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Self-declaration for the recovery of country freedom from Avian Influenza in poultry by Hungary

Declaration sent to the OIE on 03 September 2020 by Dr Lajos Bognár, OIE Delegate for Hungary, Ministry of Agriculture

1. Introduction

The objective of this declaration is to recover the self-declared freedom from avian influenza in accordance with the provisions of Article 10.4.3. of the OIE *Terrestrial Animal Health Code (the Code)*. The self-declaration covers **the whole country** and describes the HPAI-events in poultry that occurred in Hungary from January to June 2020. The starting date of the self-declared avian influenza free status is **8 September 2020**.

2. Avian influenza situation in Hungary

On 12 January 2020 the National Reference Laboratory (NRL) for avian influenza of Hungary detected the presence of highly pathogenic avian influenza virus (HPAI) (H5N8 subtype) in a fattening turkey holding in Komárom-Esztergom county¹. This outbreak was the first detection of the HPAI in 2020 in Hungary. In proximity of this holding two secondary outbreaks were confirmed in fattening turkeys on 14 January.

On 14 January another primary outbreak in Hajdú-Bihar county in a duck holding was confirmed². As of 2 March 2020 all restrictions were lifted.

At the end of March 2020, new outbreaks were confirmed in the southern part of Hungary where the poultry population is usually very dense. On 25 March in Bács-Kiskun county³, on 31 March in Csongrád-Csanád county⁴ and on 30 April in Békés county⁵ outbreaks were confirmed (H5N8 subtype).

¹ [WAHIS report Ref. 32910](#)

² [WAHIS report Ref. 32940](#)

³ [WAHIS report Ref. 33740](#)

⁴ [WAHIS report Ref. 33834](#)

⁵ [WAHIS report Ref. 34249](#)

In these three counties 269 outbreaks of HPAI H5N8 strain occurred in poultry from 25 March to 5 June in 2020. Most of the outbreaks took place in Bács-Kiskun county, which is the most densely populated county with regard to poultry. Over 3.6 million heads of poultry have been killed in response to these outbreaks.

The last outbreak occurred on 5 June and the stamping-out, cleaning and disinfection was completed on 8 June 2020. The virus has not been detected in wild birds.

Before these outbreaks, Hungary had been free from infection with avian influenza in poultry since 24 August 2017, when Hungary had regained its free status of outbreaks of highly pathogenic avian influenza (HPAI) (H5N8 subtype. Low pathogenic avian influenza is absent.

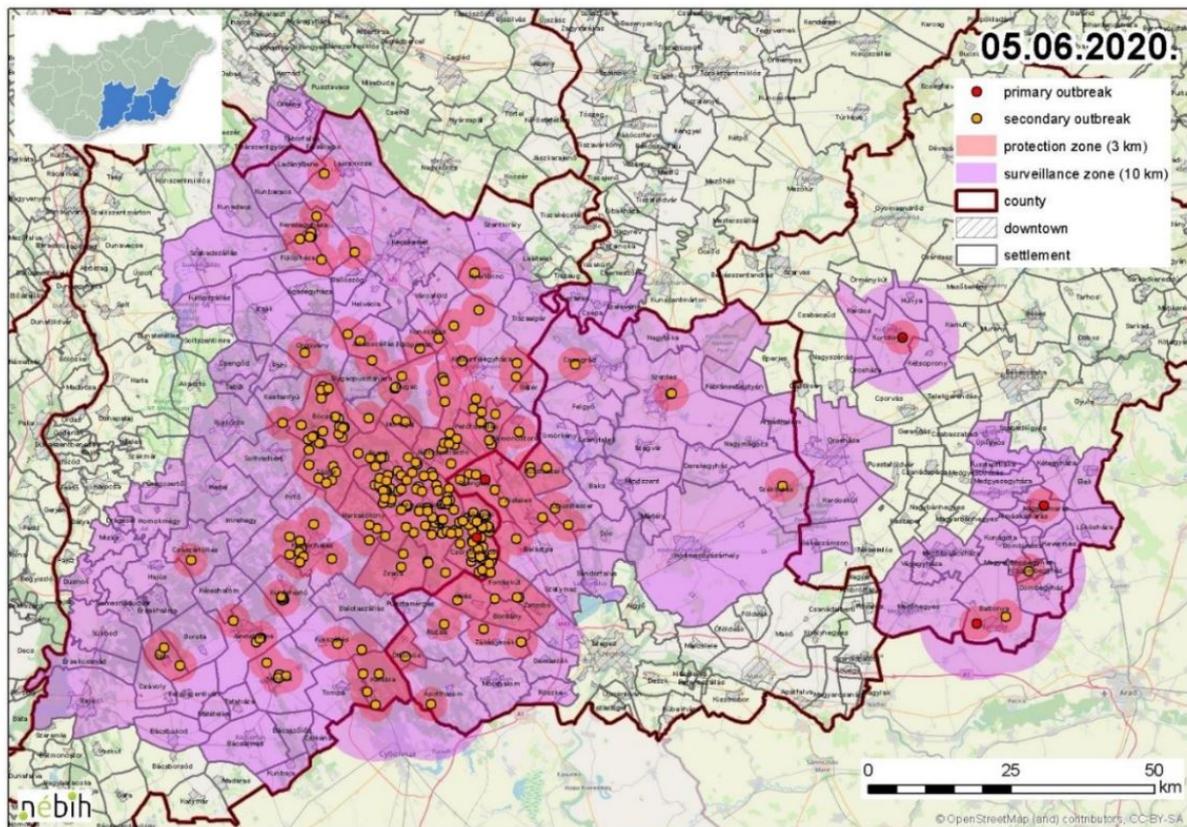
Table 1. Number of affected holdings and birds by species

