

**HIGHLY PATHOGENIC AVIAN INFLUENZA IN RUSSIA**  
**Follow-up report No. 5 (covering the period from 20 October to 22 December 2005)**

**Precise identification of agent:** influenza A virus subtype H5N1.

**Date of first confirmation of the event:** 23 July 2005.

**Date of start of the event:** 18 July 2005.

**Nature of diagnosis:** clinical, post-mortem and laboratory.

**Details of new outbreaks:** no new outbreaks in poultry since 28 October 2005, see Details of outbreaks (Table)

**Epizootic situation on Avian Influenza in the affected areas of the Russian Federation as of 22 December 2005**

<b>Name of the RF subject</b>	<b>Total number of affected settlements/villages</b>			<b>Number of avian species in the outbreak</b>		
	<b>Used to be under restrictions</b>	<b>Cleaned up and restrictions have been lifted</b>	<b>Still under restrictions</b>	<b>susceptible</b>	<b>deaths</b>	<b>destroyed</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Total number of affected areas of the Russian Federation	<b>62</b>	<b>59</b>	<b>3</b>	800969 (chickens-694761, geese-34519, ducks-53588, turkeys-2074, Muscovy ducks (Cairina moschata)-150, quails-250, others-627, wild swans-15000)	22015 (chickens-16982, geese-1598, ducks-2147, guineafowls-103, turkeys-159, Muscovy ducks (Cairina moschata)-13, wild swans-744, wild ducks-100, quails-2, others-167)	588585 (chickens-545882, geese-13658, ducks-26453, turkeys-630, Muscovy ducks (Cairina moschata)-78, quails-248, wild swans-744, others-892)

Altaysky Krai	10	10	0	150591 (geese-17661, quails-250, turkeys-1443, Muscovy ducks (Cairina moschata)- 59, ducks-18387, chickens- 112791)	1915 (geese-413, quails-2, turkeys-13, chickens- 1149, ducks-338)	9724 (geese-737, quails-248, turkeys-466, chickens- 7893, ducks-380)
Tchelyabinskaya oblast	7	7	0	45165 (chickens-31012, geese- 3830, ducks-9841, turkeys- 194,others.-288)	960 (chickens-630, geese- 86, ducks-175, turkeys- 69)	1708 (chickens-1028, geese- 294, ducks-360, turkeys- 26)
Omskaya oblast	8	8	0	36330 (chickens-27920, geese- 2512, ducks-5642, turkeys- 256)	1389 (chickens-709, geese- 196, ducks-250, guineafowls-103, turkeys-31, wild ducks- 100)	9965 (chickens-7081, geese- 895, ducks-1986, turkeys- 3)
Tyumenskaya oblast	8	8	0	47225 ( chickens-35727, ducks- 8596, geese-2902)	428 (chickens-171, ducks- 235, geese-22)	29284 (chickens-21539, ducks- 5901, geese-1844)
Novosibirskaya oblast	15	15	0	19421 (ducks-5834, chickens- 9691, geese-3557,others- 339)	2778 (ducks-932, chickens- 1182, geese-497, others- 167)	80771 ( ducks-17320, chickens- 53060, geese-9499, others-892)

Kurganskaya oblast	9	8	1	484579 (chickens-475720, geese-3802, ducks-5057)	13505 (chickens-12948, geese-347, ducks-210)	454027 (chickens-453574, geese-171, ducks-282)
Tulskaya oblast	1	1	0	2506 (chickens-1771, ducks-221, geese-244, turkeys-179, Muscovy ducks (Cairina moschata) - 91)	270 (chickens-171, ducks-3, geese-37, turkeys-46, Muscovy ducks (Cairina moschata) -13)	2236 (chickens-1600, ducks-218, geese-207, turkeys-133, Muscovy ducks (Cairina moschata)-78)
Tambovskaya oblast	2	2	0	152 (chickens-129, ducks-10, geese-11, turkeys-2)	26 (chickens-22, ducks-4)	126 (chickens-107, ducks-6, geese-11, turkeys-2)
Astrakhanskaya oblast	1	0	1	Approx. 15000 (wild swans)	558 (wild swans)	558 (wild swans)
Republic of Kalmykia	1	0	1	Approx. 220 (wild swans)	186 (wild swans)	186 (wild swans)

