Self-declaration of the recovery of country freedom from Avian Influenza by Denmark

Declaration sent to the OIE on 4 May 2020 by Dr Hanne Larsen, OIE Delegate for Denmark, Ministry of Environment and Food

1. Introduction

The objective of the declaration is the recovery of self-declared freedom from avian influenza in accordance with the provisions of Article 10.4.3. of the OIE Terrestrial Animal Health Code (Terrestrial Code). The Self-declaration covers the whole country and describes one outbreak of low pathogenic avian influenza (LPAI) reported in January 2020. The starting date of the self-declaration is 4 May 2020.

2. Avian influenza situation in Denmark

On 29 January 2020, one outbreak of infection of low pathogenic avian influenza Virus (LPAI) was confirmed in a holding with organic layers in Denmark. There have been no clinical signs of disease among the animals. The outbreak was detected in the framework of “The Danish surveillance programme for avian influenza in poultry and game birds for restocking” by routine sampling of blood. Following an analysis of tracheal and cloacal swabs, low pathogenic H5N1 was detected by PCR followed by sequencing at Statens Serum Institute (National Reference Laboratory), see Table 1.

The outbreak was promptly reported to the OIE via World Animal Health Information System (WAHIS).

All poultry at the infected holding were killed and disposed of by rendering. The poultry was killed using carbon dioxide (CO2) and took place on 31 January and 1 February 2020. The killing was performed over two days due to the size of the flock. In total 48,000 poultry was killed.

The cleaning and disinfection were approved by the Danish Veterinary and Food administration on 4 February 2020.
The Danish Veterinary and Food Administration established a restricted zone of 1 km around the holding and implemented the necessary measures in accordance with Council Directive 2005/94/EC.

There were no other commercial poultry holdings within the established restricted zone 1 km around the infected holding. Hobby flocks within the restricted zone were obligated to register with the Danish Veterinary and Food Administration. No hobby flock was registered.

Table 1: Low pathogenic avian influenza (LPAI) in poultry, Denmark, January 2020

<table>
<thead>
<tr>
<th>Outbreak no.</th>
<th>Municipality</th>
<th>Confirmed date</th>
<th>Virus type</th>
<th>No. of Susceptible Birds</th>
<th>Species</th>
<th>Holding type</th>
<th>Approval of cleaning and disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aalborg</td>
<td>29/01/2020</td>
<td>LPAI H5N1</td>
<td>48,000</td>
<td>Gallus</td>
<td>Free range laying hens.</td>
<td>04/02/2020</td>
</tr>
</tbody>
</table>

3. Control and eradication measures LPAI

Avian influenza H5/H7 is notifiable in Denmark according to national legislation: Order no. 1444 of 12.12.2019 on control of highly pathogenic avian influenza and Order no. 1468 of 8.12.2015 on preventive measures in outbreaks of low pathogenic avian influenza H5 or H7 in poultry and other captive birds. Veterinarians and farmers are obligated to notify the Danish Veterinary and Food Administration (DVFA) immediately upon observation of clinical signs of avian influenza.

During the suspicion period, the holding was put under national movement restrictions.

After LPAI confirmation, the DVFA established a restricted zone of 1 km around the infected holding and implemented the necessary measures in accordance with Council Directive 2005/94/EC and the national legislation Order no. 1468 of 8.12.2015 on preventive measures in outbreaks of low pathogenic avian influenza H5 or H7 in poultry and other captive birds.

Measures at the infected holding:

- All poultry were immediately killed and the carcasses were disposed by rendering.
- Cleaning and disinfection of buildings, equipment, vehicles etc. were started immediately after the killing.
- An epidemiological investigation was conducted.
- All contacts were traced and investigated and no further outbreaks were confirmed.

The epidemiological investigation concluded that the most likely cause of disease introduction was contact with wild birds.