Species	Number of holdings	Number of birds
ducks	118	1 679 347
geese	111	455 870
ducks and geese	1	9 700
ducks and chickens	1	33 850
turkey	12	233 846
Chickens	17	1 234 781
breeding hen	1	217 870
laying hen	6	278 320
broilers	9	738 591
backyard (mixed species: chickens, ducks, geese, turkey, peacock, guinea fowl)	12	1 317
pheasant, partridge	1	7 000
Total	273	3 655 711

Table 2. Number of outbreaks by county

County	Number of outbreaks
Bács-Kiskun	237
Békés	5
Csongrád-Csanád	27
Hajdú-Bihar	1
Komárom-Esztergom	3
Total	273

Fig 1. Location of HPAI outbreaks in poultry in southern Hungary – showing restrictive areas at their largest, 2020



3. Surveillance and early detection system

Awareness campaigns are conducted regularly for notifiable diseases. We continuously monitor the epidemic situation in the world and already launched our latest awareness campaign when HPAI was detected in Europe in December 2019. During the epidemic, numerous communiques, articles, radio and TV interviews took place with special emphasis on social media platforms. All information on avian influenza is available and constantly updated on the website of National Food Chain Safety Office (<https://portal.nebih.gov.hu/madarinfluenza>).

Avian influenza is a notifiable disease in Hungary. Animal keepers, veterinarians and anybody handling animals (e.g. transporters) should notify any illness or death of their animals to the veterinary authority. This obligation is detailed in Act No. XLIV of 2008⁶ on Food chain and its official supervision. A list of suspect signs is laid down in Decree No. 143/2007 of the ‘Minister of Agriculture and Rural Development’ on the detailed rules on protection against avian influenza. These signs include: more than 20% of loss in water intake and food consumption; egg drop of at least 5% for more than 2 days; more than 3% mortality for one week and any clinical or pathological signs that can be associated with avian influenza. Notifications are motivated by the 100% state compensation paid for the dead and killed animals.

⁶ [Act. No. XLIV of 2008](#)

Active surveillance in poultry (large and small scale) and passive surveillance in wild birds have been going on since 2005 (table 3).

The Hungarian Avian Influenza surveillance programme is based on representative sampling, therefore all counties' authorities (19) take part in the sampling.

The number of poultry holdings to be sampled corresponds to those in Tables 1 and 2 of Annex I of European Commission Decision 2010/367/EC of 25 June 2010⁷. Each county is involved in sampling, and the number of samples depends on the number and category of its poultry holdings. The number of samples are set out and controlled by the Animal Health and Animal Welfare Directorate of the National Food Chain Safety Office (as the central competent authority).

Local authorities should determine which holding will be sampled. Elements such as the location of the holding and its proximity to wetlands should be considered.

Sampling is carried out by veterinarians. Blood samples are collected from poultry for serological investigations according to the number fixed by the Central Authority for each county. Each concerned holding is sampled once throughout the year in case of negative results. Diagnostic method is haemagglutination-inhibition test (HI) to detect H5 and H7 (Chapter 3.3.4. of the OIE - *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*). Positive reactors to HI are followed by a PCR test to confirm or rule-out infection. None of the samples taken in the framework of routine active surveillance has been positive. (See table 3.)

