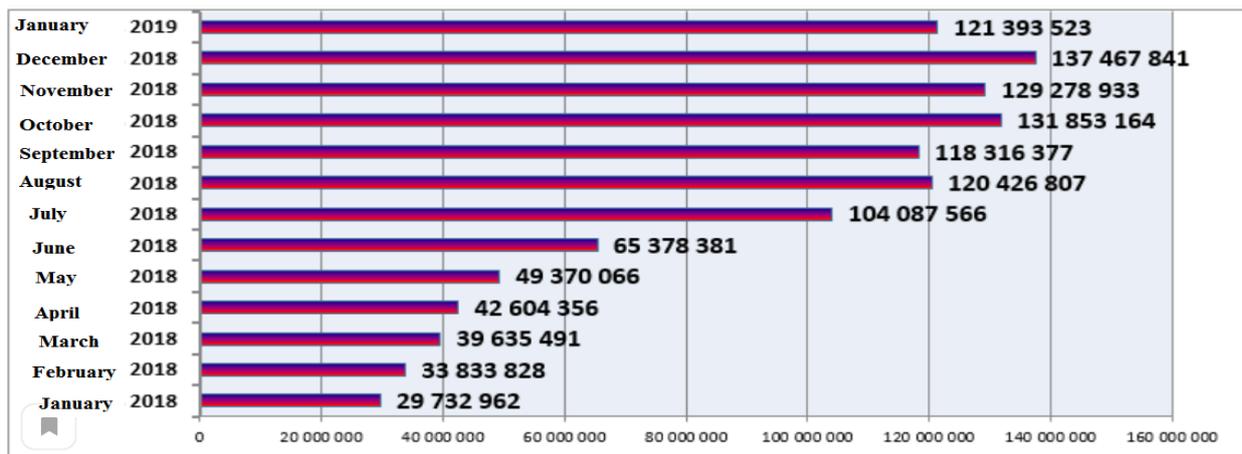
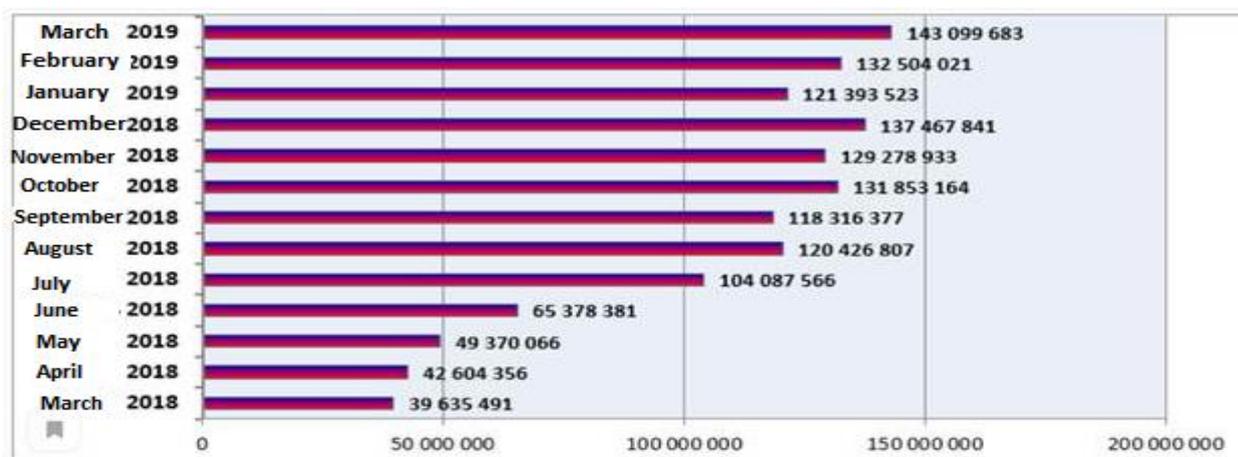


Fig. 3. Dynamics of eVAD issuance in the Russian Federation in March 2018 – March 2019. The number of eVADs issued through the Mercury system by month is stated along the horizontal axis.