Measures in the restriction zone:

- No poultry, other captive birds, day old chickens, eggs or mammals of domestic species could enter or leave a holding without permission from the DVFA.
- Vehicles and equipment used for transporting live poultry or other captive birds, feed, manure, slurry and bedding and any other material or substances likely to be contaminated were required to be cleaned and disinfected without delay after contamination.
- Any person entering or leaving holdings in the restricted zone was required to observe appropriate biosecurity measures aimed at preventing the spread of avian influenza.
• The removal or spreading of used litter, manure or slurry was prohibited, unless authorized by the DVFA. Carcasses had to be disposed of.
• Release of game birds for hunting was prohibited.
• Fairs, markets, shows or other gatherings of poultry or other captive birds were prohibited.
• Owners of hobby poultry flocks within the restricted zone were obligated to register with the DVFA within 8 days from establishment of the zone.

There were no other commercial poultry holdings or hobby poultry within the restricted zone.

Stamping out policy:

Denmark has handled the LPAI outbreak according to the EU Council Directive 2005/94/EC and followed the precautionary approach and has killed all the affected animals in order to mitigate the risk of mutation or reassortment of the avian influenza virus.

4. Surveillance and early warning system

Poultry

Avian influenza is notifiable in Denmark according to national legislation: Order no. 1381 of 11.12.2019 on lists of infectious diseases for the act on the keeping of animals, Order no. 1444 of 12.12.2019 on control of highly pathogenic avian influenza and Order no. 1468 of 8.12.2015 on preventive measures in outbreaks of low pathogenic avian influenza H5 or H7 in poultry and other captive birds. Veterinarians and farmers are obligated to notify the Danish Veterinary and Food Administration immediately upon observation of clinical signs of avian influenza.

Apart from passive surveillance Denmark has a comprehensive active risked based surveillance programme for avian influenza in accordance with Articles 10.4.27. to 10.4.33. and Chapter 1.4 of the OIE Terrestrial Code.

According to national legislation: Order no. 1456 of 12.12.2019 on the requisite of surveillance of Avian influenza in poultry and farmed game birds all commercial holdings in the target group having more than 100 animals are included in the programme. Breeder hens (central rearing flocks) and pullets are tested before release to egg production, outdoor layers four times a year and outdoor slaughter poultry (broilers, ducks and geese) before slaughter. In addition, fattening turkeys are tested before slaughter. Breeder ducks and geese are required to be tested once a year.

Farmed game birds for restocking (gallinaceous birds and waterfowl) are tested four times during the production season. Breeding animals undergo serological testing, and their offspring virological testing.

When traded, poultry and game birds have to be accompanied by a certificate stating that the flock of origin has been tested negative for avian influenza within the preceding three and two months, respectively.

The surveillance programme is mainly based on serology. PCR testing is used only for offspring from gamebirds. Additionally, PCR testing is used in case of a positive serological result to confirm whether the relevant flock is infected by a virus. All laboratory testing is carried out at Statens Serum Institute (National Reference Laboratory).

The result of the Danish avian influenza surveillance in poultry and game birds for restocking in 2019 is available in Table 2.
Table 2: Results of the Danish surveillance programme for avian influenza in poultry and game birds for restocking, 2019

<table>
<thead>
<tr>
<th>Poultry category</th>
<th>Holdings (h)/flocks (f) in Denmark¹</th>
<th>Holdings (h)/flocks (f) tested²</th>
<th>Serologically positive holdings/flocks (H5, H7)</th>
<th>Virologically positive holdings/flocks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>H5</td>
<td>H7</td>
</tr>
<tr>
<td>Chicken breeders</td>
<td>191 (f)</td>
<td>164 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free-range laying hens</td>
<td>186 (f)</td>
<td>151 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free-range broilers</td>
<td>100 (h)</td>
<td>30 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening turkeys</td>
<td>63 (h)</td>
<td>14 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening geese</td>
<td>14 (h)</td>
<td>3 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening ducks</td>
<td>81 (h)</td>
<td>17 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mallards bred for restocking of game birds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Breeding animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Offspring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pheasants, partridges, rock partridges and red-legged partridges</td>
<td>21 (h)</td>
<td></td>
<td>7 (h)</td>
<td>1</td>
</tr>
<tr>
<td>- Breeding animal</td>
<td></td>
<td></td>
<td>14 (h)</td>
<td>-</td>
</tr>
<tr>
<td>- Off-spring</td>
<td></td>
<td></td>
<td>85 (h)</td>
<td>27 (h)</td>
</tr>
<tr>
<td>Total positives</td>
<td></td>
<td></td>
<td>13</td>
<td>0</td>
</tr>
</tbody>
</table>

¹ Each holding/flock is registered with more than 100 animals. The holdings/flocks do not necessarily have active production throughout the year.