**Diagnosis:**

<b><i>Laboratories where diagnostic tests were performed</i></b>	<b><i>Diagnostic tests used</i></b>	<b><i>Date</i></b>
Federal Centre for Animal Health (FGI ARRIAH), Vladimir (national reference laboratory for avian influenza)	- PCR <sup>(1)</sup> , sequencing of HA cleavage site, virus isolation, haemagglutination test (HA), haemagglutination inhibition test(HI), ELISA <sup>(2)</sup> , antigen detection (Flu detect strip test)	22 Jul. 2005 – 12 December 2005
All-Russia State Research Institute for Control, Standardisation and Certification of Veterinary Preparations, Moscow (FGI VGNCI)	- PCR <sup>(1)</sup> , haemagglutination test, haemagglutination inhibition test	
The State Scientific Centre for Virology and Biotechnology, Novosibirsk('NPC Vector')	- PCR <sup>(1)</sup> , sequencing of HA cleavage site, virus isolation, haemagglutination test, haemagglutination inhibition test,	
Novosibirsk inter-regional veterinary laboratory (FGI NIVL)	- PCR <sup>(1)</sup> , ELISA <sup>(2)</sup> , HI	
Central Research Veterinary Laboratory, Moscow (CNIVL)	- PCR <sup>(1)</sup> , ELISA <sup>(2)</sup> , HI	
Altay krai veterinary laboratory (AKVL)	HI	
Tyumen oblast veterinary laboratory (TOVL)	HI	
Tchelyabinsk inter-regional veterinary laboratory (FGI TIVL)	HI	
Saratov Inter-regional Veterinary Laboratory	HI	

(1) PCR: polymerase chain reaction

(2) ELISA: enzyme-linked immunosorbent assay

Molecular analysis of the haemagglutinin cleavage site of viruses showed the HPAI virus sequence **GERRRKKRGLF**. All cleavage site sequences from the current H5N1 outbreaks in Russia are identical. Phylogenetic trees constructed with Programme KITCH (PHYLIP, v. 3.5) from fragments of nucleotides of the HA gene (801-1113 н.) (see fig.1) and NA gene (605-937 н.) (see fig.2) of Russian isolates of the year 2005 and isolates belonging to the line A/goose/Guangdong/1/96 H5N1 show sequence similarity with A/Qinghai/05 H5N1 group of isolates.

***Control measures applied:***

- stamping out applied to all birds within the affected village/farm or separate part of the affected village;
- movement restrictions;
- quarantine;
- disinfection .

***Vaccination prohibited:*** Yes

***Other details/comments:***

The case of outbreak at poultry farm located in Kurgan region was followed by immediate implementation of movement restrictions just as suspicion was arisen. Laboratory tests confirmed the outbreak of HPAI on 8 October 2005 at the ARRIAH. The farm was completely depopulated. All birds in the infected farm were destroyed in 10 days. No any birds are kept on this farm since 20 October 2005. Cleaning and disinfection of premises and territory are in progress still due to big size of the farm. Quarantine has not been lifted yet.

Up to 22 December 2005, a total of 62 sites in 10 regions were confirmed as having been infected with HPAI virus. No further outbreaks occurred after 28 October 2005 in poultry (backyards) and restrictions have been lifted in all areas excluding Poultry farm in Kurgan region signed above.

Two outbreaks of HPAI during reporting period were registered in wild birds (swans): in Kalmykiya and Astrakhan region, the dates of confirmation of diagnosis and identification of infectious agent as H5N1 at ARRIAH are 7 December 2005 and 12 December 2005, respectively. Restriction measures were implemented in villages located close to migratory stations of waterfowl to prevent the spread of the virus to poultry.

(1) PCR: polymerase chain reaction

***Final report:*** No