Diagnostic tests performed by FGBI "ARRAIH" on samples from regions in which HPAI was detected (Zone 4 and 5) and from some regions in which HPAI was not confirmed (Zones 1-3), Russia, 2018

Table 1. Regions where highly pathogenic avian influenza was confirmed, Russia, 2018 (poultry)

Region	Avian influenza zone	Total number of samples	Number of confirmed positives
Voronezh region.	5	28	10
Orel region.	5	26	20
Kostroma region.	4	120	6
Kursk region.	5	47	43
Smolensk region.	4	5	5
Nizhny Novgorod region.	4	101	1
Saratov region.	5	1	1
Udmurtskaya Republic.	4	60	4
Republic Tatarstan	5	81	27
Mari El Republic.	4	51	1
Penza region.	5	52	19
Ulyanovsk region..	5	2	2
Chuvash Republic.	5	273	10
Rostov region.	5	224	31

Table 2. Regions where highly pathogenic avian influenza was not detected, Russia, 2018 (wild birds)

Region	Avian influenza zone	Total number of samples (wild bird)	Number of confirmed positives
Zabaikalsky Krai	2	16	0
Altai Republic	3	10	0
The Republic Of Tuva	2	19	0
Khabarovsk Krai	1	23	0
Altai Krai	3	19	0

(The tests were carried out as part of the Federal Program for HPAI Surveillance)

Table 1. Federal National HPAI Surveillance⁵, Russia 2018

Federal Laboratories	Number of Samples tested	Number of samples testing positive
Kaliningrad Interregional Laboratory	1400	0
Tatarstan Interregional Laboratory	6330	63*
Chelyabinsk Interregional Laboratory	2004	0
Tver Interregional Laboratory	3545	0
Stavropol Interregional Laboratory	2028	0
Primorje Interregional Laboratory	550	40**
Saratov Interregional Laboratory	2964	91*
Sakhalin Interregional Laboratory	561	0
Orel Interregional Laboratory	270	2*
Leningrad Interregional Laboratory	1236	0
Krasnodar Interregional Laboratory	2683	32***
Krasnoyarsk Interregional Laboratory	599	0
Orenburg Interregional Laboratory	1563	0
Bryansk Interregional Laboratory	1816	0
Kabardino-Balkar Interregional Laboratory	102	0
Kemerovo Interregional Laboratory	1600	0
Belgorod Interregional Laboratory	12178	1****
Kamchatka Interregional Laboratory	961	0
Novosibirsk Interregional Laboratory	4138	169**
Irkutsk Interregional Laboratory	502	0
FGBI «Central Scientific and Methodological Veterinary Laboratory»	6019	29*
Orel Interregional Laboratory	647	0
FGBI “ARRIAH”	28000	1553****
Total	81696	1980

Note:

* - tests performed to confirm HPAI outbreaks;

** - tests as a result of which vaccine-induced antibodies against HPAI were detected in poultry populations of free-range poultry farms;

*** - tests performed on samples submitted from HPAI outbreaks in Rostov Oblast;

**** - tests performed by the OIE Reference Center for Influenza and Newcastle Disease (FGBI “ARRIAH”) in order to confirm/rule out HPAI outbreaks.

A total of 81 000 samples were tested for HPAI by the Rosselkhoz nadzor Laboratories as part of federal national HPAI surveillance in 2018.

⁵ Surveillance performed by the Rosselkhoz nadzor Federal Laboratories (<http://www.fsvps.ru/fsvps/structure/vl>) pursuant to Order No. 1305 of the Ministry of Agriculture “Laboratory Testing to be Performed as Part of the Implementation of the Activities Planned for 2018 to Ensure Compliance with the Requirements of the WTO SPS Agreement” of December 28, 2017

Avian influenza vaccines

Only the vaccines registered in accordance with the relevant procedures are permitted to be used in the agriculture of the Russian Federation.

The list of registered vaccines and medicinal products can be accessed on the official web-site of the Rosselkhoznadzor at: <https://galen.vetrif.ru/#/registry/pharm/registry?page=1>.

The avian influenza vaccines are in full compliance with the requirements of Chapter 3.3.4 of the OIE *Terrestrial Manual*. The vaccines used are:

- "POKROV BIO Gripp Ptits" inactivated emulsion avian influenza vaccine produced by the Pokrov biofactory
- "FLU PROTECT N 5" inactivated emulsion avian influenza vaccine produced by Stavropol biofactory.

Both vaccines are produced based on the epidemic strain of AIV H5N1 isolated in 2005.

Backyard farms where preventive vaccination against avian influenza is carried out are officially registered with the raion animal disease control stations. After vaccination, a report of preventive vaccination is compiled in which the place, the date of vaccination, the number and species of poultry, the vaccine dose, the name of the medicinal product, the batch, the shelf life/expiration date, the amount of the medicinal product left and the methods by which it has been disposed of are indicated. Post-vaccination immunity is assessed 21-28 days having elapsed after vaccination.