² Some flocks/holdings were tested more than once a year; the figures only include one annual testing per flock/holding, except that all positive results are included even in case the same holding tested positive more than once in the year under review.

³ Some holdings tested serologically positive more than once in the year under review.

Source: The Poultry Database of the Danish Agriculture & Food Council, 2020

Furthermore the results of the Danish surveillance can also be seen the EU website [https://ec.europa.eu/food/animals/animal-diseases/control-measures/avian-influenza_en](https://ec.europa.eu/food/animals/animal-diseases/control-measures/avian-influenza_en)

As a supplement to the surveillance programme a special programme for early warning of AI in commercial poultry and hobby poultry has been in place since 2005.

The AI early warning parameters requiring the owner of the animals to notify are:

- Drop in feed and water intake by more than 20% in 24 hours.
- Drop in egg production by more than 5% for more than two consecutive days.
- Mortality rate higher than 3% in any unit during a three-day period.
Early warnings are notified to the DVFA, and samples are collected from ten birds of the flock for virological (PCR) examination.

**Surveillance for avian influenza during the last 3 months (February 4 – May 4, 2020):**

In accordance with Article 10.4.31 of the OIE Terrestrial Code, Denmark has conducted active surveillance for avian influenza in poultry and game birds for restocking the last 3 months (4 February - 4 May 2020). The results are available in Table 3. In total, four holdings (free-range laying hens and game birds) tested serological positive for H5, however the follow-up virological testing in these holdings, did not detect any virus.

<table>
<thead>
<tr>
<th>Poultry category</th>
<th>Holdings (h)/flocks (f) in Denmark</th>
<th>Holdings (h)/flocks (f) tested</th>
<th>Serologically positive holdings/flocks (H5, H7)</th>
<th>Virologically positive holdings/flocks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>H5</td>
<td>H7</td>
</tr>
<tr>
<td>Chicken breeders</td>
<td>187 (f)</td>
<td>52 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free-range laying hens</td>
<td>159 (f)</td>
<td>108 (f)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Free-range broilers</td>
<td>81 (h)</td>
<td>18 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening turkeys</td>
<td>53 (h)</td>
<td>4 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening ducks</td>
<td>72 (h)</td>
<td>3 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mallards bred for restocking of game birds</td>
<td>19(h)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Breeding animals</td>
<td></td>
<td></td>
<td>11 (h)</td>
<td>2</td>
</tr>
<tr>
<td>- Offspring</td>
<td></td>
<td></td>
<td>3 (h)</td>
<td>-</td>
</tr>
<tr>
<td>Pheasants, partridges, rock partridges and red-legged partridges</td>
<td>72 (h)</td>
<td></td>
<td>31 (h)</td>
<td>1</td>
</tr>
<tr>
<td>- Breeding animal</td>
<td></td>
<td></td>
<td>0 (h)</td>
<td>-</td>
</tr>
<tr>
<td>- Off-spring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total positives</td>
<td></td>
<td></td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

1 Each holding/flock is registered with more than 100 animals. The holdings/flocks do not necessarily have active production throughout the year.

**Source:** The Poultry Database of the Danish Agriculture & Food Council, May 2020

**Wild birds**

Since January 2011, the surveillance programme for avian influenza in wild birds has been divided into an EU-coordinated passive surveillance programme for HPAI in wild birds found dead or sick and a national active surveillance for AI in live birds with an increased risk of exposure to AI and hunted game birds. Birds sourced from passive surveillance are tested individually, and birds sourced from active surveillance are tested by cloacal swabs in pools taken from up to five birds of the same species at the same time and location.
Table 4 presents the results of the surveillance in wild birds in 2019. The monitoring of dead wild birds covered the whole country, and one dead wild bird with HPAI H5N6 was detected in the passive surveillance. Four pools positive of LPAI H5 were detected in the active surveillance.

