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

Declaration sent to the OIE on 17 June 2019 by Dr Per S. Henriksen, OIE Delegate for Denmark, Ministry of Environment and Food

1. Introduction

The objective of the declaration is the recovery of a 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 the two outbreaks of low pathogenic avian influenza (LPAI) reported in February and March 2019. The starting date of the Self-declaration is 17 June 2019.

2. Avian influenza situation in Denmark

Denmark self-declared freedom from infection with avian influenza virus in poultry in the whole country as of 28 September 2018 in accordance with the provisions of Chapter 1.6. and Article 10.4.3. of OIE Terrestrial Code.

However, on 28 February and 14 March 2019, two outbreaks of subclinical infection of LPAI were confirmed in Denmark. Both outbreaks were detected on the basis of serological positive findings of avian influenza, in connection to the Danish surveillance programme for avian influenza in poultry and game birds (Table 1) and were promptly reported to the OIE via WAHIS (World Animal Health Information System). A stamping out policy was applied after positive confirmation of low pathogenic avian influenza Virus (LPAI) in both farms. The infected flocks were killed, the carcasses were disposed by rendering and the establishments were cleaned and disinfected. Approval of the cleaning and disinfection of the last infected holding was done 17 March 2019.

Denmark submitted the final report\(^1\) (closing the event) on the last outbreak to the OIE on 17 June 2019.

\(^1\) WAHIS final report submitted by Denmark
Table 1. Low pathogenic avian influenza (LPAI) in poultry, Denmark, 2019

<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>Rebild</td>
<td>28/02/2019</td>
<td>LPAI H5N1</td>
<td>7,246</td>
<td>Gallus Gallus</td>
<td>Free range laying hens.</td>
<td>04/03/2019</td>
</tr>
<tr>
<td>2</td>
<td>Middelfart</td>
<td>14/03/2019</td>
<td>LPAI H7N7</td>
<td>2,828</td>
<td>Mallards</td>
<td>Parent birds for game restocking</td>
<td>17/03/2019</td>
</tr>
</tbody>
</table>

Prior to these outbreaks, the last occurrence of avian influenza in poultry in Denmark, was the outbreak of low pathogenic avian influenza detected on 26 June 2018, when LPAI H5 was detected in a game birds for restocking in Faksinge, in the municipality of Vordingborg in the southern part of Zealand.

3. Control and eradication measures LPAI

Avian influenza H5/H7 is notifiable in Denmark according to national legislation: Order no. 693 of 21.6.2007 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 clinical signs of avian influenza.

During the suspicion period, the holdings were put under national movement restrictions.

After LPAI confirmation, the DVFA established a restricted zone of 1 km around the infected holdings 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 holdings:

- 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 in both cases.

In both outbreaks, contact holdings were traced and tested for AI with negative result. The epidemiological investigation in both outbreaks 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 within the restricted zone. However, hobby poultry flocks were registered within the restriction zones. The hobby flocks were under supervision of the Veterinary Control Office of the DVFA during the time period which the zones were maintained.

Stamping out policy:

Denmark has handled the LPAI outbreaks 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. 532 of 25.5.2018 on lists of infectious diseases for the act on the keeping of animals, Order no. 693 of 21.6.2007 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 Article 10.4.27.-10.4.33. and Chapter 1.4. of the OIE Terrestrial Code.

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 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 the National Veterinary Institute, DTU Vet.

The result of the Danish avian influenza surveillance in poultry is available at page 57 in the annual Animal Health report, see the report for 2017 here: https://www.foedevarestyrelsen.dk/Publikationer/Alle%20publikationer/Animal%20Health%202017.pdf

**Table 2.** Results of the surveillance programme for avian influenza in poultry and game birds for restocking, Denmark, 16 March – 16 June 2019

<table>
<thead>
<tr>
<th>Poultry category</th>
<th>Holdings (h)/flocks (f) in Denmark&lt;sup&gt;3&lt;/sup&gt;</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>Fattening turkeys</td>
<td>91 (h)</td>
<td>3 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chicken breeders</td>
<td>201 (f)</td>
<td>42 (f)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Free-range laying hens</td>
<td>178 (f)</td>
<td>89 (f)</td>
<td>2&lt;sup&gt;3&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td>Free-range broilers</td>
<td>92 (h)</td>
<td>8 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Breeder ducks</td>
<td>0 (h)</td>
<td>0 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Breeder geese</td>
<td>0 (h)</td>
<td>0 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening geese</td>
<td>0 (h)</td>
<td>0 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fattening ducks</td>
<td>83 (h)</td>
<td>5 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mallards bred for restocking of game birds</td>
<td>27 (h)</td>
<td>13 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>- Breeding animals&lt;sup&gt;4&lt;/sup&gt;</td>
<td>1 (h)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>- Offspring&lt;sup&gt;5&lt;/sup&gt;</td>
<td>13 (h)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pheasants, partridges, rock partridges and red-legged partridges</td>
<td>76 (h)</td>
<td>21 (h)</td>
<td>2&lt;sup&gt;6&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>- Breeding animals&lt;sup&gt;3&lt;/sup&gt;</td>
<td>21 (h)</td>
<td>2&lt;sup&gt;6&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>- Offspring&lt;sup&gt;4&lt;/sup&gt;</td>
<td>8 (h)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>3</sup> The holdings/flocks do not necessarily have active production throughout the year.

<sup>4</sup> Three holdings in the category free-range laying hens tested positive for H5 in the serological test and one was positive for both H5 and H7, but the following virological examination tested negative.

<sup>5</sup> This category is tested during the spring.

<sup>6</sup> Offspring are tested virological (PCR) before release into the nature during spring and summer.

<sup>6</sup> Two holdings of Pheasants tested positive for H5 in the serological test, but the following virological examination tested negative.
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. See also page 55 in the annual Animal Health report, see the report for 2017 here: https://www.foedevarestyrelsen.dk/Publikationer/Alle%20publikationer/Animal%20Health%202017.pdf

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.

Results of the passive surveillance programme in wild birds can be seen on this website: https://ai.fvst.dk

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 physical 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.
6. Conclusion

Considering:

- Prior to the confirmation of the first case of LPAI N5 on 28 February 2019 Denmark had been free from avian influenza in poultry (since September 2018).
- Stamping out measures were adopted including cleaning-up and disinfection of the infected holdings;
- Three months have elapsed as prescribed in Article 10.4.3 of the OIE Terrestrial Code since the end of the clean-up and disinfection operations;
- Surveillance have 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 17 June 2019, in accordance with the provisions of Chapter 1.6 and Article 10.4.3 of the OIE Terrestrial Code.
Statement to be included in the self-declaration document.

I, the undersigned, **Per S Henriksen**

Delegate of **DENMARK**

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

**ANIMAL INFLUENZA IN ACCORDANCE WITH THE PROVISIONS OF NOTICES A.I. 3 OF THE OIE A.H. CODE** (disease)

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**Drawn up on** 17/06/2019

**Signature of the Delegate:**

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