On free-range backyard farms where vaccination has been carried out, restrictions on the movement of poultry products are imposed taking into account the regionalization of the Russian Federation for avian influenza. These measures are envisaged in Annex No. 13 to the Decision of the Rosselkhoznadzor of January 20, 2017 which can be accessed at <http://www.fsvps.ru/fsvps/laws/5720.html>. As a rule, poultry are raised for own consumption on site and neither poultry nor poultry products are moved outside the vaccination area.

In 2017, the FGBI "ARRIAH " conducted a study of the protective properties of these vaccines against a challenge with newly isolated avian influenza subtype H5N8 viruses. As a result, both vaccines were shown to confer protection against this virus subtype in over 80% of vaccinated chickens.

On May 8, 2019, the Rosselkhoznadzor (FS-KS-2/11654) banned the use of vaccines against low pathogenic avian influenza on commercial poultry farms.

The number and results of tests carried out in poultry vaccinated against AI in 2018 according to the data obtained from the 'Assol' information system (which is a component of VETIS) are shown in Table 1.

Table 1. AI monitoring in vaccinated poultry, Russia, 2018.

Territorial Subject (regions)	Avian Influenza zone	Number of vaccinated birds			Test results (positive/negative)						Number of tests (serum/cloacal and tracheal swabs or biological material)		
					Backyards		Small farms		Commercial farms				
		Backyards	Small farms	Commercial farms	cloacal and tracheal swabs or biological material	serum	cloacal and tracheal swabs or biological material	serum	cloacal and tracheal swabs or biological material	serum	Backyards	Small farms	Commercial farms
Republic of Sakha (Yakutia)	1	25,804	5,061		0/86	1321/0	0/17	212/3			1,168/86	215/17	
Republic of Altay	3	27,884	440		0/45	481/81	0/5	25/5			562/45	30/5	
Novosibirsk Oblast	3	789,351			0/263	9,152/655					9,807/263		
Rostov Oblast	5	3,321,325	60,151		0/1,107	32,007/0	0/200	195/15			32,007/1107	210/200	
Republic of Dagestan	5	905,038			0/301	1,804/0					1,804/301		
Astrakhan Oblast	5	72,143	10,910		0/240	2,901/611	0/36	111/28			3,511/240	139/36	
Republic of Kalmykia	5	27,031			0/90	395/72					467/90		
Altay Krai	2		35,075				0/117	222/8				230/117	
Karachay-Cherkess Republic	5	534,496	49,477		0/194	799/87	0/164	307/43			799/194	307/164	
Kabardino-Balkar Republic	5	597,172			0/190	797/150					947/190		
Stavropol Krai	5	2,777,107	8,631		0/110	15,049/4,086	0/29	225/45			19,135/110	270/29	
Republic of Chechnya	5	847,271			0/284	3,380/736					4,116/284		
Volgograd Oblast	5	430,601			0/37	16,312/3,500					19,812/37		
Kurgan Oblast	3	11,801		86,200*	0/40	301/44			0/123*	0/170*	345/40		170/123*
Krasnodar Krai	5	6,183,754	793,800	47,570*	0/187	10,235/2,061	0/264	1,582/168	0/1,622*	0/12,838*	12,296/0	1,750/264	45/1,622*
Oryol Oblast	5	47,872	1153		0/164	998/282	0/20	150/14			1,250/164	164/20	
Kostroma Oblast	4	62,458	206		0/274	885/200		25/0			1,085/274	25/0	
Republic of Adygeya	5	382,236	114,979		0/78	1,350/200	0/43	1,286/192			1,550/126	1,478/43	
Kursk Oblast	5	72,537			0/241	1,399/333					1,732/241		
Kirov Oblast	4	148,212	1,444		0/1677	877/181		231/19			1,058/1677	250/25	
Sevastopol city	5	10,000			0/80	248/2					250/80		
Republic of Ingushetia	5	178,687			0/60	1,750/300					2,050/60		
Nizhny Novgorod Oblast	4	30,000			0/100	2,630/400					3,030/100		
Republic of Bashkortostan	3	142,062	45,856		0/473	1,550/65	0/152	371/31			1,621/473	402/152	

* the data are provided for free-range goose farms and free-range duck farms (on these commercial establishments poultry and poultry product movement restrictions are implemented pursuant to the Decision of the Rosselkhoznadzor on Establishing Statuses of Regions of the Russian Federation for Infectious Animal Diseases and Conditions for Movement of Goods subject to Veterinary Surveillance (Control) by the Rosselkhoznadzor).