Table 3. Routine active surveillance* of poultry, Hungary, 1 October 2019 – 15 August 2020 (before, during and after epidemic)

Period	Holdings	Samples
1 October 2019 – 11 January 2020	346	14,418
12 January – 8 June 2020	12	300
9 June – 15 August 2020	56	1318

* According to Commission Decision 2010/367/EC

The surveillance programme for avian influenza in wild birds (table 4) is implemented in the whole country, considering that almost in every county there are either wetlands, lakes, rivers or backwaters as typical habitats for migratory wild birds, in particular water birds, as target species. Passive surveillance is in force, moribund or dead birds are collected for virological examination. Every year the sample size is reviewed on the basis of previous years' activities and the target population is set out by the regional authority of each county according to European Commission Decision 2010/367/EC of 25 June 2010.

Passive surveillance is targeted on birds belonging to “higher risk” species listed in Annex II of Decision 2010/367/EC, other wild birds living in close proximity to these species and also on wild birds at risk of coming in close contact with domestic poultry holdings. Veterinarians or hunters are responsible for the implementation of the sampling. Bird watchers, ornithologists, hunters or anyone who discovers a dead or moribund bird shall deliver it to the competent authority, *i.e.* the competent veterinarians. Oropharyngeal/tracheal or cloacal swab samples, tissues or corpses are sent by the competent authority immediately to the National Reference Laboratory (NRL) for virological examination. In March 2020, due to increasing risk - the veterinary authority requested “BirdLife Hungary” (the leading non-profit, apolitical, and charitable, nature conservation organisation in Hungary) to cooperate in active monitoring of wild birds (oropharyngeal/tracheal or cloacal swab samples from live wild birds during bird-ringing). The diagnostic method is PCR (Chapter 3.3.4. of the OIE - *Manual of Diagnostic*

⁷ European Commission Decision 2010/367/EC of 25 June 2010:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32010D0367&from=FR>

Tests and Vaccines for Terrestrial Animals). None of the samples taken in the framework of passive and active surveillance has been positive. (See table 4.)

Table 4. Active and passive surveillance of wild birds^{*}, Hungary, 1 October 2019 – 15 August 2020 (before, during and after epidemic)

Period	Samples
1 October 2019 – 11 January 2020	143
12 January – 8 June 2020	367
9 June – 15 August 2020	124

^{*} according to European Commission Decision 2010/367/EC.

4. Epidemiological investigations

No animals were moved from the affected holdings to other countries during the 21 days before the development of clinical symptoms. From Komárom-Esztergom county poultry meat was transported during that period in January to other countries, this was notified immediately after the detection of the outbreaks and the meat was destroyed.

The results of epidemiological investigations suggested that for the first outbreaks, the source of infection was likely to be wild birds.

Spreading of the virus between holdings in some cases was identified due to aerosol spread in the direction of the prevailing winds, in other cases, we noticed that ducks or geese were transported for gavage within the incubation period from holdings which later became positive. Movements of feed and other fomites including vehicles probably also played a role in the spread of the virus.

5. Control and eradication measures

Control and eradication activities were carried out by the veterinary authority.

Procedures and measures implemented during outbreaks were based on Council Directive 2005/94/EC on Community measures for the control of avian influenza and repealing Directive 92/40/EEC.

This Directive is implemented in Hungary by Decree no. 143/2007 of the Minister of Agriculture and Rural Development where the rules on protection against avian influenza are detailed.

Strict measures were ordered, which included: killing of all birds at the affected holdings and safe disposal of carcasses and all contaminated material; cleaning and disinfection; establishment of restriction areas of at least 3 and 10 km radius, where general movement restriction was in place. Movement of poultry could only take place with the permission of the veterinary authority and when applying additional biosecurity measures (e.g. for direct slaughter). Where the epidemiological situation required so, the surveillance zones were enlarged further than 10 km in certain cases to cover areas with the highest density of poultry population. In the restriction zones, census of poultry holdings has been implemented.

Poultry in the affected holdings were killed in accordance with the rules of the European Union in line with Chapter 7.6. of the *Terrestrial Animal Health Code (Terrestrial Code)*. Carcasses were destroyed at rendering plants.

