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

Declaration sent to the OIE on 1 October 2019 by Dr Per Starcke Henriksen, 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 June 2019. The starting date of the self-declaration is 1 October 2019.

2. Avian influenza situation in Denmark

On 28 June 2019, one outbreak of subclinical infection of low pathogenic avian influenza Virus (LPAI) occurred in a holding with game birds in Denmark. The outbreak was detected in the framework of the Danish surveillance programme for avian influenza in poultry and game birds on the basis of virological positive findings of avian influenza (see outbreak no. 3 in table 1). The outbreak was promptly reported to the OIE via World Animal Health Information System (WAHIS) and a stamping out policy was applied immediately after confirmation of the disease. All the susceptible animals at the infected holding were killed and destroyed on 30 June 2019 and the carcasses were disposed by rendering and the establishment was cleaned and disinfected. Approval of the cleaning and disinfection of the last infected holding was done 1 July 2019.

Earlier this year, Denmark reported two other outbreaks of LPAI on 28 February and 14 March (outbreak no. 1 and 2 in table 1.). Those two outbreaks have already been described in details in the previous [Danish Self-declaration of 17 June 2019](#).

Table 1. Low pathogenic avian influenza (LPAI) in poultry, Denmark, 2019

Outbreak no.	Municipality	Confirmed date	Virus type	No. of Susceptible Birds	species	Holding type	Approval of cleaning and disinfection
1	Rebild	28/02/2019	LPAI H5N1	7,276	Gallus Gallus	Free range laying hens.	04/03/2019
2	Middelfart	14/03/2019	LPAI H7N7	2,828	Mallards	Parent birds for restocking of game	17/03/2019
3	Naestved	28/06/2019	LPAI H5N1	5,193	Mallards	Game birds for restocking (off springs)	01/07/2019

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 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 within the restricted zone. However, one hobby poultry flock was registered within the restriction zone. The hobby flock was under supervision of the Local Veterinary Control Office of the DVFA during the restriction period of 21 days. The hobby poultry owner was interviewed twice about clinical signs of avian influenza. No clinical signs of avian influenza were observed in the hobby flock.

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 risk based surveillance programme for avian influenza in accordance with Articles 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 and game birds for restocking in 2018 is available in table 2. In total, two holdings tested positive for LPAl in 2018. One outbreak was confirmed in a holding with fattening ducks (LPAl H5) and the other was detected in a holding with mallards bred for restocking of game birds (LPAl H5N2). For more information, please see the annual report of Animal Health in Denmark:

https://www.foedevarestyrelsen.dk/Publikationer/Alle%20publikationer/Animal_health_in_Denmark_2018.pdf

Table 2: Results of the Danish surveillance programme for avian influenza in poultry and game birds for restocking, 2018							
Poultry category	Holdings (h)/flocks (f) in Denmark ¹	Holdings (h)/flocks (f) tested ²	Serologically positive holdings/flocks (H5, H7)			Virologically positive holdings/flocks	
			H5	H7	H5 and H7	H5	H7
Chicken breeders	196 (f)	164 (f)	0	0	0	-	-
Free-range laying hens	176 (f)	146 (f)	16³	0	0	0	0
Free-range broilers	66 (h)	14 (h)	0	0	0	-	-
Fattening turkeys	60 (h)	12 (f)	0	0	0	-	-
Breeder ducks	0 (h)	0 (h)	0	0	0	-	-
Breeder geese	0 (h)	0 (h)	0	0	0	-	-
Fattening geese	11 (h)	3 (h)	0	0	0	-	-
Fattening ducks	80 (h)	17 (h)	1	0	0	1⁴	0
Mallards bred for restocking of game birds	18(h)						
- Breeding animals		9 (h)	1	0	0	0	0
- Offspring		13 (h)	-	-	-	1⁴	0
Pheasants, partridges, rock partridges and red-legged partridges	66 (h)						
- Breeding animal		26 (h)	0	0	0	-	-
- Off-spring		42 (h)	-	-	-	0	0
Total positives			18	0	0	2	0

¹ 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.

⁴ Low pathogenic avian influenza (LPAl).

Source: The Poultry Database of the Danish Agriculture & Food Council, 2019.

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/sites/food/files/animals/docs/ad_control-measures_ai_surv-rslt_pltry-wld-brds_2016.pdf

Surveillance for avian influenza during the last 3 months (June 30 – September 30):

The result of the Danish avian influenza surveillance in poultry and game birds for restocking during the last 3 months is available in table 3. In total, one holding (free-range laying hens) tested serological positive for H5, however the following virological test did not detect any virus.

Table 3: Results of the Danish surveillance programme for avian influenza in poultry and game birds for restocking, June 30 - September 30, 2019							
Poultry category	Holdings (h)/flocks (f) in Denmark ¹	Holdings (h)/flocks (f) tested ²	Serologically positive holdings/flocks (H5, H7)			Virologically positive holdings/flocks	
			H5	H7	H5 and H7	H5	H7
Chicken breeders	191 (f)	85 (f)	0	0	0	-	-
Free-range laying hens	169 (f)	122 (f)	1	0	0	0	0
Free-range broilers	87 (h)	12 (h)	0	0	0	-	-
Fattening turkeys	62 (h)	5 (f)	0	0	0	-	-
Breeder ducks	0 (h)	0 (h)	0	0	0	-	-
Breeder geese	0 (h)	0 (h)	0	0	0	-	-
Fattening geese	0 (h)	0 (h)	0	0	0	-	-
Fattening ducks	78 (h)	10 (h)	0	0	0	0	0
Mallards bred for restocking of game birds	19(h)						
- Breeding animals		0 (h)	0	0	0	0	0
- Offspring		7 (h)	-	-	-	0	0
Pheasants, partridges, rock partridges and red-legged partridges	76 (h)						

- Breeding animal		0 (h)	0	0	0	-	-
- Off-spring		40 (h)	-	-	-	0	0
Total positives			1	0	0	0	0

¹ 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.

Source: The Poultry Database of the Danish Agriculture & Food Council, 2019.

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.

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 2018. The monitoring of dead wild birds covered the whole country, and a total of 42 dead wild birds with HPAI H5N6 were detected.

Table 4: Results of the Danish surveillance programme for avian influenza in wild birds, 2018		
	Passive surveillance (dead or sick wild birds)	Active surveillance (live wild birds)
Birds sampled	148	866
Samples/pools	148 samples	251 pools ¹
Influenza A-positive birds	46	57 pools ¹
LPAI H5-positive birds	0	1 pools ¹
LPAI H7-positive birds	0	0 pools ¹
HPAI H5-positive birds	42	0
HPAI H7-positive birds	0	0
¹ Pools of cloacal swabs taken from up to five birds of the same species at the same time and location. The actual number of positive birds is not known, but at least one positive bird will give a positive pool.		

Further results of the passive surveillance programme in wild birds is available 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 that:

- Denmark has maintained its freedom from highly pathogenic avian influenza (no HPAI outbreaks have been reported since 22/11/2016);
- All the outbreaks in 2019 have been detected in the framework of the extensive Danish active surveillance programme for avian influenza in poultry and game birds. No clinical signs have been detected in any of the outbreaks;
- Stamping out measures were adopted including cleaning and disinfection of the infected holdings (approved by the Danish Veterinary and Food Administration on 1 July 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 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 1 October 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

AVIAN INFLUENZA IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 10.4.3 OF THE TERRESTRIAL A.H. CODE..... (disease)

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Drawn up on 30.9.2019

Signature of the Delegate:



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

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Drawn up on 1, 10, 2019

Signature of the Delegate:

Hanne Larsen