<table>
<thead>
<tr>
<th></th>
<th>Passive surveillance (dead or sick wild birds)</th>
<th>Active surveillance (live wild birds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birds sampled</td>
<td>111</td>
<td>892</td>
</tr>
<tr>
<td>Samples/pools</td>
<td>111 samples</td>
<td>238 pools¹</td>
</tr>
<tr>
<td>Influenza A-positive birds</td>
<td>3</td>
<td>70 pools²</td>
</tr>
<tr>
<td>LPAI H5-positive birds</td>
<td>0</td>
<td>4 pools²</td>
</tr>
<tr>
<td>LPAI H7-positive birds</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HPAI H5/H7-positive birds</td>
<td>1 (H5N6)</td>
<td>0</td>
</tr>
</tbody>
</table>

¹ Pools of cloacal swabs taken from up to five birds of the same species at the same time and location.
² The actual number of positive birds is not known. If a pool is positive, then at least one bird out of five birds in the pool is positive.


Further results of the passive surveillance programme in wild birds is available on this website: https://ai.fvst.dk (Click on “undersøgte fugle”).

### 5. Measures implemented to maintain freedom

According to Danish order no. 522 of 6.6.2012 on preventive measures against avian influenza, there are special biosecurity measures to be met in order to prevent the animals from contact with wild birds:

- Poultry or other captive birds must be fed and watered indoors or under fixed roofs or fixed coverings, ensuring that larger wild birds cannot get into contact with the feed and water
- Poultry and other captive birds are not allowed to have access to surface water or rainwater.
- Ponds/lakes in outdoor poultry areas have to be shielded from larger wild birds.
- Ducks and geese have to be kept physically separated from other poultry.

In case of an avian influenza epidemic (in wild birds) the DVFA can apply stricter rules in order to protect poultry from contact with wild birds. During the avian influenza epidemic in 2016/2017, the DVFA issued a “Housing order” that required all poultry to be kept under roof, though with some derogations concerning ducks, geese and game birds. In addition, fairs, markets, shows or other gatherings of poultry or other captive birds were also prohibited.

The DVFA continuously informs the public and stakeholders about the AI situation in wild birds using press releases, news and facts updates on the DVFA homepage. In addition, the DVFA has introduced an app for smartphones called “FugleinfluenzaTip” (“Bird flu Tip”) in order to make it easier for the public to notify the DVFA in case of findings of dead wild birds.

Import of poultry and poultry products is done in accordance with the relevant EU regulation which include the AI requirements in EU Council Directive 2009/158/EC on animal health conditions governing intra-Community trade in, and imports from third countries of, poultry and hatching eggs.
6. Conclusion

Considering that:

- Denmark has maintained its freedom from highly pathogenic avian influenza (no HPAI outbreaks have been reported since 22/11/2016);
- A LPAI outbreak has been detected in January 2020 in the framework of the extensive Danish active surveillance programme for avian influenza in poultry and game birds for restocking. No clinical signs have been detected among the poultry in connection with the outbreak;
- Stamping out measures were adopted including cleaning and disinfection of the infected holding. (approved by the Danish Veterinary and Food Administration on 4 February 2019);
- Three months have elapsed as prescribed in Article 10.4.3. of the OIE Terrestrial Code since the end of the cleaning and disinfection operation of the last LPAI outbreak;
- Surveillance has been carried out in accordance with Articles 10.4.27. to 10.4.33 of the OIE Terrestrial Code.

The OIE Delegate of Denmark declares that the country complies with the requirements for a country free from infection with avian influenza in poultry as of 4 May 2020, in compliance with the provisions of Chapter 1.6. and Article 10.4.3. of the OIE Terrestrial Code and the information provided in WAHIS.
Statement to be included in the self-declaration document.

I, the undersigned, HANNE LARSEN, Delegate of DENMARK, to the World Organisation for Animal Health (OIE), takes responsibility for the self-declaration of freedom from AVIAN INFLUENZA in accordance with the provisions of ARTICLE 10.4.3. of THE OIE TERRITORIAL A.H. CODE (disease).

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(iii) Any direct or indirect consequences of any nature arising from or relating to the use of the information contained in a self-declaration.

Drawn up on 4/5/2000

Signature of the Delegate:

[Signature]

Ministry of Environment and Food of Denmark
Danish Veterinary and Food Administration
Dr. Hanne Larsen
Chief Veterinary Officer of Denmark
Slatersparken 31
DK-2800 Glostrup