Besides the 3.6 million poultry killed at the affected holdings, another 1.1 million birds were killed in the framework of preventive measures. Altogether 4.7 million poultry were killed in connection with the epidemic.

Preventive killing/slaughter has been carried out – based on risk assessment – in protection zones, but in certain parts of the surveillance zones also. This affected approximately 1 million poultry in Bács-Kiskun county, out of which approximately 28 000 were kept in flocks which turned out to be infected on the basis of samples which were taken during culling (1.5% of the outbreaks).

The re-population of commercial poultry holdings could only take place after all restrictions were lifted in the most affected area, which - in the great majority of outbreaks - meant a much longer period than the minimum 21 days required by the legislation (following the date of completion of the final cleansing and disinfection). Disinfectants were purchased centrally, and the procedure itself was supervised by official veterinarians in order to ensure that the disinfectants were used in required amount and concentration.

Restocking was implemented in accordance with Council Directive 2005/94/EC.

New restocking procedure introduced in the areas affected in the 2020 epidemic developed in cooperation with the Poultry Product Board (PPB). For restocking the approval of the local veterinary authority and the consent of the PPB and integrators are required. Compulsory testing is in force before movement for further keeping or for immediate slaughter.

6. Surveillance after the outbreaks

In addition to the routine surveillance described in point 3, additional surveillance has been carried out in the affected holdings and in restriction zones in accordance with Commission Decision 2006/437/EC⁸ approving a Diagnostic Manual for avian influenza as provided for in Council Directive 2005/94/EC⁹. For passive surveillance, dead birds from suspected farms were collected (See table 6.). For active surveillance, samples were oropharyngeal/tracheal or cloacal swabs from live birds before transport from restricted zones to the slaughterhouse or further keeping.

Further to the above mentioned measures, the Chief Veterinary Officer ordered to take additional samples (swabs) in the free part of the affected counties and districts (in Bács-Kiskun, Békés and Csongrád-Csanád county) from animals which were sent to slaughter, or moved to another place. Transport could only take place after PCR tests results were negative.

The diagnostic method used was rt-PCR (Chapter 3.3.4. of the OIE - *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*).

The following tables show the number of samples taken and their results.

⁸ Commission Decision 2006/437/EC:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006D0437&from=EN>

⁹ Council Directive 2005/94/EC:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005L0094&from=en>

Table 5. Active surveillance in poultry due to the outbreaks*, total number of individual samples Hungary, 25 March - 15 August 2020

Year	Samples	Positive samples	Negative samples
25 March – 8 June 2020	69 688	1 193	68 495
9 June – 15 August 2020	40 213	0	40 213

*according to Commission Decision 2006/437/EC

Table 6. Results of the diagnostic tests conducted following clinical surveillance in poultry*, total number of individual samples, Hungary, 12 January - 15 August 2020

Year	Samples	Positive samples	Negative samples
12 January – 8 June 2020	4 233	651	3 582
9 June – 15 August 2020	1 156	0	1 156

*according to Commission Decision 2006/437/EC

Approximately 9,7% of the outbreaks from end of March were detected on the basis of samples taken before direct transport to slaughter in the framework of active surveillance. This and the fact that 1,5% of the outbreaks from March were detected during preventive killing means that Hungary was able to detect the outbreaks before the symptoms turned up.

Lifting the restricted zones was implemented in accordance with Council Directive 2005/94/EC. As required by the Directive in the protection zone the official veterinarians visit all commercial and non-commercial holdings and if necessary, collect samples from the commercial holdings for laboratory tests in accordance with the diagnostic manual. For lifting the protection zones the National Disease Control Centre ordered specific surveillance. Based on the census made by the regional authorities, the local disease control centres determined the number of commercial and non-commercial holdings to be sampled (95% confidence and 10% prevalence). The regional authorities determined which holdings have to be sampled. From a holding, 20 cloaca swabs, 20 tracheal swabs and 20 blood samples (from 60 animals) were collected. In Bács-Kiskun county 20 commercial and 30 non-commercial, in Csongrád-Csanád county 2 commercial and 30 non-commercial and in Békés county 8 commercial and 30 non-commercial holdings were sampled.

7. Measures implemented to maintain freedom in the country

Surveillance is carried out throughout the year to early detect any incursion of the disease.

Detailed biosecurity requirements are in force in order to reduce the risk of direct and indirect introduction of avian influenza virus into poultry premises from the wild birds, such as: stocking density, covered storage of feed and litter and the possibility to keep poultry closed if ordered, are in force. Repopulation of the affected area has been carried out after specific surveillance – as described earlier – following approval of the regional authority based on on-spot visits.

Import and intracommunity trade of live birds, poultry and their products health requirements are regulated by EU and national legislation, which comply with the OIE *Terrestrial Code*.

8. National Avian Influenza Reference Laboratory

The Directorate for Veterinary Diagnostics of the National Food Chain Safety Office is the national avian influenza reference laboratory (NRL) of Hungary, on the basis of Point 2 - Article 51 of 2005/94/EC Council Directive on Community measures for the control of avian influenza and repealing Directive 92/40/EEC. The NRL is accredited since 2005 through the Hungarian accreditation body and it operates and is assessed in accordance with European standards. The laboratory personnel consist of highly trained and skilled experts with experiences and pasts of relevant work done in influenza virus research and molecular diagnostics. From 1 January until 15 August 2020, more than 133 000 swab samples and more than 5 300 dead birds were analysed by real time RT-PCR methods recommended by the EU/OIE Avian Influenza reference laboratory. In the first step a screening with an M gene AIV RT-PCR was performed and differential RT-PCR was used to determine the type of virus for the positive samples. In order to confirm the type and pathogenicity of the virus 157 Sanger sequencing was performed. Furthermore, complete genome of 30 H5N8 highly pathogenic avian influenza virus were sequenced by Next Generation Sequencing for epidemiologic and genetic studies. Sequences were submitted to the Global Initiative on Sharing All Influenza Data (GISAID) databases (<http://platform.gisaid.org>).

The big majority of the samples were swabs (95%) and 4% of samples were organs processed prior by the pathology department. Approximately half of the samples were sent to check the health status of birds prior to transport for slaughter, the other half consisted of samples sent for screening purposes and samples originating from wild birds, suspicions or samples taken by veterinary authorities during epidemiological investigations.

The average number of samples investigated per day by RT-PCR was 588. The maximum number of samples per day was 3 480 with a final documented PCR result on the same day. In addition, urgent samples were received frequently, where a final PCR result including the type of virus was provided in 4-6 hours. Specific service was introduced to transport the samples every day to the NRL from the countryside.

The diagnostic work and the exceptional results were highly appreciated and acknowledged by the EU Community Veterinary Emergency Team.

Table 7. Number of tests carried out from 12 January until 15 August:

Test method	Number of tests
PCR	30 187
HI	1 038
Virus isolation	111

9. Additional measures ordered by the Chief Veterinary Officer

The 3/2017 CVO order concerning the strengthening of biosecurity requirements has been in force since the 2016/2017 HPAI epidemic (e.g. poultry should be able to be kept closed if ordered, requirements on stocking density, etc.). As additional measures the Chief Veterinary Officer ordered with CVO Order 1/2020 the closed keeping of poultry in the whole area of Hungary on 16 January. On 15 July 2020 the 3/2020 CVO Order entered into force which withdrew the 1/2020 CVO Order, thereby the compulsory closed keeping of poultry was lifted.

10. Conclusions

Considering that:

- Prior to the occurrence of outbreaks of HPAI in January 2020, Hungary had been free from infection with avian influenza in poultry since 24 August 2017.
- Stamping out measures were adopted that included cleaning and disinfection of all the affected farms which were completed on 8 June 2020.
- Three months have elapsed and infection with avian influenza viruses in poultry has not been present in the country, as stipulated in point 1 of Article 10.4.3. of the OIE *Terrestrial Code* since the end of cleaning and disinfection operations.
- Surveillance has been performed in accordance with Articles 10.4.27. to 10.4.33. of the OIE *Terrestrial Animal Health Code* during the three-month period after stamping-out was completed

The OIE Delegate of Hungary declares that the country has met the requirements to regain the country status as free from infection with avian influenza viruses in poultry as of 8 September 2020, in accordance with Article 10.4.3. of the *Terrestrial Code* (2019 edition) and consistent with the information provided in WAHIS.

Statement to be included in the self-declaration document.

I, the undersigned, LAJOS BOGNAR

Delegate of HUNGARY

to the World Organisation for Animal Health (OIE), takes responsibility for the self-declaration of freedom from

AVIAN INFLUENZA
..... (disease)

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Drawn up on 03/09/2020

Signature of the Delegate:

Lajos Bognar

